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FLOWER SHOW.

ROYAL HORTICULTURAL SOCIETY.—Show of GRAPES, DAHLIAS, &c., on TUESDAY, September 8th, and WEDNESDAY, September 9th, in the Conservatory.

Visitors to the INTERNATIONAL INVENTIONS EXHIBITION admitted FREE at 1 p.m.

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THE INDEX TO VOL. I. OF THE GARDENING WORLD WILL BE PUBLISHED IN OUR NEXT NUMBER.

TO BE OBTAINED THROUGH ALL NEWSAGENTS AND BOOKSELLERS. NO EXTRA CHARGE.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 5, 1885.

INDUSTRIAL EXHIBITIONS IN CONNEXION WITH FLOWER SHOWS.—We are pleased to note that these are on the increase about the country. As a matter of course, they are held only in connexion with exhibitions in which the cottager is largely represented by the products of his garden. In addition to encouraging, on the part of the cottager and allotment-holder, a desire to excel in the cultivation of fruits, flowers, and vegetables, his wife and children are stimulated to use their needles in various ways: in bread, jam, and cake making, &c., while the men are encouraged to fill up their leisure hours, on long evenings, by manufacturing specimens of industry and ingenuity. In some cases prizes are offered only for needlework, in others, the larger circle of subjects is invited; but, whether in its wider or narrower sense, it is certain that these exhibitions, if wisely managed, are capable of bearing good fruit.

We find that, as a general rule, those country exhibitions are the most successful whose managers seek to draw the widest possible amount of interest within their annual venture. Thus it is that some well-to-do people in country districts, who may not care much for the culture of plants and flowers, will be likely to take a warm interest in an industrial department, or in a competition with honey and bees. It is one of the assuring signs of the times that county bee associations are springing up in many districts, and these render substantial assistance in particular to cottagers and allotment-holders, giving them instruction in the matter of bee-keeping, and assisting them to harvest the honey the bees have made. Thus it is that bees and honey shows are being formed in connexion with many county horticultural societies.

In the case of an industrial exhibition it is a matter in which ladies can interest themselves, and materially help to make them successful. They should be women of broad and generous sympathies, knowing something of the defects and disadvantages of country life in rural districts, manifesting sympathy and kindly help, rather than mere charity and patronage. It can be noted, with satisfaction, that patronage is giving place to kindly interest in villages, and sympathy is taking the place of an exhibition of mere social superiority. The schoolmaster and mistress should be asked to assist, and they can, by reason of their educational positions, render valuable aid. In awarding prizes to needlework, schoolmistresses should form part of the jury; the judges of industrial exhibitions should include among their number two or three local tradesmen, possessing useful technical knowledge.

Articles of cookery, such as cakes, tarts, jams, &c., should find a place in every industrial exhibition. We are credibly informed, by those capable of forming a sound judgment, that in not a few cases the result of awarding prizes for such articles of cookery as can be produced, is to improve the domestic economy of the household, to lead to the meals of the family being produced in a better manner, and with more of style. While the industrial exhibition, in so far as it relates to little refinements in needlework, leads to improvements in taste in the furnishing and keeping of living rooms, &c. The cottager is encouraged to keep his garden in the best possible manner, and this reacts in a beneficial manner upon the home life.

Let industrial exhibitions be encouraged. Now that the cottager is becoming an important factor in matters political, let us do all we can to give a higher tone to his social life; and by means of exhibitions of this character, the work may be commenced with promise of beneficial results.

TO OUR READERS.—Twelve months ago when the first number of THE GARDENING WORLD was issued from the press, we scarcely anticipated, even in our most sanguine moments, that it would have been received with so much favour, much less that in such a comparatively brief space of time, whatever merits it may possess, would have become so widely recognised and appreciated. It affords us the greatest pleasure to be able to assure the many good friends who have assisted us with their advice, with contributions from their pens and pencils, and by bringing the paper under the notice of their friends and neighbours, that THE GARDENING WORLD is now read by hosts of subscribers both in this country, on the continent, and in the colonies. We are deeply gratified to know that our efforts to diffuse sound practical information on all subjects bearing on the pursuits of Horticulture, are so well appreciated, and we desire at the commencement of our second volume, to tender our hearty thanks to all who have helped us to attain such a gratifying position. In the future, our aim will be to still further enlarge its sphere of usefulness; to maintain the high character it has already gained for the quality of its illustrations and typography; and in every way to make it worthy of the noble profession of Gardening—"the purest of human pleasures."

MR. JOHN ALEXANDER, who had charge of the Ceylon collection at the late Forestry Exhibition in Edinburgh, has, we hear, been appointed Conservator of the Forests in the North Central Province of Ceylon, which extend over an area of 4,000 square miles.

GARDENING MISCELLANY.

Flower Shows and Meetings for next week.—*Tuesday.*—Meeting of Fruit and Floral Committees of the Royal Horticultural Society, at 11 a.m. Exhibition of Grapes and Dahlias, &c. *Wednesday and Thursday.*—Royal Caledonian Horticultural Society's Exhibition, in the Waverley Market, Edinburgh. *Thursday.*—Autumn Show at Aberdeen.

Death of Mrs. Francis Casey.—The many personal friends of Mr. Francis Casey, of the Upper Clapton Nursery, will regret to hear of the loss he has sustained by the death of his wife on August 28th.

A Lilium auratum, in the garden at Penshurst Place, is bearing over 100 flowers and buds. The plant has six stems 7 ft. high.

The Turner Memorial.—We understand that a meeting of the Committee will be held on Tuesday next, at South Kensington, to appoint a sub-Committee to manage the details of the Memorial, and to approve a circular that has been prepared for distribution.

The Manchester Chrysanthemum Show.—The annual exhibition of Chrysanthemums, Fruits, &c., of the Royal Botanical and Horticultural Society of Manchester will be held on November, 17th, 18th, and 19th, in St. James's Hall, Oxford Road. The Schedule contains seven classes for plants in pots, eight for cut blooms, seven for fruits, and three for bouquets, &c. For the best collections of Apples and Pears, the Society offers gold and silver medals; and the best prizes offered for Chrysanthemums, are, £7 each for the best collections of 12 large-flowered varieties in pots, and for 36 cut blooms, incurved and Japanese.

Goddard's Patent Glass or Slate Clip.—Mr. J. Goddard, 13, Radipole Road, Fulham, has invented a very simple and extremely useful metal clip or holder, designed to hold together two or more pieces of glass or slate, to form a protection from sun, wind or rain, for seeds, cuttings, or small plants. By their use an efficient protector of glass or glass and slate combined where a little shade or protection from the weather is desirable, can be put together in two or three minutes.

The Edinburgh Apple and Pear Congress.—With reference to the Special Exhibition and Conference on Apples and Pears, to be held in connection with the Royal Caledonian Horticultural Society's Winter Show, on the 25th and 26th November next, we understand that while collections of the fruits named are solicited from all parts, for comparison and instruction, the chief object of the Conference is to utilise the favourable opportunity presented by the fine crop this year, for the purpose of gaining information about the Apples and Pears grown in Scotland, comparing their merits, and correcting their nomenclature. All fruit growers, especially in Scotland, are therefore invited by the Council to send as complete collections as possible of the Apples and Pears grown in their district; and as the object is solely educational, there will be no competition and no prizes. The Council are anxious to procure as complete representations as possible of the Apples and Pears grown in each district, and each variety should be distinctly labelled, with the name or names under which it is grown in the locality. It is also most desirable that each collection be accompanied by all the information possible about the climate, altitude, exposure, soil, stocks, method of cultivation, and other particulars, which will be of much value to the Committee in drawing up their Report. For this purpose forms will be supplied on application to the Secretary, Mr. John Stewart, 18, Waverley Market, Edinburgh.

Seed Adulteration.—"We (*Gardeners' Chronicle*) have before us samples of very old Trifolium seed, and other samples of the same seed sulphured and repolished, and intended presumably for mixing with genuine seed. We are informed that as it is requisite to wet the old seed to enable it to take up the sulphur, there is an increase of about 20 per cent., which more than pays all the expense of the operation. The value of the old seed, we are informed, is about 4*s.* the cwt., while the doctored seed sells for 20*s.*, or thereabouts, the cwt. we do not know where or by whom this bit of meanness is perpetrated, but are astonished that farmers do not, if not taste, at least try before they buy." Since this warning note was published, Messrs. Hurst & Son, 152, Houndsditch, have offered a reward of £10 for such information as will lead to the conviction of the guilty parties.

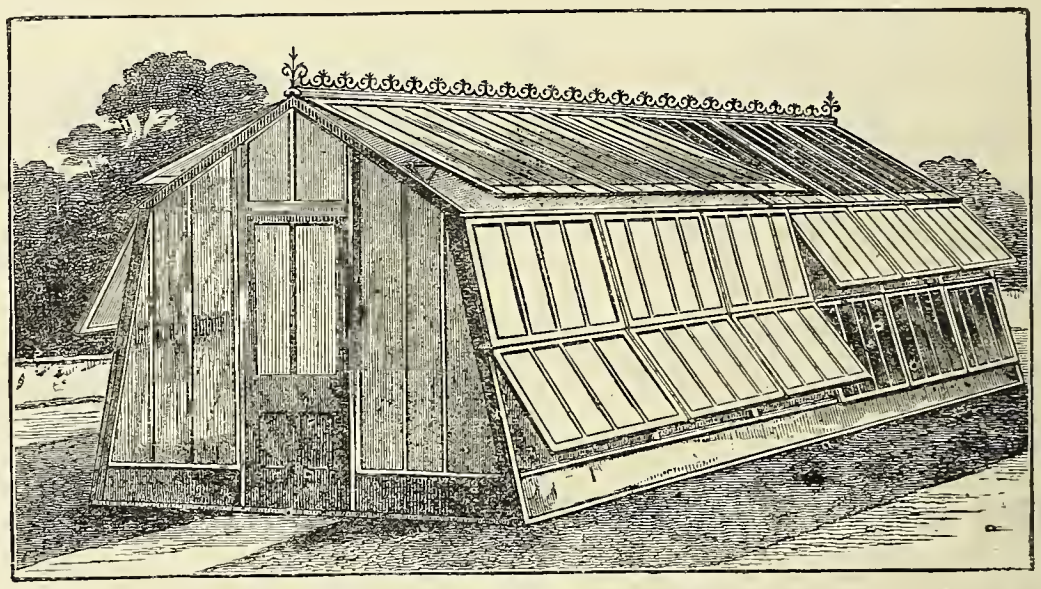
Dry Glazing.—Mr. T. Hawkins, Hillingdon Heath, Uxbridge, has submitted for our inspection some models of two systems of dry glazing, as applied by him to the roofs of plant houses and pit lights. In the "Perfection" or No. 1 system, which we like the best on account of its simplicity, effectiveness, and neat appearance, the sash bars have a channel on either side (on which the glass rests), to carry off any moisture that may get underneath, and the squares which overlap in the usual way are held in position with brass sprigs. No putty or fastenings of any other kind are used, and besides being as weather-proof as any such system can be, it has the great advantage of most others that we have seen, that any broken square can be replaced in the shortest possible space of time. In the Horizontal or No. 2 system, the sash bars are grooved the same as in the former to carry off moisture, but instead of the glass lapping one pane over another as usual, horizontal wooden bars are used, curved from the centre to the sides, forming channels to carry any water that may get inside to the side grooves. Each horizontal bar is rabbitted on the lower side into which the pane is fitted, and held on the next one by means of two screws and small brass discs.

Transplanting Boxes.—At a meeting of nurserymen held in Chicago, Mr. Jenkins, of Ohio, stated that having to start many cuttings which it was advantageous to transplant in rows afterwards, he used, instead of pots, L-shaped boxes, easily made by nailing together two thin boards, one 4 ins. to 6 ins. wide forming the side, and one 1 in. or 3 ins. wide for the bottom; 3 ft. or 4 ft. long—the length corresponding to the width of the border in which they are placed. These, ranged together lengthways, form a series of boxes, the back of one box making the side for the one preceding it. In these, which economize every inch of space under the glass, rows of twenty or more Vines or plants are grown, until 4 ins. or 5 ins. high, when after being properly hardened off by removing the glass, the entire row is lifted in the box, without destroying roots or soil, and turned out into the open furrows or trench. They are thus transplanted as quickly as a single Vine from a pot, and positively without loss, or any apparent checking of growth. The boxes, after being dipped in hot lime-water, appear quite free from fungus, and as healthful to the plants as pots.

The Essex Field Club.—The Sixth Annual Cryptogamic and Botanical Meeting of this Club will be held on Friday and Saturday, the 2nd and 3rd of October next, in Epping Forest. It is intended to devote the Friday to the collecting of specimens, and to their examination and arrangement by the experts, and on the Saturday to hold an Exhibition of fresh and preserved Botanical specimens, microscopical objects, drawings, &c. The Exhibition will be mainly confined to subjects from the vegetable kingdom, but not necessarily to the Cryptogamia, although that division will hold a very important place. The arrangement of the Mycological specimens, as usual, will be under the control of Dr. M. C. Cooke, Mr. Worthington Smith, Dr. Wharton, and other well-known fungologists.

Baits for Insects.—M. Carrière, of the Jardin des Plantes, Paris, reports on baits for insects that "beer and water" caught 850 flies and other winged creatures, "pure beer" 631. "Crushed Pears," "weak wine," and "pure wine" came next in the order given, and "pure honey" at the bottom of the list, with only 17 victims. This would seem to disprove the literal truth of the old saying—correct as it is in its moral—that "we may catch more flies with a spoonful of honey than with a gallon of vinegar." No doubt, however, the "loud" odour of the beer, which was in a highly fermented state, had a great deal to do with attracting the insects.

The Amherstia "at Home."—In the new edition of Mason's Burmah, the Rev. C. Parish, to whom Orchid growers are indebted for so many fine introductions, writes:—While at Beling, I rode out in company with Col. Fytche and Capt. Harrison to a place called Kothanaiong, about seven miles off, to see the Amherstia trees there. This place had often been mentioned as one where the Amherstia was to be seen in great perfection, and where indeed it might perhaps be wild. I was well rewarded, for a prettier little spot I never visited. The Amherstias, growing in a well shaded place and watered by a perennial stream, which tumbles down a steep granite hill, and is ingeniously directed hither and thither in large Bamboo troughs, were indeed to be seen in the wildest luxuriance of growth. But Kothanaiong is a sacred spot. Here are pagodas, pongyee-houses, zayats all round. A flight of steps leads from the bottom to the top of the overhanging hill, which is about 600 feet high, and on which are more sacred buildings. The Amherstias seen only round the principal pagoda, were undoubtedly planted, although they are now left to take care of themselves and have a wild appearance. Evidently this is not a native habitat of the tree.



SPAN-ROOFED ROSE HOUSE.

The Acreage under Potatos in Ireland show a decrease of 1,849 acres, and Turnips still continue to decrease, showing a reduction this year under last year to the amount of 7,129 acres. It is satisfactory to have to note that the extent under so useful a crop as Cabbage has increased by 2,698 acres; Mangel Wurzel, by 2,600 acres; Carrots, Parsnips, and other green crops by 167 acres; and vetches and rape by 961 acres; leaving a net decrease of 2,552 in the extent under green crops.

Early Frosts in Scotland.—On the night of August 26th, the Potato crop in many parts of Caithness-shire was severely injured by frost. The haulms are quite black and withered. Such a visitation of frost as this has not been recorded in Caithness during the last 40 years. On the morning of Tuesday last, six degrees of frost were registered near Edinburgh, doing considerable damage to Dahlias, &c., and seven degrees at Clovenfords. At East Linton, Denny, Greenlaw, and other places, unusually severe frosts have been experienced, and irreparable damage has been done to the potato crops.

GREENHOUSES FOR THE MILLION.

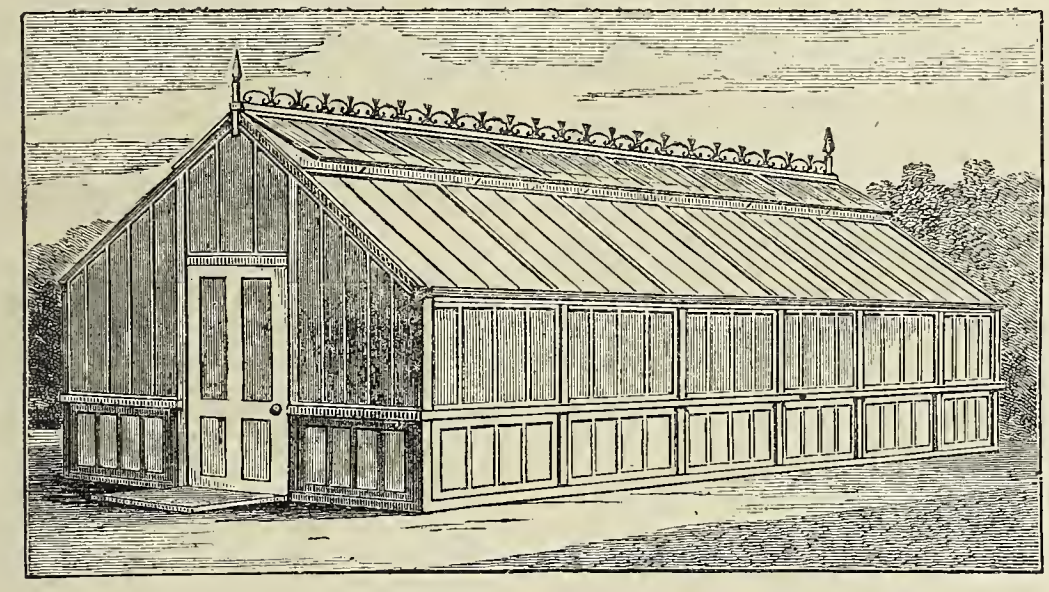
Time was, and it is not so long ago either, when the number of Horticultural Builders, that is to say—tradesmen who confine themselves solely to the construction and erection of conservatories, greenhouses, plant and fruit houses, &c.—could have been told off on the fingers of one's hands, but the revolution which has been brought about, first by the introduction of the system of heating such houses by means of hot-water, instead of the old-fashioned flues; secondly, by the removal of the duty on glass; thirdly, by the introduction of wood-working machinery; fourthly, by the great improvements that have been made in the construction of boilers; and lastly, and by no means the least important factor, the immense increase in the number of flower lovers among the great middle class have completely altered all this. The demand for well-constructed greenhouses at a reasonable price, has become something enormous, and scarcely a large town is now to be found in which there is not a Horticultural Builder, more or less known beyond the borders of each locality, in proportion to the amount of publicity which each individually have been able to obtain for their manufactures.

Some of these firms, London and provincial, have gained a world-wide repute for the workmanlike manner in which they turn out their structures, the admirable character of their designs, and the excellence of the materials employed by them; and well they deserve the public confidence and support, which they have gained by their fair dealing. The amount of capital invested in steam machinery for doing all kinds of joinery, must amount to a very large sum; but an idea of what that amount is likely to be, can only be gained by a visit to the works of some eminent greenhouse builder. A few days ago we had the pleasure of being shown over the works at Palace Plain, Norwich, of Mr. Charles Frazer, a name not unknown to the readers of this paper, and it was an agreeable surprise to us to find, in Mr. Frazer's workshops, a considerable staff of men, and still more surprising to see the machines for doing everything almost but fixing together, glazing, and painting the various sorts of structures in hand. Besides having machines of his own invention, Mr. Frazer has a large assortment of machines of other makers, mostly English, but some of American introduction, the latter including a very clever sand-papering machine, which does its work in a very efficient and rapid manner.

The manufacture of doors is one of Mr. Frazer's specialities, and some idea of the capacity for turning them out of hand may be gleaned from the fact that nine machines are called into use in preparing the several parts, and that a door, by such means, can be made in five minutes. Besides building houses of any size to order, Mr. Frazer has several special forms of houses, frames, and hand-lights which he makes in quantity, and amongst these may be noted a very useful and serviceable span-roofed house, of which we add an illustration, and which are made in sizes ranging from 15 ft. to 60 ft. in length, and from 12 ft. to 20 ft. in width, and which can either be set on brickwork, or be made with pannelled sides, set on a single layer of bricks, and so form a tenant's fixture.

Another speciality is a span-roofed Rose House (see illustration p. 4), the sides of which are constructed of glass carried almost down to the ground, and the lights all so fixed that they can be unhooked and taken off to give the plants inside the full advantages of sun, air and moisture at the period of ripening them off. Such a house, besides for growing Roses, would also be useful for Clematises and many other plants, as well as for fruit trees in pots. Another special structure is a three-quarter span, put together with galvanized screws and registered corner fastenings, a stiff, substantial, and useful little house, that can be put up by anyone and almost anywhere.

Garden frames are made of two or three patterns, and turned out all complete at a very cheap rate. Some have the ordinary sliding lights, and others have a simple appliance affixed to them for holding the lights open at various angles, a very useful contrivance to amateurs who do not employ a gardener, and who are not always at home to attend to them. The little hand-lights or plant protectors made by Mr. Frazer, are very handy garden requisites, made of wood and glass, put together with screens, and in nests of six. The smallest are about a foot square, and the largest about 26 inches, so that one fits in another, and the whole can be sent away in a small compass. Mr. Frazer has adopted, with some of his frames, a good system of dry glazing, in which no lead, metal, or putty is used, the sash bars being of wood grooved on each side, and the glass capped with bevelled strips of wood from top to bottom. Top ventilation is given to most of the houses by means of a very simple ratchet system, which is strong and not liable to readily get out of order.



SPAN-ROOFED GREENHOUSE.

Another novelty which we saw here, has not, it is true, any very close connection with horticulture—but may be mentioned nevertheless for its utility—this is a Collapsible Election Ballot Box, which, in view of the coming general election is likely to be required in large numbers. The boxes, or screens as we ought perhaps to call them, are all made of the same size and pattern, and hinged together in such a way that the whole can be folded up for storing away when done with, in a space of 5 feet 6 inches by 6 inches. The space at our command does not permit us to give any details of a number of little contrivances of general utility which Mr. Frazer showed us, but which are of much interest to any one of a mechanical turn. These we must defer notice of until we pay Mr. Frazer a visit again.

Durability of Woods.—In some tests made with small squares of various woods buried an inch in the ground, the following results, says the *Garden*, were noted:—Birch and Aspen decayed in three years; Willow and Horse-Chestnut in four years; Maple and Red Beech in five years; Elm, Ash, Hornbeam, and Lombardy Poplar in seven years; Oak, Scotch Fir, Weymouth Pine, and Silver Fir decayed to a depth of half an inch in seven years.

DECORATIVE FUCHSIAS.

When recently looking through the collection of Fuchsias grown this season at Chiswick—a very numerous and varied one—I made a note of the following as highly valuable for decorative purposes, because of good habits of growth, very free, distinct, and in some cases possessing great novelty of character. They are Rose of Denmark, delicate pink tube and sepals, heavily margined on the edges with a deeper tint of pink; the corolla pink, heavily edged with deep rosy pink; very free and a charming variety. Marginata, white tube and sepals, pink corolla edged with scarlet, very pretty; this makes a charming exhibition variety. Mrs. Bright, Letty Lye, and Beauty of Trowbridge are three of Mr. J. Lye's raising, distinct, novel, and charming light varieties, quite distinct, good growers, and very free. Harmony, pale pinkish rose tube and sepals, scarlet corolla, very distinct and pretty. La Cygne, a very fine double white corolla'd variety, with deep rosy scarlet tube and sepals, very free and fine, and an excellent decorative variety. Royal Osborn, white tube and sepals, and rich violet-rose corolla edged with deep purplish rose, a charming variety. Albo coccinea, a fine old but most valuable variety, the tube cherry-crimson, the sepals white, the corolla violet mottled with rose, one of the most useful Fuchsias ever raised, very free indeed, and an excellent exhibition variety. Starlight, an old but very pretty and useful variety, with white tube and sepals, and deep rosy carmine corolla, good habit and very free. Monarch, bright red tube and sepals, rosy violet corolla, very fine and striking. Abd-el-Kader, bright red tube and sepals, rosy violet corolla distinctly edged with purple, a very fine variety. Duke of Albany, also a very fine dark Fuchsia, and remarkably free; and Try-Me-O, very rich deep purple corolla, red tube and sepals, one of the darkest and best varieties.

Now is a good time of the year for putting in cuttings of Fuchsias, with a view of making some good plants for another season's blooming; but they should be grown on all the autumn and winter in a generous, moist heat, and if well looked after, excellent plants can be made by the end of June. Frequent shifts and a rich soil are indispensable. Old plants that have gone out of flower may be dried off, pruned back, and when they have started into growth repotted, and then rested during the winter, watered only sparingly, and grown on freely in spring.—*R. D.*

NOTES ON STRAWBERRIES.

Our earliest are Keens' Seedling, La Grosse Sucrée, and Vicomtesse Héricart de Thury, and they show signs of ripening in the order named, but the difference is so little that some can be gathered from each at the first picking. The latter is by far the heaviest cropper of the three, and stood the wet this season better than any other. From some cause or other not apparent, it has not thrown up its flower trusses in the batch of earliest forced ones for the past two years. This is to be regretted, as the redundant supply of pollen it produced was considered serviceable in securing a more even set on the two first named. With us it produces by far the most fruit the third year than either of its early companions. President, which was at its best on July 18th, when we had a heavy rainfall, suffered greatly, and berries not half swelled decayed, as well as others more advanced. At the time, the rain was most desirable for all kind of vegetation, but the dull muggy weather that we had for some days after reduced our Strawberry crop one-fourth.

Sir Joseph Paxton, from its handsome appearance, great size, and good flavour, either forced or grown out-of-doors, is a great favourite here for the dessert, and it is, moreover, very prolific. Unser Fritz produces a few fruits even larger than Sir Joseph, and from its bright crimson glossy appearance attracts attention on the dinner table, and a few fruits gathered from mid-season forced plants looked very conspicuous on the dish during the past season in the company of President and Sir J. Paxton, and it proved equally prolific, but outside it is not so, though the plant is as vigorous as any we have.

British Queen, though favoured with a portion of a south border, would, from the appearance of the fruit, be scarcely recognizable by those who have only been accustomed to see fruit grown in the home counties. In pits, which we devote to the last batch in pots, it is nothing like what we have had it elsewhere, and not to

be compared with Sir Joseph or President, on which we mainly depend for our indoor supply. It has, however, come better on shelves in a late vinery or peach-house, but still a long way behind our former experience with it. Past recollections of the praises its distinct and high flavour has evoked induced me to struggle with it, and, if possible, produce similar results. Only once, however, has it presence on the dessert dish, or, more correctly, its influence on the palate, elicited favourable comment. Whether in pots or in the open ground the plant is vigorous enough, but odd ones die off in winter.

Loxford Hall Seedling grows so stunted that the plants might be put 12 ins. distant in the row, and 18 ins. between the rows. We have only had one row, and that is not in a good position for a fair trial, so that I am not able to speak definitely respecting it. It is the latest we have, and the flavour is similar to that of British Queen, and the fruits are smaller and not so numerous. If this year's planting should turn out more successful, Loxford Hall Seedling will be as valuable as any we have on account of its lateness, and by planting thicker the produce will be equal to some of the others. I notice that odd plants of it die in winter, and that it makes runners very tardily. I have not had an opportunity of trying here other late varieties, such as Elton Pine, Frogmore Late Pine, and others which do so well in some parts, and I should like to know from your Northern readers if it is worth while attempting their culture in a cold part of Lancashire.

There is a second early variety named Barnes' Prolific, which I saw last year in the fruit grounds of Mr. Troughton, Walton, near Preston, which has got into favour with the growers in that district. It was in existence twenty years ago, and thought much of, but somehow or other it nearly dropped out of cultivation till a few years ago, when it became again the leading sort. The plant has a vigorous constitution, and the fruit is above the medium size, but rather rough looking. It is said to be a heavy cropper and a good traveller. Probably some one who may have lived in the district years ago can give some clue as to its origin, or say if it is known by any other name.—*W. P. R.*

VALLOTA PURPUREA.

It is needless to write about the cultural requirements of Vallotas for the benefit of professionals. Gardeners are fully aware of the course of treatment necessary to obtain good results; but there may perchance, be among the many amateurs who read the Gardening World, some who are not so well informed on the subject. I have myself obtained good results with this favourite plant, and therefore can recommend my mode of treatment to others. If small plants are required, I would select a fair-sized bulb, and place it in a 5-in. pot, using for a compost two parts of fibry loam to one of peat, with sand added, and potting moderately firm only. If larger plants are required, I would put about five bulbs into a 7-in. pot, and then just before the plants commence growing in spring, which will depend more than anything else upon what sort of structure the bulbs were wintered in; and I may here say that any house to which frost is not admitted is the best place for them. I had 10° of frost on some plants in a cool pit on one occasion which did them no apparent damage, and I have also seen less frost completely destroy them, so that I say keep the frost from them.

After potting, which won't require to be done oftener than two or three years, very little watering is required until they are fairly on the move; they will do in any light house less than an intermediate one, but, perhaps, the most suitable is the front side of a slightly warm greenhouse, where the direct rays of the sun are only allowed to reach them through the upright panes of glass, as if falling directly on them, the leaves may get blistered. I have also seen them, and also grown them, on the front side of both vineries and Peach-houses. I saw some remarkably good plants at Plassy, on the 31st of last month, that were similarly grown, *i.e.*, on the front side of a vinery, which had been only planted last winter, and which has had no artificial heat for some time. I counted the flowers open on one plant in an 8-in. pot, and found forty-seven fully expanded blooms, and some few buds which would replace the earliest flower on each spike, of which there were nine. Mr. Smith, the gardener at Plassy, may well be proud of them, and he had not one or two plants in flower, but, I should think, close upon fifty, tastefully arranged in a large conservatory, and also in a house for growing successional plants to keep the conservatory gay. Some growers place their plants out of doors for a few weeks after flowering, but, as far as I see, no advantage is gained by the practice.—*E. Dumper, Limerick.*

FLOWER SHOW AT RYDE.

The Ryde Horticultural Society held its annual show of flowers, fruits, and vegetables, in the beautiful grounds of the Isle of Wight College, on Wednesday, August 26th, under the most favourable auspices. The weather was all that could be desired, and the exhibits were arranged in three large marquees, each of which was under the direction of some person appointed by the Committee, who directed the placing of the exhibits as to their respective classes, as well as to their general effect, and I must say that they are to be congratulated on their success in attaining that end. The productions exhibited throughout, were good, and in some cases very numerous, especially so in the Cottagers' classes, for rarely has there been a better display of Cottagers' produce, either flowers, fruits, or vegetables, than was brought together on this occasion.

In the class for 6 fine foliaged plants, Mr. G. Wilkins, gardener to S. W. Ridley, Esq., St. Helens, was placed first. He had good examples of Alocasia, Cissus discolor, Latana borbonica, &c. For a group of plants arranged for effect in a space 6 ft. by 8 ft. (the first and second prizes presented by Miss Brigstock), Mr. Wilkinson again took the lead with an effective group, having for its centre Seaforthia elegans, on either side of which were plants of Cocos Weddeliana, and Dracæna australis, Lilium auratum, some good Ixoras, and Pandanus Veitchii, as well as Pelargoniums and other flowering plants to impart colour; the edge was fringed with Isolepis gracilis and Ferns, the whole combination being a very elegant arrangement. Mr. J. James, Florist, Ryde, was placed second, with rather a formal group, having for the centre a pyramid Fuchsia. Two other groups were set up, viz., by Messrs. C. Dimmick & Son, Nurserymen, Ryde, who had good plants of Auricaria excelsior, and Alsophilla australis standing above the other plants, which were flat and rather deficient in colour; and Miss Brigstock, who had some good Lilium auratum, tuberous Begonias, Carnations, Tuberoses, fringed with Adiantum gracillimum and cuneatum. This would have made a delightful group, with an addition of more foliaged plants. For 6 Ferns, Mr. H. Quinton, was placed first, having good Adiantum gracillimum and formosa. For a basket of plants arranged for effect, Mr. H. Strickland, gardener to Madame Spartali, Shanklin, was first, showing a very good arrangement in a circle, composed of Grevillea robusta, Lilium auratum, Begonias, and other flowering plants, with a fringe of Isolepis gracilis, and Ferns, the whole having a very good effect. Messrs. Dimmick & Son, were second, with some good Gloxinias and Begonias in their arrangement.

In the class for 6 Zonal Pelargoniums, Mr. J. James had a very nice lot, for which he was placed first, his plants of F. H. Raspail, candidissima plena, and Emily Gerard, were particularly good. For 4 Caladiums, distinct, Mr. H. Quintin was first, having good plants of Whitei, Beethoven, and magnificum. For 6 Coleus, Mr. G. Wilkinson was first with fine plants of Sunray, Glow, and Mr. Baxter and Mr. J. James, second, his best plants being Sunbeam, Putney Gem, and Black Prince. For 4 plants suitable for the dinner table, Mr. G. Wilkinson was placed first with a very pretty lot, and Messrs. Dimmick & Son followed. Among exhibits, not for competition, was a splendid plant of Platycerium alcicorne, or Elk's Horn Fern, from the garden of W. Gibbs, Esq. W. D. Dashwood, Esq., also sent, not for competition, some fine specimens of Adiantum formosum and A. cuneatum.

Among cut flowers there was but one exhibitor of Gladiolus, Mr. A. Richard, who staged a very creditable lot. Other awards made were for 12 Asters, first, Mr. J. Blake; second, Mr. H. Strickland; for 12 Dahlias, double, first, Mr. Till; second Mr. Newham; for 12 Single Dahlias, first, Mr. J. Newman; second, Mr. J. Flux; for 12 Roses, first, Mr. H. Butcher; second, Mr. H. Strickland; for 12 cut Pelargoniums, single trusses, there were several very creditable lots, first, Mr. J. Burt; second, Mr. J. James.

In the Classes for fruit there were many good exhibits, but many of the Grapes were sadly rubbed, thus spoiling the effect of what might have been excellent samples. In this class for 6 dishes, Mr. H. Quinton was placed first with Black Hamburgh and Foster's Seedling Grapes, Royal George Peaches, Elruge Nectarines, Apricots, and Read's Hybrid Melon. For 4 dishes, Mr. J. Dale was first, showing Black Hamburgh Grapes, good Melons, Peaches, and Nectarines. In the class for 2 bunches of black Grapes, Mr. H. Butcher was first with well finished Madresfield Court; Mr. A. Richards second with Alicante. In the corresponding class for white Grapes, Mr. H. Butcher was again to the fore with Muscat of Alexandria. Intending exhibitors in this class another year, would do well to take a lesson from these stands, as they were neat, and the bunches and berries free from being rubbed, which was so conspicuous on some stands. Mr. Richards was second with Golden Hamburgh. For 6 Peaches indoor, Mr. H. Quinton first, Mr. J. Burt second. For 6 Nectarines, Mr. H. Strickland was placed first with Elruge, Mr. J. Dale second. For 6 Apricots, Mr. J. Tolly was first, and Mr. A. Richards second. For a green-fleshed Melon, Mr. H. Butcher was placed first, and Mr. H. Candles second. For 6 varieties of out-door fruit, Mr. H. Butcher was first, showing a very creditable lot including Morello Cherries, Magnum Bonum Plums, Early York Peaches, Moorpark Apricot, Jargonelle Pear, and Elruge Nectarine. Mr. A. Richards was a good second. For a single dish of Cherries, Mr. H. Quinton was first, and Mr. J. Burt second, each showing Morellos. For a dish of Figs, Mr. H. Candles was first.

In the class for 6 dishes of Vegetables, Mr. A. Richards was placed first, and Mr. H. G. Mann second. For a single dish of Peas, first, Mr. Dinton; second, Mr. Newman. There are many other classes too numerous to mention in detail, suffice it to say that the exhibits throughout reflected great credit on the exhibitors, and the Committee of Management are to be congratulated on the success of their efforts.—*C. D.*

SCOTTISH GARDENING.

Potato Culture.—The culture of this popular and most useful esculent is too well known to induce the writer to attempt anything, beyond a few discursive remarks, on the subject. During the past few weeks we have had exceptional opportunities for noticing the potato crops, and the manner in which they are cultivated in those districts in which they are grown largely for sale as well as for home consumption; but to give merely detailed remarks on the cultural methods such as are practised in private gardens is not our intention at present. The history of the Potato, as given in an abridged form in some school works, is calculated to create interest among the young which must grow up with them, especially if their lot is cast among the peasantry. In many parts of England where the Potato holds no secondary position as an article of diet, morning and evening, the failure of the crop is a calamity of no ordinary magnitude, and in Ireland the loss of the Potato crop cannot be supplemented by any other article in the vegetable kingdom. Though the loss in Scotland is great, those who have reason to value the Potato most (the peasantry) are generally better provided with resources to meet their requirements in the form of their famous "Green Kail and Leeks." Still, the Potato holds the same position amoug vegetables in the north as Burns attributes to the Haggis among another class of viands, "Great chieftain of the puddin' race."

Judging from what we have seen in some of the agricultural districts of Perthshire, West and Midlothian, as well as in Stirlingshire, we are confirmed in the opinion that in Scotland the culture of Potatos is now of such a high character that it is not surpassed in any other country, and from the cottager's plot to the vast acreage which may be noticed in many districts, the system of manipulation in preparing the soil, planting the crop, cleaning, hoeing, lifting and storing the tubers is the same. The dependence of many in southern districts on their supply of Potatos from the north is much the same as many in the north depend on having their best supplies of wheat from the south. The Potato being a native of Chili, would lead one to suppose that a warm climate would be most conducive to the excellence and productiveness of the tubers, but it appears that no finer Potatos are grown anywhere than in the northern half of Scotland, and the quantities raised are immense.

We know something of the remuneration of growers who cultivate them well, and how profitable a branch of agriculture Potato culture is. With some it is not so, however. Wet, tenacious land does not suit Potato farming, and when seasons are adverse and conducive to disease the loss is complete. In Ireland, where "lazy bed" culture is practised, the Potatos are mostly of fine quality. We have often thought of trying this method of culture on some ground where Potatos are "waxy" and inferior, but have never seen the system adopted out of Ireland. The two kinds of Potato which we have seen so extensively grown this year are Victorias and Champions; lately, we walked over from Perth into the Valley of Strathearn, where some immense fields represent the most painstaking cultivation. The ground is worked into a tilth, seldom seen in gardens; the rows are almost as straight as gunbarrels, and "furrowed" up to a considerable height, leaving channels to take off the surplus water easily. The width between the rows averaged nearly three feet, and I think much of the cultivator's success may be attributed to plenty of room being allowed for the haulm to develope itself, with a free current of air passing along the drills. These finely managed fields might invoke the exclamation, often made, that "they were like gardens!" Vegetable gardens forsooth. It would give one especial pleasure to see one kitchen garden out of every dozen in such high cultural order. It is now so common to find private gardens so short of labour that an attempt to keep them in order would be courting failure in the other departments on the place.

We noticed along the route to Dunkeld the same consummate care in conjunction with Potato culture. By Callander, in "crofts" and cottage plots, they are planted in wide drills, earthed up in the manner already referred to, which appears to be the general system of culture. Along the beautiful route to Balquidder (where the remains of Rob Roy were interred in the picturesque churchyard) Potatos seem to receive much attention, and Champions appear to be the favourite. On ground not too rich they seem to do well everywhere, and are almost totally exempt from disease. When we see large quantities of Potatos in sound condition and of excellent quality as late as August (and while we write, August 25th, fair samples are still to be found), one is prompted to enquire into the cause of such late and sound preservation; but nothing definite can we learn which is not understood and practised in other parts where such late keeping is unknown. Early planting does not seem to be a general practice in fields, neither is early lifting often seen. October and November are the months during which late Potatos are removed from the soil. They are generally put into pits in the ∧ form, and well covered in the usual way.

During spring they are examined, and afterwards placed into cool sheds and turned occasionally, removing growths and any decaying tubers. The late kinds are dug from the fields in such good condition as one seldom sees in gardens. Early kinds are not often cultivated in the fields except in favoured localities such as the west coast of Ayrshire, and they are not far behind those grown in South Wales and the south-west of England. The large consignments from Belgium and Holland reduce the value very much of early home-grown produce.

It is often said that the manuring of Potatos heavily is conducive to disease. We observe that the large growers do not manure lightly, but prepare for the Potatos in a manner which answers well for a crop of cereals the following season. In gardens we notice that one of the common evils is to give Potatos too little space for their development, and the shelter (often on the outskirts) about gardens is against the well being of a crop which requires so much air. The planting of Brussels Sprouts, Borecole, or other crops between the rows is also much against the well being of the Potato crop. Kidney and very early kinds suffer little from this practice, but they are best when grown under the conditions of those cultivated in the fields. We do not think that the rage for very early Potatos is so prevalent as it was many years ago—certainly not in Scotland. We have never made much difference in our practice in the north or south, and the past season has been one of our best with forced Potatos which we have experienced for years. Dry, light sandy loam, used quite clean, with a portion of Thomson's Vine Manure in it, produced clean large tubers of the finest quality, and the varieties most valued for very early work are the old Ashleaf Kidney, Mona's Pride, and Veitch's Prolific Kidney. Much bottom heat or heat of any kind to Potato pits and frames is a positive evil, resulting in long lanky tops and few tubers. Two successions are had from pots, first in March and the second early in April, then two or three pits keep up the supply till those planted from pots at the base of walls are ready about the end of June.

At one time we gave some pleasure to others, but little satisfaction to ourselves, by growing in pots Ashleaf Kidneys to be ready at the new year. French cooks delight in these small fry, but we look upon such practice as the insignificant parts of gardening. A simple way to attain the same object is to plant in July on a well broken piece of ground Kidney Potatos which have been kept late by lying on a cool, airy space (a stone floor in the shade does well). They give little trouble to keep them growing late, and a frame may be placed over them to keep off frost (say, early in October), or they may be left to take their chance of having their tops cut off, and litter placed over the surface of the soil will keep the tubers secure, until they are lifted as they are wanted for use, and that may be from December onwards till those in pots are ready. This practice was taught us many years ago by the late Mr. George Glenny, of Fulham, and samples so raised at one time brought to market-men fabulous prices for "new Potatos." Pot culture is often ignored as useless, by attempting to force the crop too rapidly, which, in consequence, is useless. They require at all times an abundance of light and air. Judicious watering is very essential when quality is valued.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Plants Out of Doors.—Plants that have been stood out of doors to harden and ripen their growth will need watching to see that they do not get dry at the roots, which Azaleas and others growing in peat are apt to do. To prevent this, it is a good plan, when watering, to go over them two or three times, and fill up the pots to ensure the balls being soaked thoroughly through.

Insects.—Azaleas are always more or less subject to thrips, and especially in hot, dry seasons like the present, when, if not checked, they breed at a great rate; but as the buds of the plants are now formed, and the shoots and young leaves tolerably firm, these insects may be assailed and got rid of at once. To accomplish this, all that is necessary is tobacco water or nicotine soap, either of which, diluted well, kill the thrips and their eggs. The best way to apply the liquid is to lay the head of the plant to be operated on over a tub or other vessel to save waste, when the insecticide may be syringed on the foliage so as to wet every part without any waste.

Solanums.—These are among the very best plants amateurs can grow, but to have them really good, they must be well looked to and kept supplied with plenty of water, for if allowed to get dry at the roots, not only will red spider assail and damage the foliage, but the flowers will fail to set, and any berries there may be on will not reach the size and colour they ought to do.

Sweet Scabious.—Among flowering subjects, few (if any) are more useful for greenhouse decoration than these, and as they come so freely from seed, and afford such a variety of colour, everyone should grow them, and if sown now they will come in early in spring. The best way, however, for those who happen to have any in borders is to put in cuttings of the most distinct, or take up and save the plants by potting them, when, if stood under a wall and kept damped overhead, they will soon get fresh hold and be able to take care of themselves.

Salvias.—There are several of these that are almost indispensable for winter, and among them S. splendens Bruanti, S. Bethelli, and S. rutilans are the most desirable, all of which may be kept in a small size if not propagated too early, and had in fine bloom. The way to manage them now is not to pot on, but to give plenty of liquid manure, to keep the shoots strong and the leaves green and healthy; but as they will soon suffer from cold nights, the plants should now be stood in a frame.

Cyclamens.—It is time now that these were repotted, the most suitable soil for them being a mixture of peat and loam with a little sand; but on no account should they have large pots, as those of 6-in. size are quite big enough for any of the bulbs. When potted, the best situation for them is a cold frame, where they should be kept a little close and warm, and just damped overhead to give them a start, but little or no further watering will be required till they get well into leaf.

THE FRUIT GARDEN.

The Vinery.—It often happens with amateurs that the vinery has to do duty as a plant-house, in which case it is somewhat difficult to treat the Grapes properly at certain seasons, the most trying period, perhaps, being that when they are ripening, a time when it is necessary to keep a somewhat dry atmosphere, with plenty of air on, or the fruit will not colour properly, and finish perfect in bloom. This being so, the plants should be made subordinate to the wants of the vines for a week or two, or moved out, and stood in a pit or frame, as then there will be no necessity to use water; and if the pipes or flues are kept just warm by night, as well as during cold, sunless, or wet days, with the ventilators slightly open that vapour may be driven off, the vines will feel the beneficial effect at once, and be able to ripen both wood and fruit. Shanking is a malady about which little is known, but there can be no question that when it occurs there is something wrong at the roots, and the only thing that can be done just now, is to cut the affected berries out, but a little later on the sure remedy is to overhaul the border, and remake it, or add a good deal of fresh soil, a work that will be treated of when the time comes.

Young Vines.—Although it is always well with young vines to give them full play, and let them run pretty much at their will, till they get well up the rafters; all laterals should now be removed, and only the main leaves left, as then the waning strength will be concentrated in the buds, and the increase of light and air will harden and mature the rods. If these are yet in a green backward condition, the treatment recommended for ripening Grapes ought to be pursued till the bark assumes a nut-brown colour, and the foliage turns and drops away of itself.

Peaches and Nectarines under Glass.—These, when the fruit is gathered, are often left uncared for, but that is a time when they require a good deal of attention, as having to be kept dry, or not syringed, red spider assails them, and this parasite must be got rid of, if the leaves are to be kept healthy, or in a condition to perform their office till the buds are plumped up. The way to deal with the insects referred to is to well wash the trees with water from a garden-engine, and to repeat the same every afternoon on fine days till they are clear, leaving the house wide open both day and night, to keep the air cool.

Watering.—One of the most frequent causes of red spider is dryness at the roots, and if these are under glass, the border should be examined, and, if found necessary, a heavy watering given, but while this is being done, a watchful eye ought to be kept to see that the water does not get away at the sides, or down cracks, without soaking the soil.

Peaches Outdoors.—One of the greatest plagues on Peach walls is the earwig, which eats into the fruits while they are quite green and hard, and unless stopped and destroyed, soon spoil the greater part of the crop. The readiest way of getting rid of these tiresome pests is to get Bean stalks, or any other hollow tubes of that kind, and cut them into lengths 8 ins. or so, and stick them about in the trees, when the earwigs will enter them for shelter during the night, and may be blown out into a bottle containing a little water, and then given to fowls.

Strawberries.—The dry weather has been very trying for these, and particularly for young plants that have been recently transplanted in new beds, where they ought to be well attended to with water to keep them growing, or they will be unable to form crowns sufficiently strong to fruit next year.

Liquid Manure.—If liquid manure can be had, and applied once or twice a week, in a properly diluted form, it will do much good, and the same for pot plants intended for forcing, which should be stood on boards or a hard bottom to prevent worms getting into them.

A DOZEN SELECT ROSES.

HERE they are, and every one of them is of recent introduction, worthy the attention of lovers of Roses. I commence with four hybrid perpetuals, viz., Gloire Lyonnaise, which is described by the raiser as a yellow hybrid perpetual, although it partakes of some of the characteristics of the Tea Roses. The flowers are chrome-yellow, the petals edged with white, large, full, and finely formed, and with a scent of the Tea varieties. Queen of Queens is a seedling raised by Mr. William Paul, of Waltham Cross, and when first shown was thought to be thin, but it is a variety that has greatly improved by cultivation. The flowers are pink with a tint of blush on the edge of the petals, and it is a true perpetual Rose and very free; it is a good exhibition Rose, and equally valuable for the decoration of the garden. Duke of Albany is of the same origin; the flowers vivid crimson when they first open, but become shaded with age, taking on a lustrous velvety black; very large and full; a fine autumnal flowering Rose. Merveille de Lyon is the last of the quartette of hybrid perpetuals. It is unquestionably a fine new white Rose, very large and full, and handsomely cupped in the way of Baroness Rothschild. It makes a fine exhibition variety, though it is apt, in common with some other good flowers, to open in the centre.

The Tea-scented varieties are Madame de Watteville, salmon-white, each petal bordered with bright rose, like a tulip, large and full; a very pretty and distinct novelty. Sunset, an American sport from Perle des Jardins, bearing flowers similar to that variety in form and substance, but of a pale bright apricot-yellow; beautiful in bud, a fine forcing variety, and a good exhibition Rose. I saw this shown very finely at the end of August; the blooms had been cut from plants worked on the brier. It is a variety strongly recommended for pot culture. Etendard de Jeanne d'Arc is a seedling from the fine old Gloire de Dijon, and is regarded as one of the best Roses of recent years; the flowers are creamy white changing to pure white, very large and full and opens well, which is more than can be said of some of the Tea Roses. Madame Eugene Verdier is also a seedling from Gloire de Dijon, and being a strong grower, is suitable for massing with hybrid perpetuals, and it is also a good climbing Rose; the flowers are deep chamois-yellow, large and finely formed, and very sweet-scented. Souvenir de Therese Levet has bright deep red flowers, of medium size, full, and produced with remarkable freedom, and it gives to Rose fanciers a valuable red tea-scented Rose. Lady Mary Fitzwilliam is Mr. H. Bennett's fine hybrid tea, the flowers very large, full, and globular, delicate flesh colour shaded with rosy pink; a very pleasing and most useful Rose. The Hon. Edith Gifford is a lovely tea-scented Rose that has been much exhibited this season; it is of exquisite shape, the colour flesh with centre of salmon-rose changing to white; large, full, in the way of Devoniensis, but distinct from it.

Lastly comes the pretty little Polyantha Rose, Perle d'Or, a very beautiful miniature Rose, with nankeen-yellow flowers, of good shape and very freely produced; the growth dwarf, and well adapted for an edging to rose beds, while it is valuable, also, for forcing and for pot culture. This is a Rose that is very useful for bouquets; indeed, it can be made use of in many ways for decorative purposes.

The foregoing list by no means exhausts the recently-introduced Roses of value; but they are a very good and select lot, well worthy the attention of cultivators.—*R. D.*

SPOTTED GLOXINIAS.

IT may, perhaps, not be amiss to call the attention of the plant-growing fraternity to this comparatively new section of Gloxinias; for although they are to be met with in many gardens, I have not seen them grown so frequently as they deserve to be, more especially as many are more fond of new things than of old, whether improvements or not. As far as I remember, Messrs. Veitch introduced them five or six years since, when they were favourably received by the horticultural press. I have noticed during the summer that more exclamations were elicited from visitors here in praise of the spotted section than by either the erect or pendulous kinds, even when either of the last-named had double or even treble the number of flowers on each plant. This section I find to be more delicate in constitution than the older varieties, and not quite so free-flowering, both of which disadvantages will doubtless be overcome by judicious selection of the strongest-growing and most free-flowering plants for the purpose of saving seed. The ground colour in nearly all of ours is white, and the spots are very varied in colour. The ground colours of some of them, however, are of a most æsthetic shade of red with darker spots, whilst one or two are different shades of light blue with darker spots. There is a great variation in the spotting—some are very thickly and evenly distributed over the throat and surface of the flowers; some of them, again, are very thinly spread over the flowers, whilst others are irregularly spotted, so thickly as on first sight to appear both blotched and spotted. Anyone who has not yet added them to their collections should not fail to get a packet of seed in the spring, and from which they will get a great selection, or may purchase plants when in flower at the principal nurseries, if only a few plants are required.—*E. D.*

CUCUMBER CULTURE.

I READ with considerable interest G. W. C.'s communication in your last number with reference to this subject, and his description of Mr. Roffey's Cucumber houses and mode of culture. When I commenced my gardening career, Cucumber-houses were not thought of, nor had the system of heating by hot water been brought into use. Cucumbers were produced with a very great amount of labour by the aid of fermenting materials, and a pretty business it was, toiling all through the winter months, some of them far more rigorous than we have experienced of late years. To be able to cut the first Cucumber on Easter Sunday used to be the one great object aimed at by all of the old school of gardeners of 50 years ago and upwards. I often take a retrospective view of my early associations in the matter of gardening, comparing the past with the present, and I often fancy myself just before Christmas busy in preparing a seed-bed to receive a one-light frame in which to raise the young and tender plants. Subsequently, other beds for two-light frames were built in a very methodical manner to receive the plants so raised, it being quite a studied business to carefully prepare the fermenting material for the purpose, so that no mishap should occur to the tender and succulent little plant.

When the heat was declining in the beds, linings of fresh stable dung had to be supplied as frequently as required, so as to maintain the proper temperature inside the beds; hurdles had to be thatched and placed round the frame to prevent the strong winds from driving the heat from one end to the other, or perhaps out of the bed altogether. To ensure success, all this and much more had to be done, let the weather be what it may. Although at that time we laboured under so many disadvantages, we were none the less happy in our avocation than the young scions of the present day. There was a degree of fondness for the work that gave zest to the action of the body, and brought the healthful, ruddy glow to the face—a pretty sure index as to the state of the mind, whether contented or otherwise.

Cucumbers can now be had all the year round, but I do not, for my own part, consider this so great a boon as many imagine it to be, or that the use of this esteemed esculent at all seasons of the year is conducive to a more healthful state of the body; and although we now have appliances to enable us to produce fruits and vegetables of almost every description in season and out of season. Commercially it may be highly advantageous, but in a healthful point of view, I think seasonable products are much preferable and more commendable; and as I have been actively engaged without intermission, in gardening for upwards of fifty years, my experience is of a somewhat extensive character.

What has led me to make reference to "G. W. C.'s" paper is, that he states that "only the best formed fruits are allowed to remain for seeds, the others being cut as required for use." Now, very many gardeners have been impressed with the idea, that to obtain fine fruit of any given kind, it is absolutely necessary that the seed should be procured from the very finest specimens that it is possible to select, but this is a fallacy which I have demonstrated before, and, to my own mind, fully exploded. If a stock is kept true, it is of little importance what the size or form of the fruit may be, so that fructification has been attained and complete. A case in point occurred only recently. A friend of mine possessed a very fine kind, very long, and very handsome, and of him I obtained plants for my own use. I had some remarkably fine growths, and I made up my mind that I would save one or more for seeding. I selected some for this purpose, not the handsomest certainly, but inadvertently these were cut, and as it was very late in the season, I had almost lost the chance of securing any seed at all; but by chance there was a fruit or two left, which were small and ill-formed; and what made matters appear worse, my plants ceased to grow, it being late in the autumn consequently the only chance left was to ripen the fruit as well as I could off the plant, with the result that I obtained some very diminutive seeds indeed, but they were perfect. Now, my friend saved some very fine ones for seed, and in cutting them open had not the satisfaction of obtaining one seed, from the fact, I presume, of the fruit not being fertilised, he was pleased to accept the seed I had saved. I have the gratification of stating that the produce was in every respect fully equal in size and form to any that had been grown from the very best selected specimens.

I am growing Sutton's Cluster Cucumber with the one mentioned, and a very nice-flavoured prolific little sort it is. I have crossed this with the one on which I have been treating, and *vice versa*, with the object of obtaining a variety of intermediate growth, from 16 to 18 inches, which I consider is a very suitable size for all purposes.—*G. F., Lewisham.*

"ALPINE POINT."

ONE of the most attractive spots in Battersea Park is that part of the peninsula, appositely named by its designer, the late Mr. John Gibson, Alpine Point, and which forms the subject of the accompanying illustration, reproduced from a photograph by Mr. F. Williams. The ground was thrown up in the manner indicated in imitation of mountain scenery, and the three "snowy peaks" created by planting the summits with the silvery-leaved Antennaria plantaginea. The planting of the base and foreground has somewhat varied from year to year, but the main idea of Mr. Gibson, which was to clothe the base with close-growing perennials, relieved by clumps and single specimens of various succulent plants, has been strictly adhered to by his able successor, Mr. Rodger.

This season, Alpine Point has felt the effects of the prevailing drought, and the carpeting of Mentha pulegium gibraltaricum on the lower slopes has not yet been seen at its best. The group and dot plants consist of the stronger-growing Sempervivums, such as Donkelaari, canariensis major, repens, and campylaetodon, Aloe barbadensis and nitræformis, Opuntias, low-growing Mesembryanthemums, dwarf Palms, Euonymuses, Retinosporas, Yuccas, and small bushes of Thalictrum alpinum; the whole surrounded by a belt of dark green foliage, which throws out the "points" in bold relief. It is a remarkably effective bit of scenery, and few of the visitors pass by without staying to admire it.

Notwithstanding all the watering, and all the care bestowed on the plants, the "Sub-tropicals" show the effects of the dry season in their less vigorous growth, though the refreshing showers which have fallen during the last week or two have had a remarkably invigorating effect on the shallow-rooting plants. The flower beds are as gay now as they will be seen this season, and of flowering plants we may note that there are more than usual, some of the larger beds, which used to be planted to pattern, being this season planted in the mixed style. The carpet beds are as bright as ever, and seem to have lost none of their popularity with the multitude. Almost all styles of bedding may be seen in this Park, Mr. Rodgers' plan evidently being to provide something to please everybody, and in so doing we think he acts wisely.

THE CONSUMPTION OF WOOD IN GREAT BRITAIN.—Great Britain, in proportion to its size, is, perhaps, the largest consumer of wood in the world, and its demands are continually on the increase. In 1858 we received about 3,400,000 loads of foreign and colonial woods of all kinds. In 1883 we imported over 6,640,000 loads, or nearly double the quantity of a quarter of a century ago. Although the value of the forest products of the United Kingdom is said to exceed £3,000,000 in value, yet our imports of wood are nearly six times that amount.

SELECT HARDY PERENNIALS.

(Continued from p. 807, Vol. I.)

HEMEROCALLIS, OR DAY LILY.—Having briefly called attention in the concluding remarks of my note in the last issue to the Christmas Rose, I will now pass on and glance at the genus Hemerocallis, or Day Lily. The generic name Hemerocallis is derived from Hemera, a day, and Kallos, beauty; thus a day beauty, a day being the time which the flower of various species last. The English name, therefore, of Day Lily is a very appropriate one, since the reflexed trumpets or flowers are by no means unlike those of the trumpet section of Liliums. The genus itself comprises some handsome species, for the most part vigorous, of free growth, and producing in quick succession during the summer months numerous spikes terminated by clusters of Lily-like flowers, which produce a bold and striking effect in the border. These Day Lilies are true herbaceous perennials, and form compact tufts of long lanceolate recurved leaves.

The following are among the best for general purposes:—H. disticha fl. pl., with large double flowers of a bronzy yellow, growing 3 ft. high, is one of the best and most showy. H. flava is a clear golden yellow, and one of the most useful of all; apart from its value as a decorative plant in the border it is especially adapted for forcing, a fact which makes it doubly valuable, and being free-flowering and of dwarfer growth are points favouring its extended use for vase or conservatory decoration at the early months of the year. Among other plants it is very effective, and when forced gently the golden yellow of its fragrant flowers loses none of its original beauty by being a shade lighter in colour. Plants for forcing should be lifted towards the end of September and potted, as by being thus early they have an opportunity of making new roots previous to winter. H. japonica grows about 2 ft. high; interior of flowers soft yellow, exterior of a bronzy orange. H. Kwanso fl. pl., a large, showy kind, with double flowers of a rich bronzy orange; of this there is also a variegated form, which makes handsome specimens either in the border or in isolated positions on the lawn. H. Thunbergii, a distinct plant, with clear, bright yellow flowers, about 2 ft. 6 ins. high. The above-named kinds are all distinct and good, distinct both in foliage and flowers, and may be classed as among the best of summer-flowering perennials.

HEPATICAS.—These are a group of lovely dwarf plants, so beautiful in spring time. At the present time we can only allow them to remain in their respective places, so I will defer my remarks on these to another time.

HESPERIS MATRONALIS ALBO PLENA (the old Double White Rocket).—To many of our readers the latter appropriate name will be much easier to remember than the former, though that is not so cumbersome as many. Who does not know something of this fine old-fashioned plant, which in days of yore, like the double Wallflowers, could frequently, and in plenty, be found in almost all cottage gardens? Methinks description is not necessary, for all must remember the compact, handsome, pyramidal and branching spike of this favourite old plant, a favourite in bygone days, and an indispensable plant to-day. It is so free-flowering, that if not carefully watched it often, in excessively hot summers, and especially so in somewhat stiff soils, completely exhausts itself. It needs attention just now: directly the flowers begin to fade cut away the spikes, fork the surface of the soil about the plants, and if the weather be dry, give a thorough watering, and mulch heavily with short rotten manure, spent hops, cocoa-nut refuse, or any similar material. Your plants will then be secure, for nothing, I may remark, tends to weaken plants (and especially those having weak constitutions) more than allowing the old spikes to remain and the production of seeds; in the present instance, by removing them the energies of the plant will be centred in the young shoots or buds around the lower part of the stem.

In about a fortnight or three weeks plenty of young breaks will be apparent, and these, when about 4 ins. long, may be stripped off with a heel attached, and inserted in sandy loam under handlights in a shady position. If they receive occasional waterings, leaving the lights off for an hour or so after each watering, they will soon emit roots, and be in fit condition for planting out in their permanent quarters in early autumn, and, provided the weather is comparatively dry and open, I much prefer autumn to spring for planting these Rockets, inasmuch as the ground itself is generally in better form, and the plants also have the advantage of becoming well established, for had they to remain in the cutting frame, even were the lights off, they would become weak and leggy from being overcrowded; by this means a stock of young vigorous plants may be guaranteed, a far better way than by dividing the old plants. The best known kinds are the double white and the double purple. There is a double red, if not quite lost; I have not seen it for years, however, and should any reader of THE GARDENING WORLD be the possessor of the true variety, I should feel much obliged if he would communicate the fact of its existence. The name is taken from Hesperos, evening, toward which time the flowers are more fragrant than usual.

"ALPINE POINT," BATTERSEA PARK.

HOLLYHOCKS.—With the lapse of a few years these, among the most showy of summer and autumn-flowering perennials, have undergone a great change. They were at one time prominent in many gardens, and for those of large size few could equal their giant spikes of flowers, double in the extreme, with colours so diversified that made their towering spikes objects of universal admiration. Strangely enough, though too true, the disease, only too well-known among these plants, has been much against their being employed in garden decorations, though fortunately this is not so prevalent among seedling forms as among the named kinds. They are very effective; indeed, none more so. I say, fortunately the disease is not so prevalent among seedlings as among the named kinds, because it will be satisfactory to the amateur and general public, who so much admire these plants, to know that they may still have them of equally fine form and as diversified as hitherto by employing seedlings (selected seedlings, of course) as in the named kinds, for several formerly large growers of named kinds known to the writer have given them up

and grow seedlings in their stead. These may be had considerably cheaper, and are altogether more vigorous and free from disease, which from its contagion not only causes ruin among them, but may be seen rapidly developing in other plants. For a background in the herbaceous border for associating with shrubs, they are unequalled, and a few of them produce a good effect. To get the best results from them, obtain good strong transplanted seedlings in early autumn, dig deeply, manure heavily, and if you are not rewarded by bold, handsome flowers and towering spikes, the fault will not lay with your adviser.—*J.*

THE GARDENERS' CALENDAR.

Fruit Culture under Glass.—PINE APPLES: Fruiting plants should have a day temperature of 75°, running up 10° higher with sun heat, and plenty of air. Maintain a night temperature of 70°, and damp the floors, walls, and plunging material morning and afternoon at closing time to promote a growing atmosphere. Examine the plants every week or ten days to ascertain their condition at the roots, and when dry, give sufficient tepid diluted liquid manure, to thoroughly moisten the soil, afterwards allowing it to become moderately dry before repeating the application; over-watering being an evil to be avoided in most cases, but particularly so in Pine culture, and especially at this time of year.

SUCCESSIONAL PLANTS will now, or ought soon, to have completed their growth; they should then be subjected to a lower temperature, and a drier and more airy atmosphere, so as to prevent the plants from making further growth, and to consolidate that already made, as well as to give the plants a period of inactivity before subjecting them to a higher temperature towards the end of the present year, with a view to inducing the plants to send up their fruit. During this interval, water must be applied both at the roots, and in the house or houses containing the plants, with judgment and care. The night temperature for these plants should range from 60° to 65° during the present month, and 5° to 10° higher by day, should be aimed at. Young sucker plants should be kept in a growing temperature for a few more weeks. All shading should now be dispensed with, and be put away dry, and out of the way for use another year.

THE KITCHEN GARDEN.

AUTUMN CABBAGE PLANTING.—Assuming that the ground, from which the crop of Spring-sown Onions has been removed, was manured and trenched, as advised at p. 811 of the last volume, the plants raised from seed sown at the end of July, and subsequently pricked out in nursery beds, will now be ready for planting. This should be done in drills 3 in. deep, 2 ft. apart, and the same distance from plant to plant in the rows. The plants in each succeeding row should be planted diagonally and when the ground is moist. Before drawing the drills, it will be necessary to tread the ground immediately under the line, as it is always advisable to have it moderately firm before the plants are put into it. With a view to rendering the roots of the plants distasteful to the Cabbage Maggots, they should be dipped in a puddle made of clay and a handful or two of soot prior to being planted, and afterwards, should the plants, by flagging and presenting a sickly appearance, indicate the presence of Maggots at the roots, they should be looked after and destroyed, and the blanks thereby caused be made good with plants from the nursery beds.

PICKLING CABBAGE.—The present will also be a good time to make a planting of Red or Pickling Cabbage. When this is sown and planted the same time as Cabbages, in the autumn of the preceding year, the heads become much larger and finer than those obtained from plants raised in he beginning of the current year.

CARDOONS.—Take advantage of fine weather, when the plants are dry, to get the earliest planted of these earthed-up. This is done by bringing the leaves carefully into an upright position, in which they should be held by one person, while another fastens the hay bands (of which a sufficient number for the row have been previously twisted) round the bottom of the plant winding away until the whole of the stalk is bound round, and the end of the band made secure. The stalks should be brought closely together, but not too much compressed. Proceed in this way until the row of plants is finished, and then earth till the bands are covered with the soil, which should be pressed firmly round the plant at the top, to exclude air and moisture, and proceed in like manner until all are finished.

THE VEGETABLE GARDEN.

CABBAGES.—The main crop of these should now be planted out, but before that is done, it will be necessary to heavily manure the ground and dig deeply, as it is impossible to grow these vegetables well and have the cabbages succulent and good without planting in rich land, for, like all the Brassicas, they are very gross feeders. The distance at which the rows should be asunder depends on the sorts, but 2 feet will be quite enough for any, and 18 to 24 inches from plant to plant, while for the smaller kinds, such as Ellam's Early, and Wheeler's Imperial, which are the best to grow, a less distance will suffice, and give them plenty of room to develope in. Many plant cabbages on the level, but by far the better plan is to have them in drills drawn out by a hoe, as then the moving of the land after, in cleaning, gradually earths the stems up and gives more stability, besides, when any watering has to be done, it is easier carried out, and each plant gets what is given without any loss.

POTATOS. There is danger in leaving these any longer in the ground, as, owing to the great check they have sustained through the dry weather, they are almost sure to start again when rain comes. They should be taken up on a fine day and left exposed for a few hours, that they may be stored in good order, as their keeping and flavour depends much on this. Those for eating are best laid thinly in a dark cellar or shed, but those for seed are benefited by being placed thinly on shelves in some cool light airy position, as there they are slow in making shoots, and what do come are late and strong.

CAULIFLOWERS.—The cooler weather and longer nights are suiting these, and with proper help afforded, fine heads may be obtained after this, but to get these, liquid manure must be freely applied till we have a good soaking rain, after which the plants will be able to take care of themselves. Those intended for handlights or to stand the winter should be pricked out from the seed bed as soon as they are large enough to handle, which will prevent drawing and make the plants sturdy and strong.

ENDIVE AND LETTUCE.—To have a continuous supply of these for salads, it will be necessary to plant out fresh batches for lifting later on to put in frames, and any now growing on must be watered to prevent them from flagging.

SCARLET RUNNERS.—These show their superiority over French Beans in the way they stand the weather and continue bearing, and if now assisted by a soaking or two of liquid manure, they will keep on till destroyed by the frost, but to enable them to do this, seed pods should be picked off and the beans gathered close, whether wanted or not.

MUSHROOM HOUSE.—If not already done, collect a sufficient quantity of horse-droppings to make up a bed and successional beds in the Mushroom-house, and spawn them as soon as the heat in the bed has declined to 70°.

FORCING HOUSE.—A batch of French Beans should now be sown in pots for use in November. The post (8-in.) having been previously crocked, should be only half filled with soil, of a rich though somewhat light description, to allow of the young plants being subsequently top-dressed to the rims of the pots. Cooling's Ne Plus Ultra is an excellent variety for early forcing, as it is for general culture, the plants, dwarf and compact in habit, being prodigious bearers of handsome Beans.—*H. W. Ward, Longford Castle.*

THE PLANT HOUSES.

It will now be time to see to providing a supply of flowers to succeed those that have been obtained out of doors. Therefore, plants that are required for that purpose should have encouragement. Bouvardias, Tree Carnations, Salvias, Begonias, &c., should be in their flowering quarters as soon as convenient, and if the pots are well filled with roots, liquid manure should be used liberally, especially for the Bouvardias and Begonias. Heaths, Azaleas, and other hard-wooded plants may be got indoors at any time now.

CHRYSANTHEMUMS will require tying, and the buds should be thinned out as soon as large enough; it will only be a few of the early varieties that will be ready yet. Zonal Pelargoniums that have been grown on out of doors for winter flowering should now be taken in; later on these will bear rather a higher temperature than is generally given them, and if they are in a position where they get plenty of light and a little air, they will flower freely throughout the winter. Poinsettias that have been put out in the cold pits should be taken in where they can have a little artificial heat before the nights get much colder; if left out too long, they are very liable to lose their bottom leaves after they are placed in heat.

SHADING.—All shading should now be dispensed with as much as possible. It will only be such things as tender ferns, young seedling plants that have just been pricked or potted off, or any tender plants that have recently been re-potted that will require any shading now, and this should only be given through the middle of the day; in any case the shading should be taken off as soon as the direct rays of the sun are off.

VEGETABLE MARROWS.—*Con.*—The long, white Skinned varieties, of good medium size, find the most favour in the markets. Dark green skinned ones are not much appreciated.

HOLLYHOCKS.—*J. M.*—The leaves are attacked by the too well-known fungus, Puccinia malvacearum, for which we know of no satisfactory remedy. You ought to burn all the affected leaves at once.

FRUITS, FLOWERS & VEGETABLES.

Bees and Flowers.—A resident at Basingstoke having recently made a statement to the effect that he had gathered 1,000 lbs. of honey from 16 hives, an amateur florist, Mr. Walter Humby, Skirbeck Grange, Lincolnshire, has stated his view of the bee question and indicts his neighbour and his bees, the latter for theft, and the former for receiving stolen goods. Mr. Humby writes:—"My small garden is limited to about half an acre, and I do not keep bees, at least, I have no hives. My next door neighbour does keep bees. He accommodates them on a lawn twenty yards square, with no garden. Thus, he keeps the hives, and I keep the myriads of his bees. My garden supplies 'the sweets which would have been lost had the insect's proclivities been ignored.' Now, I pride myself upon my flowers. I study the catalogues of C. Turner, Paul, Cannell, T. S. Ware, and a host of others, seeking to get the best and choicest specimens that money can purchase or love of flowers can procure. My ambition is to see my name on the first prize cards at horticultural shows. I would go any number of miles to be a successful exhibitor. But my neighbour's hives are an eternal Mordecai at my gate. The hum of his bees is to my hope as the warning cry of the Banshee. On my flowers 'the proclivities of the busy insects' are certainly not ignored. The moment my Roses show a disposition to unfold, a beastly bee wires its way to the very centre, with a score or more waiting outside to enter and complete the ruin. I look on and dare not interfere, though I know that besides the disarranged petals my precious Roses will show 'eyes,' and that no judge will look at them. The same with my Carnations, Picotees, Pelargoniums, and Calceolarias—every flower I have. What am I to do? I should be sorry to injure my neighbour, but is it fair that he should have 1,000 lbs. of honey out of my ravished flowers?"

Dahlias Juarezi and Paragon.—Of all the splendid Dahlias, single and double now in bloom, none so completely take the fancy of visitors to my garden as these. The so called Cactus Dahlia, Juarezi, in particular, is a gem, its form is so distinct from all others, so pleasing in outline, and its scarlet colour so brilliant in tone. I regard it as the best to grow for cutting. Paragon, among the singles is still unsurpassed, I think, notwithstanding the hundreds of new sorts that have been raised since it was re-introduced to cultivation. Its maroon petals edged with crimson, one never seems to tire of looking at, indeed the more one keeps looking at it the more beautiful does it seem to become.—*H. W.*

Nicotiana affinis.—There are some half-dozen varieties of the common Tobacco plant in cultivation, mostly natives of South America, and much used at the present time in sub-tropical gardening, for which purpose their stately habit of growth renders them very attractive and useful. I first saw the subject of this note in a tradesman's window last autumn, and was struck with its beauty as a window plant, it was in November, and was then flowering freely. But a few evenings since, a gentleman living near to Wroxham Bridge, invited me into his garden to see a bed of it which he had near to his house. It was sheltered all round by shrubs and tall growing plants, and was a mass of bloom. The flowers are white, something like a single Petunia, but with a long tube, and most deliciously scented; indeed the air was full of its rich perfume. The bed in question is about six feet long, and perhaps two and a half feet wide. The flowers close during the day, and open in the evening, just as I saw it. The ground had been well broken up for it, and richly manured, and well it repaid its owner for the trouble.—*T. W., August 29th.*

Casuarina equisetifolia.—In the conservatory at Abflour House, Craigellachie, there is a handsome specimen of this interesting tree some 10 feet high, and exceedingly graceful in habit. It is, I understand, a native of the South Sea Islands, the Indian Archipelago, and Australia, where it is known as the Swamp Oak, and is seldom seen in this country, and especially in such good condition as the specimen at Abflour. The Abflour Estate was purchased a few months ago by J. R. Findlay, Esq., proprietor of *The Scotsman*, and is one of the most picturesquely situated properties in Banffshire. These gardens, I believe, are to undergo extensive alterations, and though at present there is a handsome range of fruit and plant houses, a large increase is to be made in this department. When the additions and alterations are made, this will be one of the finest residences in the North of Scotland.—*D. P. L.*

Mushroom Beds out-of-doors. This is a good time to collect some short stable manure and horse-droppings, with which to make up beds out-of-doors, for producing Mushrooms next spring, and throughout the summer months. The manure should be turned over a few times when a sufficient quantity of it has been collected to make up a bed, to allow the rank heat and steam to escape therefrom, after which, the bed, or beds, can be made up against a south wall in a dry situation, where water will not lodge at the base. The beds should be made about 4 feet wide and 2 feet high at the wall, and the whole should be trodden firmly together and spawned when the heat has declined to 70° and subsequently be cased over with soil sufficiently moist to yield to the pressure of the spade. The bed should then be covered with long dry litter, over which a few pieces of board should be placed to keep it in position. Failing the wall accommodation, the bed can be made in the shape of a potato clamp—say, 4 feet wide and 3 feet high in the centre, in any available spot where the ground is higher than its surroundings, to prevent the lodgement of water, and where this does not exist a few bundles of faggots placed under the beds will answer the same purpose. In making the beds in the open air, drive a few stout stakes into the ground along the line where the bed is to be made, about 6 feet apart both sides, and inside these, as the bed is being made, a series of boards or slabs about 6 inches wide should be placed, thus forming a sort of box for the manure, with sufficient space left at the top to form a foundation for the mould used in casing the beds. The latter as indicated above, having been previously well trodden and beaten into shape with a four or five-pronged fork and spawned, should then be cased over with soil capable of being beaten firmly together, and thatched over with a foot thick of litter, which should be made secure with several lengths of tar-string, to prevent its being removed by rough winds. This done, the beds so made will require no further attention until spring, except to see that the covering is not displaced, and the results will more than compensate for the labour and time of waiting.—*H. W. Ward.*

Lilium auratum.—The value of this handsome golden-rayed Lily from Japan, as a decorative plant, is well illustrated by half-a-dozen specimens now in bloom in Mr. H. M. Pollett's conservatory at Fernside, Bickley. Last autumn, Mr. Pollett purchased six bulbs, a good fair sample, which were potted in the usual way in 32-sized pots. At the present time, two of them with single stems, bear fourteen and thirteen flowers respectively; two others, with two stems, bear twenty-nine flowers each; another, with two stems, has twenty-four blooms; and one, with three stems, has twenty-one flowers, or a total on the half-dozen of 153 blooms. The new bulbs will soon be in the market, and intending buyers would do well to get their supplies as early as they can, but not to pot them up at once. Through potting them before they have had time to "sweat," many Lily bulbs rot, to the great disappointment of their owners. The way to treat them is to put them for a time in the open air, under a covering of a few inches deep of cocoa-nut fibre refuse, to acclimatise them, as it were; and then to pot them in some good loam, leaf-soil, well-decayed manure, and sand, just when the young roots commence to make their appearance. It is also desirable that the bulbs should be put nearer the bottom of the pots than the top, and to pot them tolerably firm.

Onion for Sowing Now.—Your Rochdale correspondent, who enquired at page 811 of the last volume for information as to the best Onion for autumn sowing, cannot do better than sow the Giant Rocca. I have tried several, and found this the mildest flavoured, is hardy enough, grows to a large size, and transplants better than some I have had.—*C. Oswald.*

Mushrooms, eatable or poisonous?—Considering the importance of the subject, I do not consider your article sufficiently clear. One reads at page 805, "In attempting to discriminate the good from the bad, one of the chief points to be observed is the colour of the spores or seeds. This observation is very easily made, as the spores are, as a rule, the same in colour as the gills beneath. Agarics or Mushrooms may have spores either white, pink, purple, brown, or black, and there are both good and bad species belonging to each set." How, then, is the test of colour to be applied and what is to be observed? I note too, that Agaricus saponaceus, at p. 805, and Agaricus nebularis, at p. 820, are not poisonous or eatable, which is an oversight which might entail serious consequences. There are only six described. Why should not the question of food or poison be marked to these as to the others.—J.

[In answer to our correspondent's remarks, we have to say that spores colour alone is not a distinguishing mark between edible and poisonous fungi, but that it is essential in the first place to determine the spore-colour before the structural points are observed. To distinguish edible from poisonous fungi, three observations are essential, viz.:—1, Spore-colour; 2, Structure; 3, Habitat. In our two short articles, all these points are adverted to. Spore-colour is generally taken first, just as one has always to determine whether a flowering plant is an Exogen or an Endogen before proceeding further. In many fungi the odour and taste when raw, are important factors in the determination of the name; we have referred to one of these characters under Agaricus saponaceus. Agaricus saponaceus is not edible, Agaricus nebularis is edible, both are correctly described in the articles. By an oversight of the printer, two illustrations on p. 820, viz., Agaricus procerus and Agaricus melleus have their names transposed. The letter-press, however, obviously sets this right, as the three sections of Agaricus melleus are referred to.—Ed.]

Nigella damascena.—Of the many hardy annuals which are now grown for the embellishment of the borders, and at the same time to give flowers for cutting purposes, this old-fashioned one deserves to be more generally grown than is now the case. As is well known, many things of this class are more showy in the borders than Nigellas; but then, when they come to be arranged in vases or epergnes, or any other receptacle for holding cut flowers, its peculiar light blue flowers, as it were, dropped into a cushion of Fennel-like foliage, makes it at once a light and attractive subject, and fit for any but the very choicest arrangements. I find it does better during wet than very dry weather. It has often puzzled me why its common names, viz., Love-in-the-Mist and Devil's Bush, should be so diverse.—*E. D.*

The formation of borders for hardy Fruit Trees.—This was the subject of a paper read by Mr. Peter Fairgrieve, gardener, Dunkeld, read at a meeting of the Scottish Horticultural Association, held on Tuesday evening. If, said Mr. Fairgrieve, the ground is at all inclined to be damp, or the subsoil adhesive, by all means let the border be properly drained. After the drainage was finished, the best thing to do was to trench the entire border to the subsoil. With regard to the site, he thought sloping ground to the south a great advantage; a dry bottom was indispensable; and it was necessary that the site should be protected from the north and east. Soil had a very great deal to do with the successful cultivation of all fruits, and he believed a good garden soil, properly managed, would grow most of their fruits most successfully. He did not think it proper to plant on the same place and in the same soil the identical fruit trees that were there previously. Referring to the danger of drought, he pointed out that a proper quantity of soil was a most important matter in the formation of a fruit border, and that, again, had to be determined by the nature of the soil and sub-soil. In thin borders roots suffered very much from drought in summer, but that evil could be met by deepening the border. Twenty-four inches of soil was not too much, if resting on the chalk or gravel. Less would do if the border rested on heavy impenetrable till. By regulating that matter properly, gardeners would be able to avoid the necessity of watering fruit borders out of doors. He knew of no fruit that suffered more from inattention in regard to that matter than apricots. What was the border to be made of? For wall fruit generally, too much sand, clay, or dead, heavy loam was not desirable. Substantial loam was no doubt what was wanted for apples and pears; but for plums, nectarines, peaches, and apricots, loam, with a little sand in it, was best. No doubt under circumstances different compositions might be adopted with success. Where the soil was a good fresh loam in its natural state, trenching was about all that was necessary. If a place was being newly constructed for the purpose of growing fruit, a first-class border being desired, and the natural soil not being suitable, either from its being too stiff or too sandy, the original soil ought to be taken away, and fresh soil introduced. Nothing would suit better than a nice maiden loam with the turf in it, especially when brought from the banks of a river. It would not be necessary to add any manure, as most likely the wood of the trees would be quite strong enough without it, but a little charcoal added would be advantageous. It would be desirable to give the border a slope to face the sun. A discussion followed the reading of the paper, and Mr. Fairgrieve received a vote of thanks.

MAIDSTONE FLOWER SHOW.

This annual exhibition is held in the spacious buildings known as the Corn Exchange and Concert Hall, and fills here exceedingly well; but it is a matter for surprise that, with the numerous eligible out-door sites that exist in the neighbourhood of the town, the Committee do not hold their exhibition under canvas. The ten guinea prize offered for the best group of plants, arranged for effect, brought out five competitors. First honours were secured by Mr. Ocock, gardener to Major Roberts, Snodland, with an exceedingly fresh arrangement, which formed a pleasant break from the somewhat stereotyped style in which these groups are usually put up. Mr. Waterman, gardener to H. A. Brassey, Esq., M.P., Preston Hall, was second, and Mr. Fennell, gardener to Mrs. Cazalet, Shipbourne, was placed third, with a good group, a little heavy in the foreground. For nine foliage plants Mr. McKenzie, gardener to F. S. W. Cornwallis, Esq., Linton Place, was first with a grand lot, comprising Asparagus plumosus nanus, about 4ft. through, Croton Mortii, C. variegatus, C. Queen Victoria, all large and wonderfully well coloured, Alocasia macrorhiza variegata, Areca rubra, Kentia australis, Pandanus Veitchi, and Dicksonia antarctica. Mr. Ocock was second with a very good nine, amongst them being a fine piece of the rare Dicksonia Smithii, Croton majesticus, very fresh and bright, and Alocasia macrorhiza variegata. Mr. Waterman was third, his best plant being Cycas revoluta. For the single specimen Mr. Waterman was first with Pritchardia grandis, and Mr. McKenzie second with a wonderfully high-coloured piece of Croton Andreauum.

Cut Flowers made a large display. At this show the exhibitors of baskets of cut flowers make a great mark, none of the baskets being less than a yard in diameter, and usually very well put up. Mr. Luckhurst, gardener to the Misses Jones, Hayle Place, was closely run for first honours by Mr. Goddard, of Hunton Court,

who came in a good second, and the third went to Mr. Pettit for a very pretty basket, but which was a trifle flat. For the wedding bouquet Mr. Fennell was first, and Mr. Archer, gardener to F. Pine, Esq., Maidstone, second. Mr. Godden, gardener to Mrs. Brook, Tovil, had the best Dahlias and herbaceous Phloxes, while for twelve Roses the veteran John Hollingworth had to stand second to F. Warde, Esq., of Tatsham Hall. Mr. Waterman staged a good box of stove and greenhouse cut flowers, and was awarded first, Mr. Goddard being second with another capital lot. Asters, Zinnias, and single Dahlias, though numerous, were not so good as usual, showing evidences of their sufferings this dry season on the hot limestone formation of this district.

Fruits.—All the fruit classes were well filled, Grapes, making an especially fine display. For three bunches of black, any variety, Mr. Legg, gardener to M. H. Dalison, Esq., Tonbridge, was first with splendid clusters of Black Alicante, Mr. Rabjohn, gardener to Hon. R. Neville, Birling, was second with Gros Maroc, and Mr. Chisholm, gardener to Sir F. Geary, Bart., third with Hamburghs that seemed to lack finish. For Muscats, Mr. Legg was again first with three fine bunches, and Mr. McKenzie second, these being unfortunately rubbed in travelling, but very fine indeed. For three bunches of white Grapes, any variety, Mr. Toms, gardener to Geo. Edmett, Esq., was first with fair examples of Buckland Sweetwater, Mr. Morris second with Foster's Seedling, rather green, and Mr. Excell, gardener to Jno. Hollingworth, Esq., third with small bunches of Golden Champion. For the collection of fruit Mr. Fennell was first, closely followed by Mr. Deuxberry, gardener to the Earl of Darnley, and Mr. Rabjohn was a good third. For the collection of hardy fruits, Mr. Goddard took first honours with a very clean lot, and Apples, Pears, Plums, Cherries, and Melons were, as they invariably are here, of first rate quality, and shown in considerable quantity.

Farmers' Fruits.—Classes for farmers' fruit are a distinctive feature of this show. The fruit is exhibited in baskets ready for market, and the class for six quarter sieves, distinct, evoked a very spirited competition, Mr. S. H. Goodwin, Mereworth, was a good first, showing capital baskets of Stone (Loddington) Apple, Black Currants, Morello Cherries, New Orleans Plums, Jargonelle Pears, and Warrington Gooseberries. Mr. W. W. Blest was second, his best baskets being Belgian Purple Plums, and Lord Suffield Apples, Mr. W. M. Fearon was third, and Mr. A. J. Killick fourth, all staging capital fruit. Mr. F. Warde had the best half-sieve of dessert Apples, Mr. F. Smith taking second honours, and Mr. W. J. Goodwin third. For culinary Apples Mr. Smith and Mr. Warde changed places, Mr. W. J. Goodwin again coming third.

Vegetables were noteworthy from their number and excellence. Mr. Waterman, as usual, had the best collection of thirty varieties, but was closely pressed by Mr. Ocock, who was placed second. Mr. Luckhurst's collection which was third, was also a fine lot, and well staged. For Autumn-sown Onions Mr. McKenzie was an easy first with a dozen magnificent Giant Rocca. Carrots, Cucumbers, Lettuce, Cauliflower, Peas, Beans, and Potatos, especially the latter, were all shown well. The dish of red kidney Potatos with which Mr. Ocock was an easy first in his class, being simply perfect. The cottagers in all the adjacent villages, tempted by a liberal prize schedule, come in force, and fill a large ante-room with productions which would alone form an exhibition. The exhibits not for competition were a fine collection of Melons by Mr. McKenzie; Roses and Gladioli by Messrs. Geo. Bunyard & Co., Maidstone; and fruit, flowers, and plants by Messrs. Thomas Frost & Sons, Nurserymen, Maidstone.

Fruit Culture in India.—A correspondent of the *Indian Gardener* states that in Beluchistan, where he is at present stationed, the following fruits are grown by the natives:—Grape, Fig, Pomegranate, Peach, Apricot, Apple, Pear, Mulberry, and Myrtle. But, with the exception of a few Syads near Quetta, who keep their science to themselves, the people are supremely ignorant of all gardening operations. Grafting, pruning, insect killing, are unknown amongst them; and provided they can secure a large quantity of fruit, they seem utterly indifferent as to its quality. The valleys vary in elevation from 2,000 to 8,000 feet, so all degrees of temperature can be obtained; and the writer considers, that with the hot sun, and ample supply—for orchard purposes—of running water, all kinds might be raised to perfection.

ORCHID NOTES AND GLEANINGS.

Work in the Houses.—Early in September is the best time to begin a thorough overhaul of the plants to see that they, and all things about them, are clean, and to re-pot, block or basket, any plants requiring it. Above all let me urge the necessity of exterminating yellow thrips and other insects, but particularly the yellow thrips, as there is no good culture where they exist and are left undisturbed. For their benefit, therefore, an insecticide that has been proved to be effective should always be at hand. Among the more trustworthy tobacco water may be mentioned as safe, Fir Tree Oil, when mixed according to instructions, is certain, and many who have tried Stevens & Co.'s Amortiser speak very highly of it, especially in the case of green-fly. It may by some be considered tiresome to have these reiterated remarks on cleanliness in the Orchid-houses continually placed before them, but if they consider that fully one-half of the success in Orchid culture depends on its observance, and on the admission of pure air requisite to maintain it, not only in the plants, but in their surroundings, they would not think that too much could be said on the subject.

The devastating influence of yellow thrips too, which I have seen of late in more than one small collection tells me that its work is not sufficiently understood and feared. Let me advise all whose plants are infested with these pests to leave all but absolutely necessary work until they are got rid of. Now at the turn of the season artificial heat must be kept at command in order to keep the air stirring, and to prevent damage by damp. Even in the cold-house it is of service, in houses of some particular form, and in some situations, but in others in which the knowledge gained in former years tells the growers that the artificial heat need not be yet turned on, it may be deferred a while.

The temperature for September should be:—

Warm-house, or East Indian, 75°-80° by day, 70° at night. Cattleya or intermediate house, 70°-75° by day, 65° at night. Cool or Odontoglossum house, 60°-65° by day, 55° at night. Degrees Fahrenheit. The higher day temperature to be obtained by the sun heat when possible.—*James O'Brien.*

The Cycnoches and Catasetums.—These should be grown with the Mormodes in an airy intermediate house, and kept well supplied with water whilst growing, gradually ripened off as the leaves turn yellow, and rested in a temperature of 55° to 65°, being kept tolerably dry and airy the while. In fact they should be treated in precisely the same manner as directed for Mormodes at p. 812 of our last volume, which note had better be referred to by all who are interested in the matter. It greatly simplifies Orchid culture if the plants are treated in sections, those of like habits and requirements being got together, and to that end it is a good plan to select all Catasetums, Cycnoches, and Mormodes, together with the Cyrtopodiums, some of the Gramatophyllums, Eulophia scripta, the Ansellias, and a few others of like growth, and treat them all after the manner directed for Mormodes. The only thing specially needful to observe being to rest each when its state of growth tells that its resting season has arrived, and to pot each when its pushing growth tells that the proper time for potting and for an increase of the water supply is at hand, and not to endeavour to make the resting and growing season of all alike, for their widely different native habitats, and consequent different seasons of rest and growth, forbid such a course.

THE SWAN ORCHID: CYCNOCHES CHLOROCHILON.

The botanical standing of Cycnoches, Catasetums, and Mormodes is an oft-discussed subject with which I need not deal here. The names Myanthus and Monachanthus, proposed as generic names for certain sections of Catasetum, have been dropped, and it is possible that further changes may be necessary when these extraordinary plants are better known. A fine field is open for an enthusiast to devote a house to them, where every obtainable variety, each properly numbered, could be bloomed, and every time they bloomed drawings made, and thus their change of form and feature, and the plan on which it is worked, may be got at.

Cycnoches ventricosum.—This being one of the first of the species introduced (1835), and more being

known of its peculiarities than of some of the others, it will be well to begin with it. It was one of Skinner's first introductions from Guatemala, and was sent by him with the flowers described as large and of the shape of that of our illustration. On flowers, however, much disappointment was experienced by the plants producing long arching spikes of closely-arranged, small flowers. Mr. Skinner was advised of the fact, and he could give no explanation; but on several occasions forwarded fresh specimens, which, however, only produced the small flowers as before. At last, in the Knypersley collection, a plant flowered with a magnificent dense inflorescence of violet-coloured flowers, in size and appearance like those of Odontoglossum Edwardii, but with a wonderful long-stalked lip expanding at the tip into a wheel-like form, with projections like the tentacles of a Zoophyte. This variety was called C. Egertonianum, but even while the small-flowered form was yet in bloom, on the same pseudobulb appeared a twin-flowered spike of the large-flowered C. ventricosum.

The plant is admirably figured in Bateman's gigantic work, *The Orchidacea of Mexico and Guatemala.* In 1842, R. S. Holford, Esq., of Westonbirt, flowered a plant of C. ventricosum, with a long, loose spike of the large flowers of the form of that illustrated, and the small ones, which had been named Egertonianum, mixed, and still further adding to the complications by exhibiting flowers in various grades intermediate between the two extreme forms. It will therefore be seen that any of the Cycnoches may produce three distinct arrangements of flowers on the same pseudobulb, and that the widely different flowers named C. ventricosum and C. Egertonianum are but flowers of one and the same plant. I strongly suspect, too, that some of the others distinguished as species are but local varieties of either C. ventricosum or C. Loddigesii, which form two principal species. The large flowers are supposed to be the female and the small ones the male.

C. VENTRICOSUM (EGERTONIANUM) VIRIDIS is a pale green-flowered form of the preceding. This has been called C. stelliferum.

C. CHLOROCHILON (see illustration) appears to me to be the finest form of the ventricosum section, producing several of its large, wax-like, yellowish white flowers on a spike. The lip is yellow with white at the base, and a peculiar dark green blotch in the centre. The swan neck which suggested the name for the Cycnoches, is well exhibited in this species, which also resembles the form of the swan in several of its stages, the buds being remarkably like one with its wings closed, and the half-open flowers remind one of a swan with its wings expanded and its neck arched. What the other forms of this plant may be I cannot say, but we may hope to see them soon, for a few plants of it have recently been got over alive.

C. AUREUM is like C. chlorochilon, but with rather smaller flowers of a yellower tint.

C. WARSCEWICZII.—This is much like C. ventricosum viridis, its small flowered spikes producing greenish yellow blooms, with the usual star-like arrangement on the stalked labellum, and the fewer-flowered upright spikes of flowers as in C. ventricosum. I have also seen it with a spike of mixed flowers, as described in the case of Mr. Holford's plant of the Egerton variety.

C. LODDIGESII.—This commences the showy-coloured varieties. It was sent by Mr. Lance from Surinam to Messrs. Loddiges in 1830, and flowered with them in 1832. The forms which I have seen produce from two to five flowers on an upright spike, in form like our illustration, but rather more slender, arranging themselves lip uppermost, as usual with the genus. The sepals and petals are yellow, mottled and barred with brownish crimson; the column purple with green at the tip; the lip white spotted with purple and tipped with green. It is fragrant like most of the other species.

C. MACULATUM has much the same appearance as C. Loddigesii, but the flowers I have seen are duller in tint and rather smaller. The sepals and petals are dull yellow barred; with brown and the lip has a curious comb-like fringe at the point.

C. PENTADACTYLON.—This might be regarded as a form of C. maculatum were it not for the curious arrangement of the lip. The sepals and petals are greenish yellow barred with brown; the lip is slender, elongated, with fine finger-like lobes and white in the middle, yellow spotted with red at the tip, which is like a tongue.

C. BARBATUM forms a distinct dwarf species, its flowers (those we have seen) being very much like those of a Gongora; indeed, were it not for the long column, and one or two other peculiarities of Cycnoches, it would certainly pass for one. It flowered many years ago with Mrs. Lawrence, of Ealing Park, and is still very rare. Flowers produced twenty to thirty on a drooping raceme. Sepals and petals yellow, spotted with brownish red; lip white and yellow spotted with crimson and clothed on the upper side with long hair-like protuberances; column slender, green tipped with purple. A most singular and showy plant; a native of Costa Rica—*James O'Brien.*

(To be continued.)

Renanthera coccinea.—We learn from a letter dated June 25th, received from a son of Dr. Wallace, of Colchester, that this fine Orchid has this season been in flower from two to three months in the garden of T. Jackson, Esq., St. John's Place, Hong Kong, on the verandah steps, where the plants are left, summer and winter, in the open air. A photograph of the plants before us shows them to be fine specimens and we regret that it is not quite clear enough for engraving.

HORTICULTURAL SOCIETIES.

Sandy and District Floral and Horticultural.—The seventeenth annual show of this society was held on Friday, the 28th ult., in the park of Sandy Place. A more suitable place for a flower show could not be found, and the committee are greatly indebted to the owner, J. N. Foster, Esq., for his kindness in always lending his grounds for the occasion. Sandy si a very large and populous parish, situated just over forty miles from London on the main line of the Great Northern Railway. The London and North-Western also runs into Sandy, having a station adjoining that of the Great Northern Railway since; these two railways have come into Sandy they have added much to its importance, giving easy facility for sending the staple products of the neighbourhood (principally market garden produce) to the London markets and manufacturing districts.

On entering the show grounds from the Great Northern Railway Station, distant about three minutes' walk, one was surprised to witness the number of tents (no less than eleven in number, and some of large dimensions) required to receive the various productions of the vegetable and animal kingdom, for on looking through the schedule we observed that there were prizes offered for plants, fruit, cut flowers, poultry, rabbits, cage birds, corn, roots, &c., there being no less than 255 classes in which exhibitors could compete, and in these classes there were no less than 2,300 entries.

In Division A, open to all England, ten stove and greenhouse plants in flower, Mr. Jas. Cypher was an easy first, his ten consisting of the following:—Phœnocoma prolifera Barnesii, between four and five feet in diameter, one of the best plants that has ever been exhibited at any of the Society's shows, Statice profusa, Erica retorta major, Erica Irbyana, Erica obvata purpurea, Rhododendron Duchess of Edinburgh, Ixora Pilgrimii, Clerodendron Balfourianum, Bougainvillea glabra, and Allamanda nobilis. The second prize was awarded to Lieut.-Gen. Pearson, The Hasells, Sandy, gardener Mr. W. Rabbitt, and the third to Mr. J. F. Mould, Pewsey, Wilts. With twelve Zonal Pelargoniums, distinct, there were only two competitors, Mr. Rabbitt and J. H. Goodjames, Esq., Eynesbury, St. Neots, gardener Mr. G. Redman, who secured the prizes in the order named. In the class for 48 Roses, not less than 24 varieties, four exhibitors came forward, each showing up very creditably for the time of year and the season they have had to contend with. Mr. John House, Peterboro', was first, Messrs. Paul & Son, Cheshunt, second, and Mr. George Prince, Oxford, third, Messrs. Burrall & Co., of Cambridge, running the latter very close for that place. For 24 spikes of Gladioli, distinct, Messrs. Burrell & Co., Cambridge, who staged a magnificent stand, which was much admired, well deserved the first honours awarded them. 24 Dahlias, show, A. J. Thornhill, Esq., M.P., Diddington, Huntingdon, gardener Mr. R. Petfield, was a very easy first, every one of his flowers being first-class; Messrs. Paul & Son, Cheshunt, second, and Mr. Jas. House, third.

In Division B the competition was not nearly so keen, only one lot of six flowering plants being staged; but they well deserved the first award which was placed on them. The exhibitor was Mr. G. Redman, who is the most successful competitor in this neighbourhood, taking more prizes at the St. Neots and Sandy shows than any other exhibitor. His six plants consisted of Statice profusa, four feet in diameter, fresh and good, a magnificently-bloomed plant of Bougainvillea glabra, Ixora Javanica floribunda, Stephanotis floribunda, Dipladenia insignis, and Justicia carnea. Of foliage plants there were only two collections, the first prize going to a very nice collection from J. H. Astell, Esq., Woodbury Hall, Sandy, gardener Mr. G. Claydon; second prize Mr. W. Rabbitt. There were also only two lots of six Begonias, and the first prize was awarded to Mr. W. H. Apthorpe, Cambridge, whose plants were first rate and much admired. Ferns were well represented, and Mr. T. Tilbrook, gardener to Bateman Brown, Esq., Houghton, Hutingdon) was first, amongst his collection being Adiantum Williamsii, very good, also Adiantum concinium, Adiantum concinium latum, &c.

In the tent for cut flowers, which, owing to its crowded state, it was rather difficult to take notes in, Roses were poorly represented, there being only two exhibitions of 24 blooms. Dahlias: Here, again, Mr. R. Petfield carried all before him, both in show and fancy, his flowers being grand and causing quite a sensation. We may state that he is quite the champion at Dahlia-growing in this part of the country. Asters, Zinnias, and Marigolds were not so good as in former years, which may be accounted for by the long drought which they have had to withstand. For 12 varieties of cut flowers, in separate bunches, Mr. G. Redman had a superb stand, taking first prize. Amongst his best bunches were Lapageria rosea, Dipladenia profusa, Allamanda Hendersoni, Anthurium Scherzerianum, &c. Mr. T. Smith, gardener to Miss Cheere, Papworth Hall, St. Ive's, was second. There was a magnificent stand of cut blooms of Single and one of Double Begonias from Mr. Edward Edwards, of Leighton Buzzard, Beds, showing to what perfection these flowers have attained, the single ones being of various colours, and very large; the doubles, many of the blooms equal to flowers of the Camellia-flowered Balsams, and of many shades of colour. They were very rightly highly commended by the judges.

FRUIT was better in quality and shown in greater quantity than we ever remember seeing before at any of the Society's previous meetings. Baskets of fruit, eight varieties, were strongly represented. Mr. G. R. Allis, gardener to Major Shuttleworth, Old Warden, Biggleswade, secured the first prize with good samples of Black and White Grapes, Melon, Peaches, Nectarines, Figs, Cherries, and Apricots. Mr. Tilbrook was a very close second. Two bunches Black Hamburg Grapes: first, Mr. W. H. Murfin, Great Staughton, St. Neots. Two bunches Black Grapes, any other variety: first, Mr. Tilbrook, with two superb bunches of Gros Moroc, highly coloured and well finished. Two bunches of Muscat of Alexandria: first, Mr. Tilbrook. Two bunches of White Grapes, any other variety: first, Mr. G. R. Allis, with Buckland Sweetwater. All other kinds of fruit were well represented, and the Plums, Pears, and Apples were especially good.

VEGETABLES.—Not quite so large a quantity as we have seen in former years, but in quality very good, the collections of 12 varieties of vegetables being exceedingly good. Mr. Ellis, of Bedford, secured the first prize. For a collection of Potatos, six sorts, Mr. Arthur, gardener to P. Meyer, Esq., Orwell, Royston, was first, with splendid tubers of Reading Russet, The Dean, Chancellor, Schoolmaster, Prime Minister, and Mr. Breeseé, Mr. Carter, gardener to Capt. Duncombe, Waresley Park, St. Neots, having a very nice lot for the second prize. Potatos were admirably shown in all classes, Schoolmaster amongst the round whites, and Reading Russet and The Dean being especially good; the latter was spoken very highly of. Onions were very good for the season, and considering the locality in which the show is held, it was not surprising that they were extensively exhibited. Here the same exhibitor who took the leading prizes with Grapes was also a long way ahead of his rivals, taking first prize with 12 White Spanish, a long way the best we have seen this season; also first for 12 White Globes with remarkably fine specimens. It was labelled "A new

Onion, raised from Magnum Bonum, crossed with Nuneham Park." It certainly appears to be a distinct variety, somewhat resembling "The Wroxton" in its character, but looks a superior variety, and an Onion that if it does not surpass the Rousham Park Hero and the Anglo White Spanish, will certainly hold its own with them or any other variety we have yet seen. Cottagers' produce was also well represented, and they came out very strong in Potatos and Onions. Space will not allow us to enter into any details of the other departments of this exhibition; suffice it to say that all were well represented. The weather, which looked threatening, was all that could be desired, and the attendance large. Great praise is due to the treasurer, Mr. E. T. Leeds Smith, and the secretary, Mr. Wm. Green, for the able manner in which they carried out their onerous duties.

West Grinstead Horticultural, *Aug. 26th.*—Here is one of those useful country societies whose operations cover a large district, including Cheding, Henfield, Shipley, Corifold, Anthurst, Southwater, Ashurst, Ashington, and Shermanbury. In order to work these districts, committees are appointed, and these bodies, united, form the committee of management. But as this is a very large and somewhat unweildy body, a sub-committee from each makes up a working body, and to this is entrusted the arrangements of the shows. This was the twentieth exhibition, and was held as usual in the grounds of West Grinstead Park, the residence of the president, Sir W. W. Burrell, Bart., M.P., who extends towards the society a noble generosity, and when the awards are made, and the business arrangements are completed, invited the judges, committee, &c., to a *recherche* luncheon, laid out in the noble banqueting-hall belonging to this time-honoured mansion. This is as it should be, but there is no obligation resting on Sir Walter to do this, he does it freely, as one who takes a great interest in the society, and who delights to see his neighbours and dependents happy and enjoying themselves.

Two tents held the exhibits brought for competition, in addition to the subjects sent to the industrial department. The show was a pretty one, and the arrangements are mainly in the hands of Mr. H. Bowell, the gardener at West Grinstead Park, a veteran gardener, who commands and deserves the respect and esteem of all who know him, and especially of his brethern of the gardening fraternity.

The most important classes were those in which the prizes were given by Sir Walter Burrell, and others. Thus the best stand of twelve Roses came from Mr. Slaughter, Steyning, Sussex, a well known and sucessful amateur cultivator and exhibitor. He had charming blooms of Baron Rothschild, Pierre Nottiug, Catherine Mermet, Beauty of Waltham, Camille Bernardin, Comtesse d'Oxford, the fine new Tea Rose, Sunset, Le Rhone, Marie van Houtte, Maurice Bernardin, La France, and Madame Victor Verdier. Mr. E. Laurence, Tonbridge, Sussex, was second. Then followed a class for twelve Dahlias, and here Mr. Simmonds, gardener to the Rev. R. C. Hales, Woodmanate Rectory, Sussex, was first with a good lot of flowers, comprising Hercules, James O'Brien, Royal Queen, Chris. Ridley, Mrs. S. Hibberd, Prince of Deumark, Ethel Britton, Flora Myatt, H. W. Ward, Prince Bismarck &c.; second, Mr. W. Attree, gardener to Capt. McLeod, Beeding. Then came a class for twelve Roses, and here, Mr. Harris, The Gardens, Deune Park, Horsham, was first, and Mr. Allfrey, gardener to Major Borer, Henfield, second. But Mr. Allfrey had the best eighteen flowers, Mr. Bowell being second. A special prize, open to all comers, for twelve Tea and Noisette Roses, brought a beautiful stand from Mr. Slaughter, he had charming blooms of Marie van Houtte, Souvenir de Mad. Pernet, Madame Charles, Auna Ollivier, Madame Lambard, Belle Lyounaise, Comtesse Nadaillac, Jean Pernet, Sunset, Hon. Edith Giffard, Jules Finger, and Innocente Pirola; second, Mr. Harris. Then there were special prizes for twelve Roses in addition, and here Mr. Simmons was first, and Mr. Laurence second; and, by the way of giving a finishing touch to the show of Roses, Mr. Slaughter put up, not for competition, boxes of twenty-four blooms each of hybrid perpetuals and Tea Roses, and a dozen beautiful blooms of Madame Lambard.

Mr. Duncan had the best six stove and greenhouse plants, staging nice specimens of Croton Queen Victoria, Anthurium Andreauum, A. crystallinum, Pandanus utilis, Kentia australis, and Plumbago capensis. Mr. Harris was secoud, and Mr. S. Ford, Leonardslee, third. Then came a class for six flowering greenhouse plants, but here Mr. Harris, who had a nice lot, was disqualified through showing Croton variegatus. Mr. Duncan came in first, and Mr. J. Holmes, West Grinstead, was placed second. Coleus were very nicely shown, both in the form of pyramids and dwarf bushes. Mr. Duncau had the best four Zonal Pelargoniums, and very good they were.

In the cut flower classes, Mr. Duncan staged a very nice lot of twelve bunches, having Pancratium fragrans, Bougainvillea glabra, Vallota purpurea, Plumbago capensis, Ixora coccinea superba, Stephanotis floribunda, Erica Marnockiana, Gardenia florida, Hemanthus coccinea, Dipladenia profusa, &c. Mr. Harris was second with a very good lot indeed, and Mr. S. Ford was third.

Asters and Zinnias were in good condition, and cut flowers generally made a pretty and effective display.

The show of Fruit was small, but good. Mr. Duncan had the best dish of black grapes, showing Alicante, Mr. Botting being second, and Mr. Ford third, with Black Hamburgh. Mr. Duncan was first and Mr. Botting second with Muscat of Alexandria, Mr. Harris being third. Mr. Harris had the best dish of peaches, staging very fine Sea Eagle; Mr. Bowell being second with Early Admirable. They were in the same position with Nectarines, both showing Pine Apple. Plums were represented, Green Gage, Golden Gage, Washington, and Victoria. The best dessert Apples were Astrachan and Irish Peach; the best culinary apples were Warner's King, Emperor Alexander, and Lord Suffield.

There were large quantities of Vegetables, all good. Potatos were an especial feature, though the drought appears to have been severely felt in this district. In the way of Miscellaneous Exhibits, Messrs. J. Cheal & Sons staged a very fine collection of all the types of Dahlias, and also bunches of hardy flowers. Mr. English, New Henfield, had boxes of very fine tomatos, Improved Italian Red, King of Tomatos, and Perfectiou, these were all highly commended. Mr. Allman, Florist, Horsham, also had a collection of plants.

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*A. B.*—The bright scarlet flower is Lilium pomponium, and the other plant is we believe Peliosanthes Teta, a native of the East Indies.—*M.*—1. Lastrea Filix-mas var.; 2. Lastrea oriopteris or montana; 3. & 4. Lastrea Filix-mas, small barren fronds; 5 & 6 Polystichum aculeatum, vars.; 7. Polystichum angulare; 8. & 9. Polystichum angulare proliferum varieties; 10, Athyrium Fliix-fœmina, green variety; 11. A. Filix-fœmina, the red stemmed variety; 12. A. Filix-fœmina cristatum.

Fruits Namen.—*H.S.*—3. Beurré Diel; 6. Passe Colmar; 7. Beurré Diel; 8. Beurré Rance; 10. Beurré Diel. The others are not recognised, owing to their being only half developed. Send them again when nearly ripe.

Vines at Longleat.—*C. Champion.*—It is published by Mr. E. H. May, 171, Fleet Street, E.C.

Grapes.—*Exhibitor.*—The Bowood Muscat and Muscat of Alexandria used frequently to be shown in collections as distinct sorts, without question, but that is not the case now. There can be no doubt they are one and the same variety, and all experienced judges recognise them as such.

Finochio.—*W. T. R.*—It is Fœniculum dulce, a tender kind of Fennel, very little grown in this country. The base of the leaves are fleshy, and blanched for use in the same manner as Celery. Sow in March and treat as a tender annual.

Pentstemons.—*J. B. D.*—The side shoots will root freely now, if inserted in a nice light sandy soil, under a handlight, or in a close frame, in a somewhat shady position. When they are rooted, pot them off into small 60-sized pots, and keep them through the winter in a cold frame. Seed should be sown in heat early in March.

Vegetable Marrows.—*Con.*—The long, white-skinned varieties, of good medium size, find the most favour in the markets. Dark green-skinned ones are not much appreciated.

Hollyhocks.—*J. M.*—The leaves are attacked by the too well-known fungus, Puccinia malvacearum, for which we know of no satisfactory remedy. You ought to burn all the affected leaves at once.

Achimenes.—*Scabra.*—When they have done their work for the season, and appear to be going to rest, give them less water until the tops have died down. The tubers should then be put in a pot of dry sand, and kept through the winter in a temperature than not lower 50°. March is quite early enough to start them into growth again.

Communications Received.—D. P. L.—T. W.—H. & S.—J. Cross.—J. S.—A. H.—M. T.—R. D.—B. L.—T. W.—A. F. B.—A. E. S.—W. G. H. (many thanks)—N. J. D.—W. R.

TRADE CATALOGUES RECEIVED.

Fotherinoham & Wallace, Dumfries.—Dutch Flower Roots

Collins Brothers & Gabriel, 39, Waterloo Road, S.E.—Dutch Bulbs and other Flower Roots.

Smail & Co., 23, Lime Street, E.C.—Dutch Flower Roots.

John Downie, 144, Princes Street, Edinburgh.—Dutch Flower Bulbs and Spring-flowering Plants.

Knight & Co., 104, Cazneau Street, Liverpool.—Dutch Flower Roots.

G. Wilcox & Co., 85, Old Street, St. Luke's.—Boilers, Hot-water Pipes, Connections, &c.

William Bull, 536, King's Road, Chelsea.—Bulbs and tuberous-rooted plants, &c.

LONDON SEED TRADE.

September 2nd, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk trade for Mustard, and a good demand for Trifolium. This article is fully 5*s.* per cwt. dearer, and as stocks are almost exhausted, it will probably advance. Now winter Tares offer freely, but demand being good, value does not alter. New Rape is 1*s.* per qr. dearer, but there is no change in the values of Clover seeds. Bird seeds, unchanged.

COVENT GARDEN MARKET.

September 3rd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Peaches, per doz.	2 0	8 0
Grapes, per lb.	0 6	2 0	Pine-apples, Eng., lb.	2 0	3 0
Kent Filberts, per 100 lbs.	30 0		Pine-apples, St. Michaels, each	3 0	5 0
Melons, each	0 6	1 6	Plums, ½ sieve	1 6	3 6

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces .. per dozen	2 0	
Cabbages ... per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	2 0	4 0
Anemone, 12 bunches			Marguerites, 12 bun.	2 0	6 0
Arum Lilies, 12 blms.	2 0	6 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	2 0	6 0	Pelargoniums, per 12 sprays	0 6	1 0
Azalea, 12 sprays			— scarlet, 12 sprays	0 4	0 6
Bouvardias, per bun.	0 6	1 0	Pinks, various, 12 bun.	1 0	4 0
Camellias, 12 blooms.			Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.		
Carnations, 12 bunch.	2 0	4 0	Pyrethrum, 12 bun.	2 0	4 0
Cornflower, 12 bunch.	2 0	4 0	Rhodanthe, 12 bun.	6 0	9 0
Cyclamen, 12 blooms.			Roses (coloured)	1 0	2 0
Cineraria, per bunch.			Roses (indoors), doz.	1 0	3 0
Day Lily, 12 bunches.			Roses, per doz. bun.	2 0	6 0
Epiphyllums, 12 blms.			Spiræa, 12 bunches		
Eschscholtzia, 12 bun.			Stephanotis, 12 sprays	3 0	4 0
Eucharis, per dozen	3 0	6 0	Stocks, 12 bunches	2 0	4
Gardenias, 12 blooms.	2 0	5 0	Sweet Peas, 12 bunch.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Sweet Sultan, 12 bun.	4 0	6 0
Lapageria, white, 12 blooms	2 0	3 0	Tuberoses, per dozen.	0 4	0 6
Lapageria, red, 12 blms.	1 0	2 0	Tulips, per dozen		
Lavender, 12 bunches	4 0	6 0	White Jasmine, bun.	0 6	0 9
Lilium candidum, 12 blooms			Woodroffe, 12 bunches		

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	24 0	Genista, per dozen		
Arum Lilies, per doz.			Heaths or Erica, var., per dozen		
Asters, per doz.	4 0	6 0	Hyacinths, per dozen		
Azalea, per doz.			Hydrangea, per dozen		
Balsams, per dozen	3 0	6 0	Ivy Geraniums, per dozen	3 0	6 0
Begonias, per dozen	4 0	12 0	Lilium longiflorum, per dozen	18 0	36 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen	9 0	12 0
Calceolarias, per doz.	4 0	6 0	Marguerites, per doz.	6 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.	6 0	18 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Deutzia, per dozen			Petunias, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.	2 0	4 0
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen	3 0	9 0			
Foliage Plants, various, each	2 0	10 0			

SITUATIONS WANTED.

GARDENER (Head).—The advertiser having a thorough knowledge of hardy herbaceous and alpine plants, together with the general routine of gardening, seeks situation as above.—Address Z., 17, Catherine Street, Covent Garden, W.C.

GARDENER (Head).—Mrs. Gee will be pleased to recommend her late gardener to any Lady or Gentleman requiring a thoroughly competent man for a large garden; first-class grower of all kinds of Fruits, Flowers and Vegetables; age 40.—Address 49, Elgin Terrace, Maida Vale, W.

REVUE de l'HORTICULTURE BELGE et ETRANGERE (Belgian and Foreign Horticultural Review).—Among the principal Contributors are:—A. Allard, E. André, C. Baltet, F. Burvenich, F. Crépin, De De Jonge van Ellemeet, O. de Kerchove de Denterghem, P. E. de Puydt, C. de Vis, J. Gillou, A. M. C. Jongkindt Coninck, J. Kick, L. Linden, T. Moore, C. Naudin, B. Oliverer, H. Ortgies, B. Pynaert, E. Rodigas, A. Siraux, O. Thomas, A. van Geert Son, H. J. van Hulle, J. van Volxem, H. J. Veitch, A. Wesmael, and P. Wolkenstein.

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SHOW.

THE GRAND NATIONAL POTATO EXHIBITION will be held at the CRYSTAL PALACE, Sydenham, London, S.E., on October 7th, 8th, and 9th, 1885.

For Schedules and particulars apply to P. McKinlay, Headley Lodge, Croydon Road, Anerley, S.E.

Entries close on September 30th.

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 12, 1885.

A Grand National Dahlia Show for the North.—Why not? we may ask at the outset. There has just been held at the Crystal Palace a highly successful exhibition of this popular flower, in which all classes of the Dahlia were represented. To it came with their flowers nearly all the leading cultivators in the south; and meeting them, in friendly rivalry, were representative floral brethren from the north, led by that doughty florist, William Boston, of Bedale. The old enthusiasm still survives in both halves of the kingdom; there is an abundance of growers, and it may encourage young aspirants to floricultural honours to know that in the opinion of an experienced cultivator like William Boston, Dahlias are by no means so difficult to "get," as the florists say, as they were a few years ago, so much have the newer varieties improved in habit, character, and constancy. If the National Auricula Society can hold exhibitions in London and Manchester, and if to the National Carnation and Picotee Society's shows in the above places can now be added a third—that of the Oxford Union in that city—why cannot a second grand exhibition of Dahlias take place annually in the north? We know that some of the leading cultivators and exhibitors favour the idea. This fact was made clearly apparent at the exhibition at the Crystal Palace a few days since. Such a project, conceived and carried out on a broad and liberal scale, would command a large amount of support in the north, and it would also serve the useful purpose of bringing to the ranks of the growers and exhibitors recruits desirous of distinguishing themselves in the floral arena.

When ought such a northern show to be held? We think the last week in August would be the best time, and one most favourable to northern and southern growers alike. This is the impression derived from talking over the matter with the northern men. Then, as a central meeting-point, York would be very suitable. It is mid-way between London and Scotland, and it is convenient of access by main lines of railway. If it is desirable to hold such a show in the open air, that, we think, could be done at York without difficulty. If within doors, York is pregnant with suitable and capacious buildings.

But who is to take the initiative, and work out the proposal? Could Mr. John Wilson, the secretary of the York Floral Fete, be induced to act in this capacity in connexion with the suggested Dahlia show; his co-operation would command universal confidence. As an administrator he is unrivalled; for a quarter of a century he has conducted the York Floral Fete, and the success which has never deserted him would, we think, be his in connexion with a Dahlia exhibition. Then there is another body at York that, we think, could render substantial aid, that is, the Ancient Society of York Florists, of which Mr. John Lazenby is the secretary. Their co-operation would be as natural, and we think, certain.

But it is a matter mainly for the northern growers. If they will take up the project, and give it their support, it will undoubtedly go on. We think there are indubitable signs of a revival in favour of florists' flowers, and we may say that the tide of popular favour appears to be rising in many parts of the country. Only let the tide be taken at its flow, and as it moves onward it will gain in body and compass, and float into the haven of success the venture we are endeavouring to launch. A Dahlia show for the north is our rallying cry. Let us hope the answer given back from that part of the kingdom will bear this message: "It shall be; the burden is ours, and it shall be borne loyally and with certainty of success."

GARDENING MISCELLANY.

Trade Sales.—Next week, the Great Horticultural Trade Sales of winter flowering Heaths, will be conducted by Messrs. Protheroe & Morris, on Tuesday, at Messrs. Maller and Sons, Lee; on Wednesday at Mr. John Fraser's, Lea Bridge; on Thursday, at Mr. John Maller's, of Tottenham; and on Friday, at Messrs. Gregory and Evan's, Sidcup.

Gardeners' Royal Benevolent Institution.—We are pleased to hear that the late J. S. Law, Esq., of South Lodge, Enfield, has left a legacy of £100, free of duty, to this Institution.

The Turner Memorial.—At a meeting of the General Committee, held on Tuesday last, at South Kensington, it was announced that the Secretary had received notifications of subscriptions amounting to about £100. A circular calling attention to the movement was submitted to the meeting and approved, and it was also resolved unanimously that an Executive Committee, to include the Chairman, Treasurer, and Secretary, be appointed to carry out the details of the scheme, and the following gentlemen were selected: Dr. Masters, Mr. Harry J. Veitch, Mr. G. Paul, Mr. John Fraser, Mr. H. Glasscock, Mr. J. James, Mr. H. Cannell, and Mr. G. T. Miles.

The Grape Packing Competition which took place at South Kensington on Tuesday, for the prizes offered by Messrs. Webber & Co., brought out eight lots of fruit for examination. The object of the Messrs. Webber in giving these prizes, is to encourage the general adoption of those methods of packing, which insure the arrival of the Grapes in the market in the best possible condition, and, with these conditions in view, the judges had no hesitation in awarding the first and second prizes to samples packed in ordinary baskets with handles, which experience shows to be the best system yet followed. The baskets being wider at the top than at the bottom, conform to the shape of the bunches, which, when tied to the rim of the basket, hang naturally and compactly together, and very little rubbing takes place. The baskets are, of course, lined with soft hay or moss, and soft white paper, and over the top stout twigs are placed to prevent the top covering from coming into contact with the berries. The prizes were awarded to Mr. S. Castle, West Lynn, Mr. Goodacre, Elvaston, and Mr. Turton, gardener, Maiden, Erleigh. Mr. Castle also submitted a good sample of Muscats laid in a shallow basket, and sent in a box to fit, and this method was regarded as the best of all, if railway porters would not turn the boxes upside down.

Noble Liberality.—During the past week, and in accordance with a pleasing custom which has prevailed for several years, the beautiful gardens of Heckfield Place, the residence of Viscount Eversley, once so well known as the Speaker of the House of Commons, have been thrown open to the public and visited by many hundreds of persons. Acts of this kindly sort are specially pleasing, because they exhibit nothing that is selfish—on the contrary, something that we have too little of. We have myriads of beautiful parks and gardens dotted here and there all over the kingdom, from which the public generally, and even the near residents, seem to be perpetually excluded. No one contends that grounds of this kind should be made permanently public, as that would be absurd; but we may well ask why these places may not be, as is Heckfield Place, Gunton Hall, and some few others that could be named, thrown open to public view for at least a few days every year, especially at this season, when such place or places may be the most attractive. Much has just of late been heard of some burlesque mummeries got up in one of those noble domains for the purpose of dazzling the eyes and stifling the rising sensibilities of the adjacent democracy. Such gee-gaw shows disgrace nature, and turn gardens into mimic stages. At Heckfield and similar places, the eyes of the visitors are invited to feed upon pure garden beauty, and the result is, of course, ennobling and elevating. There may be seen nature pure and simple, and especially to town dwellers, in very delightful form; there may be seen nature, assisted by the gardener's art, developing beauties not otherwise evident; and, finally, there is art pure and simple, for gardening means the absolute subjugation of nature to the art and knowledge of man. Heckfield Gardens and pleasure grounds are always beautiful; they are specially so just now. There are charms and beauties about the place that induce large numbers of people to travel miles during the open weeks to see them, and those who have seen them many times only seem to long to see and enjoy them yet once more. No greater praise can be given.

Fruit Culture in Germany.—As an illustration of German fruit culture as a profitable industry, and also as furnishing an illustration of the beneficial results that arise from small proprietorships, the little village of Werder, near Potsdam, celebrated for the quality of its fruit, is, says the *American Cultivator*, a striking example. The population of this parish is only about 3,000, and its area is 2,300 acres, whereof 975 acres are devoted to fruit culture. The natural soil in most places is very poor, and has been brought to its present fertile condition only by the indomitable thrift and perseverance of its owners. These 975 acres are distributed among some 550 owners, so that each cultivator has, on a average, about 1¾ acre of land. The total value of the fruit crops of Werder varies according to the season.

Sunflowers.—The big Gooseberry, once the hero of many sensational paragraphs, and now the bugbear of journalists, seems about to be squelched out of knowledge by the introduction of a larger and much more attractive competitor for fame. We have just been reading of an exhibition held in the progressive town of Reading, at which the sole exhibits were big Sunflowers. Not only did size enter into the merits of the floral competitors, but weight was the chief element, and the scales had to decide the prizes. Hence we find the first prize was awarded to a big floral full moon, weighing 4 lbs., but there was great falling off in the second prize, one which balanced 2 lbs. ½ oz. only. The exceeding drought was blamed for the average want of weight and size seen, we should therefore like to know what is esteemed to be the average winning weight of a first class flower in a good season. There is much that is amusing in this curious floral competition, and much that is harmless. It would be difficult to

bestow other form of praise for big flowers of any kind that have the merit of being big, and nothing else pleasing are hardly worthy of much consideration. There is a great deal that is interesting, and very much that is beautiful about the Sunflower family, but large blooms are always the least meritorious. Plants which have had the leading bloom buds removed, and thus encouraged to produce many smaller ones from the side shoots, are indeed very meritorious objects. The perennial multiflorus, both in single and double forms, are highly decorative and valuable autumn border flowers. Those allied Sunflowers, found in Harpalium rigidum, Rudbeckias, and similar things, are also worthy of wide cultivation and are invaluable in gardens. These varieties, however, it is feared, will not attract much attention from our Reading friends.

"The Golden Elder," Sambucus nigra aurea, is a conspicuous plant just now in shrubbery borders, with its golden yellow leaves; it is a very distinct and beautiful shrub, and one which retains its colour longer than any other variegated form. It is most suitably adapted for planting among shrubs, or for effective grouping; the summer now passing away has just suited it, and it has retained its golden colour well. It is of quick free growth, like most of its race and may be kept to any size by periodical pruning.

Catalpa syringæfolia aurea.—Writing of the Golden Elder, reminds us how seldom this handsome plant is met with. That it is not yet sufficiently well-known, there can be no doubt, otherwise it would be more frequently employed, for as a decorative deciduous tree it would be difficult to conceive anything more handsome; the golden yellow of its large cordate leaves during summer and autumn, rendering it somewhat conspicuous among the masses of greenery too often seen unrelieved in gardens at this time.

The value of Sulphate of Ammonia as a Manure, is the subject of a paper in the *Journal of Gas Lighting* by Mr. F. J. Lloyd, Lecturer on Agriculture at Kings' College. Mr. Lloyd states that both nitrate of soda and sulphate of ammonia have both a manurial value, and both owe this value to the same fact—viz., that they contain nitrogen. In the one the nitrogen exists combined with hydrogen as ammonia; in the other, combined with oxygen as nitric acid. It is a well-known fact that 100 parts of commercial sulphate of ammonia, of 94 refraction, such as is now usually sold for manurial purposes, contains about 20 parts or more of nitrogen; while the detrimental impurities, the various cyanides, which used twelve or more years ago to be somewhat prevalent in sulphates of ammonia, are now seldom to be met with. On the other hand, commercial nitrate of soda, of 95 refraction, contains little less than 16 parts of nitrogen. Hence, unless it can be shown that the nitrogen in sulphate of ammonia is less valuable to the farmer than the nitrogen in nitrate of soda, it is evident that, so long as a ton of nitrate of soda can be bought for £10 (which is approximately its present price), sulphate of ammonia is worth £12 10*s.* a ton. Now is the nitrogen of ammonia as valuable to the farmer as the nitrogen of nitrate? In order to answer this question, which lies at the root of the whole subject, it is necessary to briefly state some facts regarding the function of the roots of the plant, and the properties of the soil. The majority of plants take most, if not all, their nitrogen from the soil as nitric acid. There can be no doubt, therefore, that nitrate of soda will act upon vegetation more rapidly than sulphate of ammonia. But it is equally certain that every properly cultivated soil possesses to a high degree the power of nitrification—that is, it converts all nitrogenous substances gradually into nitric acid. Ammonia is one of the substances most easily so converted. Hence it is certain that, when sulphate of ammonia is used as a manure, the soil will gradually convert the ammonia into nitric acid, and supply to the plant nitrogen really in the very same form as is supplied by nitrate of soda. So far it is evident, then, that nitrate of soda is only more beneficial than sulphate of ammonia, inasmuch as it acts upon vegetation more rapidly.

Aberdeen Autumn Show.—This show took place on Thursday last, Sept. 10th, and proved to be the best ever held in Aberdeen. The Queen's Prize for the best collection of fruit, was won by Mr. Fairgrieve, gardener to the Dowager Duchess of Athol, with a remarkably fine collection; Mr. Forrest, gardener to the Earl of Aberdeen, was second, and Mr. Clark, gardener to E. Weymes, Esq., Weymes Castle, third.

THE GRAPE SHOW.

The exhibition of Grapes, held at South Kensington, on Tuesday and Wednesday last, was somewhat of a disappointment, both as regards its extent and usefulness, for, as a show of grapes, it was no better than many that have been seen before, and though each of the twenty-six sorts specially named in the schedule, and some four or five others shown in a class for "any other variety," were represented by good average samples, they taught us nothing that was not known by practical men, while owing to the absence of any information, of an official character, to the crowds of visitors who passed through the Conservatory from the Inventions Exhibition, they were simply grapes and nothing more.

For such late sorts as Alicante, Lady Downe's Seedling, Barbarossa, &c., the date was a little too early, consequently, it was not surprising that such showy sorts were not forthcoming in large numbers. In the Alicante class there were seven samples, and the first prize went to Mr. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, for two finely finished bunches, weighing 10½ lbs. For the next prize, Mr. Lowry, gardener, Belmont, Mill Hill, and Mr. Pratt, Longleat, were adjudged equal, and J. F. Campbell, Esq., Uttoxeter, was third. That handsome show variety, Alnwick Seedling, was represented by fine samples, and all were so good, that prizes were awarded to them. Mr. H. J. Clayton, Grimston Park Gardens, Tadcaster, was placed first. Mr. Wallis, Keele Hall Gardens, and Mr. Roberts, Gunnersbury, equal second; and Mr. J. Hudson, Gunnersbury House, and Mr. Goodacre, Elvaston, equal third. Perfect-shaped bunches, good berries, and high finish were the characteristic features of them all.

The popular Black Hamburgh, strange to say, was also represented by only five samples. The largest bunches came from Mr. Pratt, but too late to be judged with the others, though subsequently placed equal first with good well-finished examples from Mr. Roberts, while the second and third best lots, in every way creditable ones, came respectively from Mr. Vert, gardener, Audley End, Saffron Walden, and Mr. J. Read, Monk Mount, Mill Hill. Only two samples of Black Prince were staged, the best coming from Mr. J. Bair l, gardener to C. A. Daw, Esq., Homefield, Ealing, but neither were particularly good. Of Buckland Sweetwater there were also five lots, and here Mr. Roberts again came to the front with bunches of good size and large well-ripened berries. The second best came from Mr. Stephen Castle, West Lynn, and the third from Mr. G. R. Allis, Old Warden Park, Biggleswade. The handsome-looking Duke of Buccleuch had only three exhibitors, and the fine bunches with large evenly-swelled berries, shown by Mr. Allen, of Gunton, easily secured the highest honours. Mr. J. Read secured the only prize awarded for Dutch Hamburghs, and Mr. Hill, gardener to Lord Rothschild, Tring Park, was similarly placed in the class for the round white-berried Dr. Hogg, with a well-finished sample. The useful Foster's Seedling had seven representatives, and Mr. Allen's (equal first prize) bunches were especially fine, being large and of good shape, and the berries large and perfectly ripened and coloured. Mr. Miles, Wycombe Abbey, who always shows this variety well, was placed equal first for smaller bunches, with remarkably fine berries and splendidly finished. Mr. Horsefield, gardener to Lord Heytesbury, was a good second, and Mr. T. Taylor, gardener to J. McIntosh, Esq., Dunevan, Oatlands Park, came in third. Pearson's Golden Queen, except when its golden colour is perfectly brought out, is never an attractive-looking Grape, and, perhaps, for that reason is not much grown. There were only two samples on view to-day, but they were good in all points but colour, and the leading prizes went to Mr. H. Folkes, gardener, Gaddesden Place, Hemel Hempstead, and Mr. Wallis. Gros Colmar, always so attractive by reason of its immense berries, deep black colour, and fine bloom, was a very poor class; only four lots, and those which took the first prize, much rubbed. These came from Mr. Dawes, gardener to the Hon. Mrs. Meynell Ingram, Temple Newsome, near Leeds, who, with the same bunches he had at the Crystal Palace the previous week, was also first with Barbarossa. With medium-sized but perfectly-finished bunches of Gros Maroc, Mr. Roberts was again first, Mr. Miles and Mr. Wallis coming in second and third in the same class. The six samples of Lady Downe's were all good, though a little more colour would have been advantageous all round. The first prize bunches from Mr. Hollingworth, Woodseat, Uttoxeter, were specially fine, having much larger shoulders than is usually seen in this variety. Mr. Wallis and Mr. Allis were the other winners. No exception could be taken to the five lots of Madresfield Court, all of which were good. Mr. Hudson, who always finishes this grape well, was first, Mr. Goodacre, second, and Mr. J. Vert, third. Of four dishes of Mrs. Pearson, Mr. Allen, Gunton, and Mr. Horsefield, were respectively first and second, both showing good samples, Mr. Horsefield's especially being of a rich golden colour. Mrs. Pince's Black Muscat, though shown by seven exhibitors, was only by Mr. Pratt staged in first-class condition; and the two lots of Mill Hill Hamburgh, were both below par. Muscat Champion was shown only by Mr. Roberts, but Muscat Hamburgh was fairly well shown by Mr. Goodacre, Mr. Horsefield, and Mr. Allen. The Muscat of Alexandria class was the best of all, there being nine competitors, from among whom, Mr. Lowry, Mr. Pratt, and Mr. Roberts came to the front with good well-ripened examples. Mr. J. Read was first for Royal Muscadine; Mr. Hollingworth for Trebbiano; Mr. Baird for West's St. Peter's; and Mr. Roberts for White Tokay. In the any other variety class, Mr. J. Wells was first with Cooper's Black, a variety very closely resembling Gros Colmar, and Mr. Horsefield second, with Chatsworth Seedling, one of the varieties raised at Chilwell.

GLADIOLUS COLVILLI ALBA.

This charming early-flowering variety, known also as The Bride, is most valuable for general decorative purposes, and now is the time to be getting in a supply. It differs materially in this respect from the hybrids of gandavensis, and others, which at the present time are among the showiest of flowers in the open ground. The majority of bulb orders will be fast finding their way to the various nurserymen, and a few of these should be included. By way of precaution to those unacquainted with it, I would remark that they must not expect corms of equal size to those of gandavensis or brenchleyensis, if so, they will be very much disappointed; a good sized corm of this Gladiolus is about equal to that of the large yellow Crocus, with which most people are familiar.

Unlike the many species and forms of this genus, this one invariably produces from four to six growths, each of these bearing from eight to twelve pure white flowers, so that its usefulness may readily be imagined. Its greatest value is realised when grown as a pot plant, and for this purpose it should be potted as soon as received in good sandy loam, or loam and peat in equal parts, placing four in a 48-sized pot, covering them with about 2 ins. of soil. They may then be placed under similar conditions to the remainder of bulbous plants in pots, and as the pots are filled with roots they may be introduced into slight warmth. Thus treated the earliest will flower about Easter, when white flowers, such as this, are valuable. For the open border they may be planted from the middle of September to the middle of October, and a light, though rich sandy loam well drained, is preferred. It is quite hardy, and increase with wonderful rapidity.—*J.*

GARDENS ROUND ECCLES.

It has long been thought that fruits could not be grown profitably on this side of Manchester, and those who have seen the vast quantities of choice fruits which are sent into town from other places, and thence dispersed throughout the country, and no attempt made to grow them for sale near at hand, must have thought that there really was some foundation for the common belief. But never was there a greater error, for we question if there are many places even in more favoured localities where finer Grapes, Peaches, Nectarines, and Pines are to be found than at Buile Hill, Pendleton, the residence of Mr. Alderman Bennett. The mansion is of imposing appearance, standing on the brow of a hill. It was formerly a place of note as the residence of Sir John Potter, M.P., the first Mayor of Manchester, and was purchased by Mr. Bennett from T. B. Potter, Esq., M.P. for Rochdale. It is worthy of note that here are still to be seen several Azaleas of large size,

8 ft. or 9 ft. high, which the late Charles Turner exhibited in London in 1851, and which were purchased by Sir John Potter, and sent down to Buile Hill, where they have since been grown by Mr. Handyside, who has had charge of these gardens since that time.

There are several ranges of glass here, all of which contain something of interest. First we had a look at the Pines, which are grown in ¾-span-roofed pits, and are mostly Queens, smooth-leaved Cayenne Charlotte Rothschild, and others. Some very handsome fruits were ripe, but the bulk were reserved for winter use. Over the successions were growing the second crop of Melons, and over the fruiters, is an Allamanda Hendersoni, which is found one of the most useful plants to cut from for the decorations in the house. In one pit were some Cucumbers, which Mr. Handyside tries to keep in fruit all the year round, as whatever may be the state of the weather, they are regularly looked for. In other pits are Tomatos, Euphorbia Jacquinæflora, and amongst other things we noted some plants of one of the old bedding Pelargoniumsof the "Touchstone" breed of thirty years ago. Plunged near by is a grand lot of Chrysanthemums, which will give a good account of themselves later on.

We were next taken to the Rose-house, in which flowers have been cut since Christmas last, from Solfaterre, Maréchal Niel, or Gloire de Dijon. From one plant at least 1,500 have been taken in the last three years during March and April—not bad work for a young plant planted in 1882. We next entered a late vinery, which leads to the Mushroom-cellar, where good crops are grown, as also good forced crops of Rhubarb and Seakale; and from there we were taken into the early vinery. We noticed on our way long rows of Cloves, Pinks, &c., which, with Sweet Peas, are found very useful for cutting from. The early crop of Grapes was nearly over, except Golden Queen, which is much liked. The bunches were of good size, and the berries of a grand golden colour. On the back wall Camellias are grown, and by this means blooms are cut for eight months out of twelve. This range of glass is partitioned into three houses, the second being an early Peach-house, which was over, the fruit having been ripe in May, at which time were ripe Melons, Strawberries, Grapes, and Peaches, and some of the latter weighed 8 ozs. The third compartment is the second Peach-house, which was being kept back, as the family were from home. In each of these houses are Camellias on the walls. We were next taken by a flight of steps and introduced into what is called an Orchard-house. Here we were enchanted. The building is a lofty structure, about 80 ft. or more in length, with front lights 10 ft. or 12 ft. high; on the back wall are a few Peaches, Camellias, and other things. Hydrangeas, Pelargoniums, &c., are growing all along the border; over-head are Vines now colouring, while up the front lights are Tomatos, the whole presenting a scene quite unique.

At the end leading to the mansion we ascended into the conservatory, and this also is a lofty structure. Rambling and festooning itself over the roof are glorious masses of the scarlet Trumpet Honeysuckle, which we have never seen equalled. We should like to see the yellow Trumpet Honeysuckle treated in the same way; what a grand effect the two would produce! These two plants seem to be almost forgotten. Further on masses of Begonia metallica cover the walls, and Mimosa prostrata has been trained up one part of the wall to the roof; from thence it hangs its long prostrate branches, forming light airy curtains over the tall Fuchsias, &c., in a most pleasing manner. This also is a good but almost forgotten plant, though most useful in lofty places. From the conservatories we were taken out on to the extensive terrace and lawns, the walls of which are well clothed with Ivy. We must not attempt any description of the flower or kitchen gardens, though the latter is well walled in, and we noticed some grand crops of Lettuce and other vegetables, considering the dry season. At one part of the estate is a splendid spring of water out of the red sandstone rock, which would in many places be of great value, but is here not used.—*N. J. D.*

Use of the Eucalyptus in removing Boiler Scale.—It has been stated that Eucalyptus leaves possess considerable power in removing the scale from boilers, and that a small quantity put into the water not only prevents scaling, but in a very short time causes the old scale to drop off.—*Society of Arts Journal.*

THE "LOUGHBOROUGH" BOILER.

We had occasion last week to allude to some of the causes which have been mainly instrumental in bringing about the enormous demand for greenhouses, and small ones in particular. One of these causes, undoubtedly an important one, is the improvements that have been introduced into hot-water boilers, and the low price at which amateurs can now get an apparatus small enough for their requirements. Amongst the

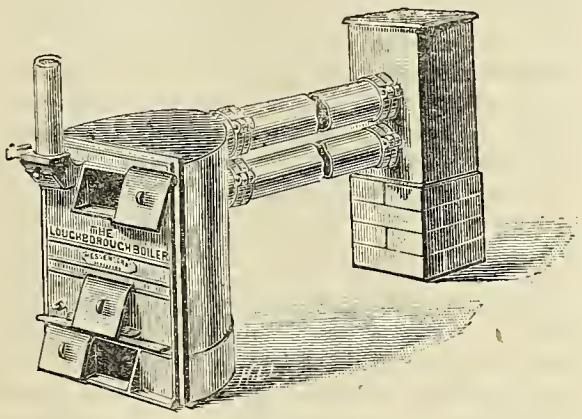


Fig. 1.

novel forms of boilers that have been introduced comparatively recently, the "Loughborough" boiler, invented by Messrs. Messenger & Co., the well-known horticultural builders, has gained a high reputation for its effective heating powers, and economical consumption of fuel. Its form is well shown in the accompanying

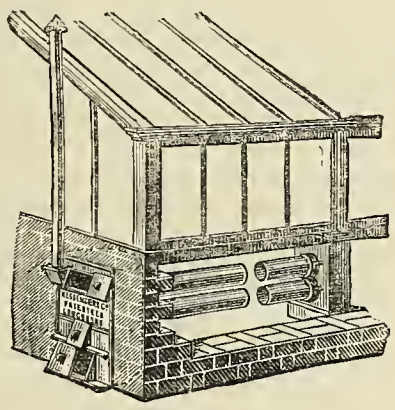


Fig. 2.

illustration, fig. 1, while fig. 2 shows how the apparatus is fixed to the house to be heated. The main advantage which this boiler has over most others is the easy manner in which it can be fixed without the aid of brickwork, or other casing, and the consequent advantage of its remaining, after being erected, a tenants'

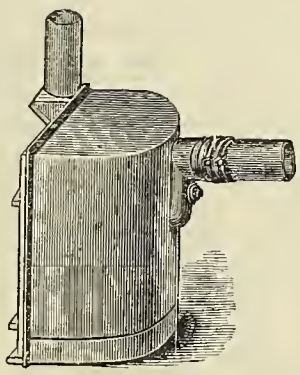


Fig. 3.

fixture. It works on the slow combustion principle, and, except in the most severe weather, requires no night-stoking. The Messrs. Messenger, with a view to meeting the requirements of those who have only very small houses, have perfected an arrangement by which only one pipe need be used, instead of the usual flow and return, as shown in fig. 3. The advantages of this form are to be found in the effective distribution of the heat, and the smaller cost of the apparatus.

MUTISIA DECURRENS.

This is not only a gem, but a rare one also, and among the choicest of the long list of climbing plants. More than all this, it is among the few hardy members of its genus, and, at the same time, one of the most beautiful. Though introduced nearly twenty-five years ago by Messrs. Veitch from the Andes of Chili, it has never become common, indeed, on the contrary, I fear comparatively few know anything at all about it. It belongs to the order Compositæ, and is without doubt among the choicest plants of that extensive order. I have never seen it more than 6 ft. high, this was several years ago, in the Pine Apple Nursery, Maida Vale, where Mr. James O'Brien administered to its wants in a manner suitable to its requirements, as was evident by its free growth and flowering. Planted out at the foot of a wall of one of the Orchid houses, it climbed by means of strings placed to receive it, supporting itself by means of the tendrils at the extremities of its leaves.

These characteristic leaf-tendrils are supposed to be possessed by no other genus of Composite plants. If the reader will imagine a rich orange flower, 4 or 5 ins. across, the florets much reflexed, and having the appearance somewhat of a fine Gazania, a very fair idea of the plant under notice will be arrived at. It produces these extremely handsome flowers from July to September, and should receive every encouragement. It may be planted in equal parts of lumpy fibrous peat and loam, with plenty of sharp grit, and once well planted, allow it to remain unmolested. At the time to which I refer a nice stock of plants were to be seen at the Pine Apple Nurseries, propagated from the young radical shoots when sufficiently long to handle. This, and using every endeavour to seed it, is, so far as I am aware, the only means of increasing this valuable plant; still, there may be others, and as I credit Mr. O'Brien with being one of the most successful propagators of this plant, perhaps he will be good enough to enlighten a few of us in the matter.—*J.*

SELECT HARDY PERENNIALS.

(Continued from p. 10.)

Hypericum.—Though we may be said to possess many summer-flowering plants having yellow flowers, yet there seems nothing with which the gap could be well filled if these were removed from our midst. There is a distinctiveness about these Hypericums, or St. John's Worts, as they are wont to be called, which seem not to meddle in any way with other plants to whom they may act as associates. The taller-growing kinds during summer make a pleasing mixture among shrubs, where their golden blossoms, painted by no other than Nature's hand, are seen to great advantage. Others, of dwarfer growth, some shrubby, some herbaceous, form a good belt to shrubberies, and by their quick-spreading growth and free-flowering qualities, have few, if any, equals for the purpose indicated. Others there are, though of somewhat diminutive growth, that make pleasing ornaments for the rockery; these should be placed in sunny, well-drained positions. It will be seen, then, that these are adapted to a variety of circumstances, though it must be admitted their greatest use is among shrubs. We have few, scarcely any, free-flowering plants that are suited to mix up with shrubs for midsummer flowering, and of that number those with yellow flowers are fewer still, so that it will be well to bear in mind that these Hypericums are exactly what are needed, and should therefore have the consideration of planters. Among the best are the following:—

H. olympicum.—About 15 ins. high, of neat symmetrical growth. This is a very showy and effective plant, the stems are slender, and are terminated with numerous bright yellow flowers, which are about 1½ ins. across, and borne in quick succession for about two months.

H. uralum.—This is a new species from Japan, introduced some five or six years ago under the name of H. patulum. It is probably the finest of the group, and certainly one of the most graceful and effective of hardy plants. It grows 2 ft. to 3 ft. high, and produces clusters of its golden-yellow flowers.

H. triflorum, from Java, is nearly allied to the last named; about 2 ft. to 3 ft. high, of graceful habit, and has large, handsome flowers 2 to 3 ins. across.

H. CALYCINUM, the so-called Rose of Sharon, is a very fine species, and does well under trees; it is very free-flowering, the flowers nearly 3 ins. across.

Those best suited for the rockery are H. ægypticum H. balearicum, H. Coris, H. repens, H. nummularium, and others. These are all neat attractive little objects, and worthy of cultivation. It is worthy of note that all the species and varieties of this genus have yellow flowers, without, so far as I am acquainted, a single exception; this seldom occurs to a genus in its entirety. Another noteworthy feature is the cluster of anthers occupying the centre of the flower, and which is so conspicuous in many of the larger-flowered kinds.

HEUCHERA SANGUINEA.—This is one of a small genus belonging to Saxifragacea, a genus remarkable rather for the bronzy hue of its foliage than for any special beauty of its flowers; therefore is it that I would call special notice to not only the finest of the genus, but also to one of the most beautiful rock plants of recent introduction. It is one of those perfectly hardy gems that will be a lasting boon to all lovers of hardy plants. In its tufted habit of growth, its height, and its slender flower stems, it does not differ materially from the other members of the genus. The leaves are five to seven-lobed and deeply cordate, the lobes, again, sharply crenate and slightly pubescent. It is, however, in the colour of its flowers that the departure comes, and which is sure to elicit the admiration of all who behold it. The slender flower stems, about 15 ins. high, issue from amidst a tuft of leaves, and having attained their maximum, assume a slightly arching position. These are furnished with its brilliant flowers, which are of a bright coral-red—a hue of colour effective in the extreme, and which last a long time in perfection, and when detached from the plant, its lasting qualities are very durable, as shown by the fact that during the extreme heat of the passing summer the writer had a spike of this lovely plant in water for a little more than a week, so that its charming spikes may be turned to account in this way when sufficiently plentiful. It will be well to add that it is being distributed for the first time this year, and thus far the supply is limited.

IBERIS OR PERENNIAL CANDYTUFTS.—There are now in cultivation many exceedingly good free-flowering and useful species and varieties of this genus, so that I will only mention some of the very best for general decorative purposes, and one of the best of these is that known as the white perennial Candytuft, I. corifolia, producing pure white somewhat globular umbels of flowers in spring, this grows about 9 ins. high, and for massing on the rockery, or as a front row border plant, or for lines, it is probably the best of the group.

For size of individual blooms the Gibraltar Candytuft, I. gibraltarica is the finest. Owing to its distinct trailing habit it is especially adapted for the rockery in warm well-drained positions, though in light soils it does well as a border plant; under glass this is a pure white, in the open it generally assumes a reddish lilac hue, its large heads often measuring three inches across. Seeds sown at once, and grown on in pots, make especially good ornaments for the conservatory during February and March. With liberal treatment it is surprising the size that this attains, and, added to this, its free-flowering qualities, it is really a valuable plant. Seedlings invariably make the best plants.

IBERIS SEMPERVIRENS PLENA.—This is a double form of the well-known evergreen Candytuft, and a very superior plant in all respects. The original species is well known to all, known in some respects, if not by name, for it is a frequent occurrence in the majority of cottage gardens, as well as those of greater size and far more elaborate style. It is at home in almost any soil, and it is among the freest of our spring-flowering plants; all these qualities are possessed by the double kind, which, in so far as purity and compact globular heads of are flowers concerned, surpasses all that has preceded it. It is destined to become a most popular plant, and will be eagerly sought after by those who have to provide white flowers in quantity in the early part of the year. For any and every purpose where white cut-flowers are used this must have a place. It may be grown in pots, and when established, may be forced gently. All the perennial forms of the Iberis may be propagated by means of cuttings, these may be inserted any time during September, choosing half-ripened shoots, strip them off with a heel attached in as many cases as possible, as these are most sure to form roots. Keep the cutting frame close and shaded till rooted.—*J.*

SCOTTISH GARDENING.

HORTICULTURAL EXHIBITIONS.—Exhibitions of fruits, plants, flowers, and vegetables are so numerous throughout the country, that one might suppose there is little left in horticultural matters which is not well understood by the bulk of the keen exhibitors, who have long tried their skill at raising produce for competition. After an experience of many years, we have a difficulty in finding objects which can be named as triumphs of horticultural skill, resulting from such exhibitions, and the vast amount of labour and anxiety they entail. Nevertheless, true lovers of progress would not wish to see an end of the attractions which horticultural exhibitions give to such great numbers of our race—its refining influence and the promulgation of that fraternising spirit which is often noticeable among the lovers of gardening, are strong arguments of themselves—we refer more particularly to the amateur and cottager class, who figure so strong at our rural exhibitions. Seldom do they fail in producing articles creditable to themselves and suitable to the exhibition tables—tables standing so high (in many cases) seem to impair the effect of plants only showing their under parts effectively, while the surface of the plants which have been fully developed by light, are seen at great disadvantage. The change effected at the Edinburgh Shows, and some other places, have called forth (very justly too) very favourable comments.

It would be very pleasing if sympathy and courtesy, with a total absence of bickering, were as prominent characteristics of professionals as we observe they are of amateurs, such, I feel sure, would be productive of great good, and exhibitions would leave reminiscences much more pleasant than they now sometimes do. Lately we visited a west highland town where amateur exhibitors are keen, painstaking, and much embued with a spirit of emulation, but, the brotherly feeling which seemed to exist, and the interest which each appeared to have in their neighbour's success as cultivators, was very refreshing. They had each others advice, read one anothers' books and papers, and all seemed to be on a footing worthy of honourable mention. To see the books and papers (no doubt well thumbed) in possession of some, almost suggested that bibliomaniacs existed in that quiet highland district. I visited some of their gardens where specialities in some form prevailed. Collections of Apples, Pears, suitable for the north, Plums and Cherries had received much attention, and fruitfulness and canker were not left master of the situation; lifting, root-pruning, and re-planting above the ordinary level on a firm lime bottom were items in cultivation which had not been neglected; herbaceous plants, the cultivation of choice Peas, Potatos, Onions, &c., were deemed objects worthy of primary consideration, and we have always felt, that, intercourse with those who cultivate tastes so laudable, have rendered us receptive of sound instruction.

Referring to the shows, as far as we had opportunities of observing, we can safely state that there seems to be no retrogression in vegetable growing. It has always been well represented at exhibitions by the amateur classes, and is well maintained by professional men, and though many fall out of the ranks of competitors to "rest on their oars," others seem ready to fill up the gaps. Not contented with success among their compeers, we notice that amateurs challenge (often successfully) practical men. To see an amateur with Black Hamburgh Grapes of such excellence (as we did some time ago) carry off the first prize against fruit from a high-class garden, which were grown by one of the leading gardeners in the North, of course, ripeness and some other advantages out-distancing first-class cultivation, which, under other circumstances, would have easily held its own. We always have respect for the conduct of judges, who, irrespective of snarling and unpleasant comment, are not afraid to pass by high-class cultivation when the objects are neither ready nor suitable for exhibition. It is not what the articles were some time ago, or what they might have been a few weeks hence, but what condition they are in when on the exhibition tables. If the rules found in most schedules were closely adhered to when judging, there would be fewer discontented exhibitors, and far less retiring from the contests of "minds made up" not to re-enter the lists again. Growers, who have been for some time the chief admirers of their own productions at home, are slow to accept verdicts of censors who have made up their minds to do justice and maintain a good reputation.

We never had much difficulty when judging, but from some reports we have lately read, and what we have too often listened to, it would appear that carping is by no means extinct. One also occasionally meets with temptation at shows. Once at a Southern show a grower, in a small business, was successful with Cloves, &c., and on one occasion he was fairly beaten. This cute gentleman appealed to the judges to remember that "he had a wife and family to maintain." Though he was crowded out with better exhibits, they were worthy of "special notice." and they got it. The same cute exhibitor at another show was extra successful, but, unfortunately for his honour, was convicted of tieing on (with very fine green wire) Hollyhock blooms. When we referred to the delinquency, he, most innocently, assured us that he believed it quite legitimate to tie on the blooms which his unsteady cart caused to be shaken off on the journey. We would hope, however, that such malpractices are not common.

There are a few things which judges and exhibitors would do well to consider when judging in some classes of plants, viz., the awarding of prizes to those which are novel, when their real value is nil. A plant of great money value is often discarded when plentiful and cheap as an incumberance. While purchasing a small collection of dwarf plants lately we were asked for one, the same as one in our selection, fifty guineas, about seven years ago. but bought ours, the one referred to above, for less that number of pence. It is high cultivation we wish to see encouraged, and let a class for novelties be encouraged by all means, but separately.

As shows worthy of recognition are generally well reported, especially when they have other attractions apart from horticulture, we need hardly venture on details of them. Falkirk Show was held lately in the town hall there, and many of the exhibits were worthy of honourable mention. Vegetables were excellent. Cauliflower, Leeks, Potatos, autumn-sown Onions, Cabbage, and some other specialities were of much excellence, and both from amateurs and professional men the most of the kinds would have created admiration at any show which we ever visited. Bouquets (both hand and table) were superb, some working men taking the lead in some classes. The Crotons from Park Hall, which held high honours at Edinburgh some time ago, were out-distanced by the superb specimens from the same place when exhibited at Falkirk. The table plants from Park Hall, which had the first prize, might do the same at many other shows of less obscure character than Falkirk. Croton Chelsoni was so fine in colour that it created special attraction. It was about 15 ins. high on a single stem, and the leaves like golden icicles hung beautifully over the pot. Roses were in excellent form for the season. The blooms from Mr. Cocker, of Aberdeen, would with difficulty be surpassed anywhere. They reminded us strongly of the Belfast Roses when shown in July. Pansies, both in selfs and fancies, were largely shown; but to do justice to both classes, they should be exhibited separately. Fruit (though not extensively shown) had some high-class lots in the collection. The pair of Gros Maroc bunches of Grapes were on a level with the finest of that kind which we have ever seen tabled, not excluding Mr. Coleman's example at the Manchester "International." The large, handsome bunches of perfect form, with such immense berries and dense bloom, kept that portion of the hall where they were placed very busy. This was another of Mr. Murray's (gardener at Park Hall) successful hits. White Grapes called for no special remark. Black Hamburghs were remarkably good. A bunch from an amateur was first; form of bunch and bloom were very near perfection, but the berries were undersized. We would like to encourage such a bold amateur to go further afield, where he would be sure to reap high honours; I quite forget this exhibitor's name. The flower garden designs exhibited by journeymen gardeners were well done, all being neat and the colours well balanced. The first prize, we were told, was easily arranged, and though on the side of being a "gaudy show," was remarkable for neatness, and all the proportions of walks, margins, &c., were correct. The names or localities of the young men who competed for this popular prize we did not learn. Many other features of this, the oldest society in Scotland, were of special merit, and may be taken as a fair example of a provincial show in the north held for the advancement of horticulture only.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Roof Climbers.—With shortening days and waning light, it will now be necessary to keep roof climbers thin, which should be done by cutting away any shoots that have flowered, or are not wanted for laying in or leaving to furnish vacant parts, and to clothe the house for the winter. Clianthus puniceus is one of the finest things for a pillar or rafter, where it has not far to run. It is remarkably showy, sending out, as it does freely, long racemes of large, red, pea-shaped blooms, that last a long time in perfection.

Habrothamnus elegans.—This is another plant that should be in every greenhouse, for when planted out so that it can grow freely, it is rarely out of flower either in summer or winter. For furnishing the roof and depending therefrom the Passion Flowers and Tacsonias are the best, as they give little or no trouble beyond thinning, and are exceedingly graceful, the finest and most suitable among the first-named being P. racemosa cœrulea, and T. Van Volxemii and T. exoniensis are the showiest of the Tacsonias.

Lapagerias.—For walls or other shady parts nothing is equal to the Lapagerias, the red and white being splendid together, the one helping to show the other off to the greatest advantage.

Planting.—Although spring is the best time to plant these climbers, borders may be made and the plants put in now, as they will get root-hold if they do not grow much, and will start strong by-and bye. In preparing for the Lapagerias, drainage is the great essential, as their welfare depends on the water passing quickly through. The soil most suitable for them is fresh fibry peat, which should be used rough, with a good sprinkling of sand to keep it open and porous.

Fuchsias.—Plants of these that have been flowering during the summer, and have lost their beauty, will be all the better for being stood out under a wall or other sheltered spot to ripen, preparatory to storing them away by-and-bye for the winter.

Cuttings.—Any young shoots that have soft tender points may be taken off for cuttings, and if these are put in under bell-glasses or hand-lights, and kept close and moist, they will soon root, and should then be potted singly and grown on to flower early in spring.

Petunias.—Although these, both double and single, come freely from seed, sorts that are exceptionally good are worth keeping, and cuttings are in proper order now, and may be struck in the same way as the Fuchsias, when the old plants should be thrown away, as they will be of no further use.

Primulas and Cinerarias.—If not already done, these should receive their last shift, and as soon as potted stood on a hard coal-ash bottom in a pit or frame, up near the glass, where they can get plenty of light and air to keep them from drawing. The soil most suitable for Primulas and Cinerarias is loam, leaf-mould, and decomposed cow-manure, in the proportion of two-thirds or so of the first-named to equal parts of the latter, to which should be added a little sharp sand to keep the mixture open and porous.

Pelargoniums.—Plants of these that have been pinched in small pots, as advised, and grown outdoors for autumn and winter-blooming, will now be in fine order, and ought soon to be moved in under glass, the most suitable place for them being a light airy shelf, where their flowers will open well and come of good colour.

Calceolarias.—Herbaceous kinds of Calceolarias are among the most showy of greenhouse plants, and are easily grown; but it is late now for sowing, as seedlings ought to be up and ready for pricking off, which should be done in pans filled with light rich soil, and if then stood in a damp shady frame, their progress will be rapid.

THE FLOWER GARDEN.

Propagating.—As we are now getting fast on into the autumn, no time should be lost in bringing propagating to a close, the cuttings which take longest to strike being Pelargoniums, and if these are not in and rooted within the next month, success with them will be out of the question. The shoots best adapted to make the cuttings are those that are firm, the sappy ones being more apt to rot, especially at this late season now that the air is becoming damp, and the sun losing its power; but to prevent them going off, they should be stood out quite in the open, and have no water after they are first put in, as they contain sufficient sap to keep them alive.

Soil.—The soil most suitable for striking Pelargoniums in, is that which is sharp and sandy, and in this they may be inserted, three in a 60-sized pot or a number put into shallow boxes, which answer well for the work if made the width of any shelves in the house on which the plants are to be wintered, and in this way great numbers may be kept in a small space till the spring.

Verbenas, Ageratums, Petunias, Heliotropes, and all such like, are best propagated in the spring, and it is only necessary now, to provide store pots of each, and to do this the cuttings should be placed in a frame where they can be kept close, and have the benefit of a little bottom heat, and if then sprinkled and shaded from the sun, they will soon root, when air will be required to make them sturdy and strong.

Flower Beds and Borders.—These will need constant looking over to keep them neat and tidy, by picking off any dead or decaying leaves and flowers or seed heads, and tying up and supporting all such as are likely to be knocked down or affected by the wind, which we may soon expect in force, and should prepare for in time.

Carnations, Picotees, and Pinks.—If these were layered as directed some weeks back, or cuttings put in under hand-lights, they ought now to be sufficiently rooted to be ready for taking off the parent plants, or, be planted out in beds or borders where it is intended to grow and flower them. Before this is done, however, the ground should be manured, and dug to a good depth, and then made firm around the plants, which will require a watering to give them a start.

Arranging Plants.— It often happens in mixed borders where perennials are grown, that many get too high, or are otherwise unsuitable for the positions they occupy, and it is a good plan to take stock, and make note or mark such as need moving or re-arranging, while it can be seen which they are before they die down.

Dividing and Replanting.—Some will bear this now, and others that have done blooming, and are too large, may be reduced at once by cutting them through with a spade.

THE FRUIT GARDEN.

Pears.—Early sorts of these will now be getting ripe, but if gathered all at once, as is generally done, their season is but short, the best way being to go carefully over the trees and to take off the most forward, when the others will come on after, and form a succession. Later kinds have been much checked in their swelling, owing to the continuous drought, and unless heavily watered they will be small and poor, as instead of being juicy and soft in the flesh, the fibrous portion hardens, and becomes gritty, and this is why the fruit splits or cracks in the skin. To prevent this, the trees must be well fed, and the way to do this is to scrape away the surface soil around the stem so as to form a saucer-like receptacle, 5 or 6 ft. across, and then fill it up with sewage, and after this has soaked in, the dry earth may be returned again, or a mulching of dung given, the latter being the most preferable, as liquid manure can be given again without making any fresh preparation for pouring it on.

Apples.—Bush and espalier Apples should be treated precisely the same, and if these, or the Pears, have any shoots on that are not wanted as leaders, or for filling in vacant parts, they should be cut away, leaving only a bud or two at the base.

Peaches and Nectarines.—These, like Pears, have suffered much from want of rain, and any late kinds that have fruit on must still be watered, as also young trees that are not well established, for without such assistance it is impossible for them to keep their leaves healthy and plump up their buds.

Syringing.—One of the greatest aids towards helping them to swell the buds is syringing, which is very refreshing to the foliage, and does much in keeping off red spider, which, if it gets a foothold, does a deal of harm to the trees.

Strawberries.—Although beds of these should have been made some time ago, it is not too late to do so yet, the chief thing towards success in getting them to fruit next season being to secure good plants. This done, the next important matter is to see that they are well furnished with roots, and are lifted with large balls, as then they feel little or no check through removal. To grow fine fruits the ground must be prepared by being heavily manured, and deeply dug or trenched, but after that work is carried out, the land should be firmly trodden down again, as Strawberries never do well in a soil that is loose.

Planting.—In planting nothing is gained by having the rows near, the proper distance being a yard apart, but the plants may go within 18 ins. of each other in the rows, as they will have room to spread at the sides.

THE VEGETABLE GARDEN.

Potatos.—It is high time now that all these were out of the ground, as they have done growing, and though the tops may be a little green, the skins of the tubers are set, and that is the thing to go by and shows ripeness, after which there is no more swelling of the tubers; but they may sprout, and this they will if not dug, and when they do so their quality greatly deteriorates, and the Potatos are fit only for seed.

Broccoli.—The dry weather is telling seriously against these, as may be seen by their starved appearance and the blue colour of their leaves, to get rid of which, and give them a start, a soaking of liquid manure should be administered, or a good watering to tide them over till rain comes in sufficient quantity to get down to the roots.

Cauliflowers stand in need of the same kind of assistance, and the oftener they have it, the finer and larger will be the heads they produce. If no sewage is at hand, a cheap substitute may be had by using a little guano in water, a table-spoonful being quite sufficient for a gallon, and if stirred up it will soon mix and dissolve, and may be put on at once.

Celery.—The same thing will suit Celery, which, to be good, must have plenty of liquid manure of some kind, and frequent soakings at the root so long as the weather continues dry, or the plants will make but a very poor growth. Instead of earthing-up piecemeal, as is generally done, it is far better to simply tie up the stems by running a piece of bass matting round, so as just to bring them close together, and do the blanching later on, by managing in which way watering can be continued without washing soil into the hearts.

Onions.—Spring-sown beds of these are now ripe, and should be pulled and laid on one side for the ground to be cleaned and raked ready for spreading them out thinly again in the sun for them to ripen, on which their keeping sound through the winter greatly depends. To insure thorough maturation, it will be necessary to turn the bulbs over with a rake every other day or so till they are fit for harvesting, when they should be roped up and hung to the rafters in some dry open shed.

Spinach.—Beds of this ought now to be up and sufficiently forward for thinning, and if the plants are left about 8 ins. apart, that will be quite near enough, as they will need that space to develope fine leaves. What agrees with Spinach, and does the crop much good, is a dressing of soot, which may be sown on at any time while the land is dry, and hoed-in when stirring the surface to kill weeds, after which the rains will carry it down.

Tomatos.—These are gross feeders, and require frequent applications of liquid manure. To get the fruit to ripen, shoots must be kept thin, and leaves that overhang the bunches removed, that the sun may have full play on them.

Arctotis aureola and A. revoluta.—These two showy Cape plants are figured in the September number of the *Botanical Magazine*. They are similar in general appearance to the well-known Gazania, both in the leaves and flowers. A. aureola is a very old inhabitant of European gardens, though long since lost to cultivation. Mr. Lynch, of Cambridge, however, recently obtained plants from Max Leichtlin, of Baden-Baden, and flowered them in April last. The flowers are exceptionally fine, measuring over 4 ins. in diameter, the colour being a deep orange. Mr. Lynch attributes the large size of the flowers to the fact that it was grafted on the more robust A. aspera var. arborescens. He also points out that it strikes freely from cuttings. A. revoluta has smaller flowers, of a paler colour. They succeed best in a greenhouse, but in favourable seasons they do fairly well out of doors.

WALL PEACH CULTURE.

Some years since, we saw an Apricot tree growing as a standard, and a fine tree it was too, in a fine old garden in a northern county, that annually produced well ripened fruit. It is just possible that the tree has long since gone the way of all trees, and no more adorns the earth. The incident may not have been so singular as some will take it to be, but it was the only one we have met with growing and fruiting well under similar conditions in English gardens. But on walls and in proper aspects Apricots are produced freely enough, and in spite of the known reputation the trees have for dying off piece-meal, yet now and again, some fine ones are met with, and probably, in few gardens, are better ones to be found, than in those of the Dowager Duchess of Buccleuch's estate of Ditton, near Slough. There, trees of great age, and of comparative youth, thrive well and fruitfully, some trees covering quite 180 superficial feet of wall area, and producing fine fruits by hundreds, one tree having been specially mentioned as giving over 500 fruits.

But Ditton enjoys, and honourably too, a high reputation for Peach trees on walls, and when we mention Peaches, of course Nectarines are included, although the former fruits are the most largely grown. The kitchen garden is enclosed by a 10 ft. wall, that has on each of its four sides a run of about 100 yards. On the west and east aspects Pears and Plums are chiefly grown, whilst on the south aspect we find almost exclusively Peaches, Nectarines, and Apricots. But the *piece de resistance* of the garden is undoubtedly the outer south wall, on which may be seen at this moment of writing, as fine a show of trees and of fruit as can be found probably in any garden in the kingdom. With the exception of a doorway some 2 yards wide, there is in this aspect 75 yards run of wall surface, covered absolutely from ground to coping, with trees full of luxuriant growth and leafage, and equally full of fruit; there is not over that great surface hardly much space to lay a hand flat that is not covered by the growth.

In these days of difficulty in getting Peaches to thrive in the open, this lot of trees at Ditton is indeed a triumph, and if anybody possessed the power to award special honours for special success in garden culture, Mr. Lindsay would certainly be entitled to receive them. Starting from the door on the one side, we note a fine five years planted Lord Palmerston tree, perfect in form, and carrying 180 fine fruits. Next comes two of Walburton, one a grand young tree, also five years old, and the other a twenty year veteran, with a stem some 5 ft. high, like that of an oak sapling. It was originally a rider, but its growth has been brought down, and the wall is covered in every part; both these trees are carrying heavy crops. Then comes a Late Admirable, some six yards in length, also twenty years old; then a Royal George, next a Violette Hâtive, and finally a Barrington Peach, with a Lord Napier Nectarine, to reach the end of the wall. Thus we find eight trees alone absolutely filling this 48 yards' length of wall, the which is 10 ft. in height. Then from the door in the other direction comes a Violette Hâtive Nectarine, Noblesse and Walburton Peaches, and finally a Moor Park Apricot, all very fine and perfect trees that have, or are, producing great crops, the Noblesse alone having given about 350 fruits. The remainder of the wall is left to some Pear trees that do not thrive well in that warm aspect, and these are this winter to be replaced by Peaches and Nectarines, so that we hope in a year or two to see this 100 yard space covered as completely for its almost entire length as it now is for three-fourths its surface.

During the past dry season watering has been an essential, but still the exigencies of labour—or, rather, the lack of it—has not permitted that to be done largely. Yet never, even under the most highly favoured conditions, could trees look better, and certainly not produce finer crops. The border beneath the trees is mulched with long manure for some 4 ft. in width, and the remainder heavily cropped. We should have wished that quite 8 ft. of the border could have been mulched, as the trees so well deserve that much of generosity. The soil is such as usually exists in the Thames valley, and is neither better nor worse, nor is the position better or more sheltered than may be found in hundreds of gardens, where Peach culture is badly done. Mr. Lindsay hardly protects his trees—indeed, has had no material for the purpose, and from year to year they take their chance, seldom, if ever, failing to fruit well. Most certainly the trees get no coddling, neither can they be said to have generous culture.

In planting at any time, the border is opened to a depth of 4 ft. and as wide. Into the bottom is placed some 9 ins. depth of rubble for drainage, and over that rough pieces of turf, to prevent the soil clogging into the drainage. The hole is then filled with fresh soil from the front of the border, mixed with turfy loam and a little short manure, but of that no great quantity is given at any time, as it is not forthcoming. Of course, as the trees grow, other breadths of soil are opened out and refilled until the trees are fully established. Wood is laid in freely, and it is rather of good stoutness and well matured than luxuriant in growth. In these days of laments over the decay of outdoor Peach culture, the wall of these trees at Ditton is as well worth seeing as are many more showy garden features.

ABBEY PARK, LEICESTER.

This beautiful Park is situated about one mile north of Leicester, close to the Old Abbey, the remains of which are partly visible from the Park. The Abbey was founded by Robert de Bossu, second Earl of Leicester, in 1143, for the order of Black Canons, and the grounds surrounding it have been converted into a nursery, occupied by Mr. Warner, where a very choice collection of hardy trees and shrubs of all descriptions are extensively grown. The Park is about seventy acres in extent, including a very picturesque lake with islands, and was opened on May the 29th, 1882, by His Royal Highness the Prince of Wales, accompanied by Her Royal Highness the Princess, who, on that occasion, planted an oak, which is growing well. If all trees planted by their Royal Highnesses have done as well as this, some must be good specimens by this time. I need not say the tree is greatly prized and is a feature of great attraction. The Park is well laid out and just now is in grand condition. Open spaces are devoted to archery, croquet and bowles, and great taste has been displayed in the planting; the innumerable trees and shrubs are doing well, and the bedding of various kinds is splendidly carried out. The Town Council did well, when they secured the services of Mr. John Burn, the energetic superintendent, whose practical knowledge of the various branches of gardening he so ably brings to bear on his work, and great credit is due to him for the admirable condition in which the Park is maintained.

He has given the public a taste of the various kinds of bedding, which are carried out in a thoroughly able manner. He has used over 200,000 bedding plants this season; the carpet bedding is first-rate, that around the pavilion, especially, being very fine. Excellent taste has been displayed in blending the colours of the various plants used, the whole producing a charming effect; a good bit of bedding in the same style and representing the town arms is also most effective. The ordinary bedding in the flower garden is now a blaze of colour, and remarkably attractive. Sub-tropical gardening is also well done, and particularly noticeable, also is a grand bed of succulents, which catches the eye of the curious. The various shrubberies contain many good things, and the borders are well planted with good herbaceous plants. Antirrhinums, Delphiniums, Phloxes, Pentstemons, and Gladioli are also extensively used, and create a fine display. Annuals also form a prominent and interesting feature; they are grown extensively and give brilliant displays of colour. In addition to this Mr. Burn is working up a large stock of herbaceous and alpine plants, which he intends to use largely; Dahlias are also seen here to great advantage. The rosery has been a grand sight, and the plants are making good growth; some beds planted with miniature Coniferæ and shrubs, give one also an idea of how useful they are for this purpose, and when used, as seen here, they are certainly very effective, and give a nice change. A very large bed, which attracted my attention, was one planted with Salvia patens, intermixed with summer flowering Chrysanthemum of sorts; it is very pleasing, and affords an admirable contrast. I can strongly recommend any reader to try this combination.

To give a detailed description of this Park, as I should like to do, would occupy too much space, but I strongly advise any of your readers who may visit Leicester, to go and see it, and they will agree with me that it is one of the best kept Parks in the Provinces, and a credit to the town. I must not omit to state that two years ago, J. Harrison, Esq., presented to the Park some magnificent specimens of Hollies, some of which are 30 ft. high. These were successfully moved under the superintendence of Mr. Burn, though it was no easy task, some of the plants weighing fully seven tons; they are now growing luxuriantly, and are a great ornament to the Park. It is the intention of Mr. Burns to plant bulbs extensively this autumn, so that another treat is in store for the Leicester public.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway, London. N.*

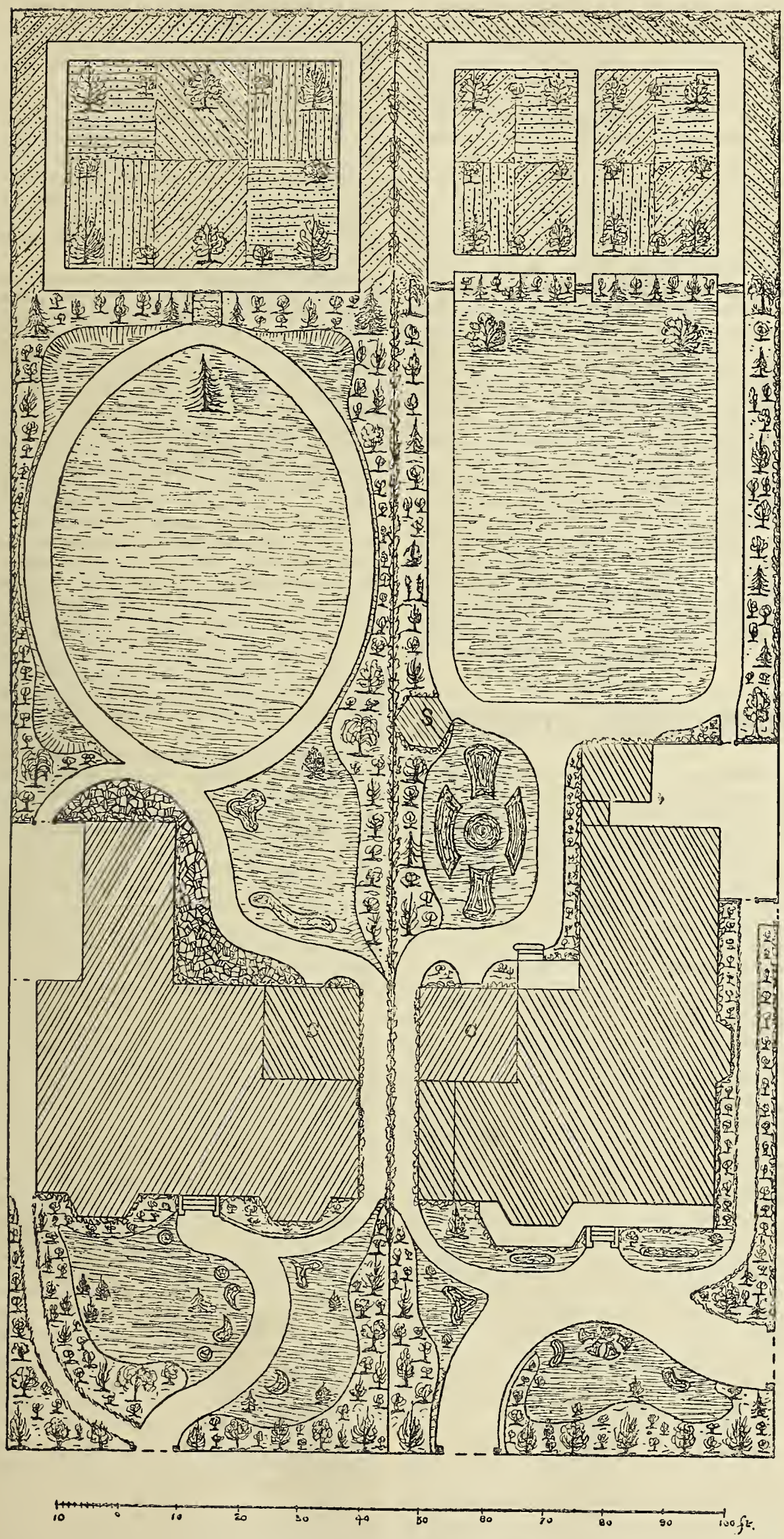
SUBURBAN GARDENS.

When a gentleman is looking out for a house, he naturally considers the situation, the style of the structure, and the distance it may be from the rail, tram, or 'bus; then, these important points being satisfactorily decided upon, the next consideration is the number of rooms, then the sanitary arrangements and the general appearance of the outside of the house, the views from different windows, and, finally, what sort of a garden is there? Is it a pleasant one, in keeping with the taste of the intended occupier, and is it large enough for the wife and children to breathe the fresh air without having to undertake a journey by rail or 'bus? When the house-hunter has satisfied himself upon these points, he comes to terms with the landlord and takes up his abode. It may be, as is frequently the case, however, that the house is to his liking, but the garden is not, being a wilderness and enough to drive him instantly away. If he thinks a garden can be made out of it, he decides to take the house, and forthwith proceeds to call in the nearest jobbing gardener, who is, as a rule, as much at sea as the employer, but who, nevertheless, commences to do the best he can, with results that are not always completely satisfactory.

It is with the idea of supplying a few ideas on this subject that we submit two plans as suitable for ordinary-sized villa gardens. The one on the right-hand side is for a garden at the angle of two roads, having front carriage entrance in each, and kitchen entrance in the side road. The front door is approached by steps, and a veranda runs the whole width of the house, and is covered with Clematises, Roses, Jasmine and Honeysuckle. The shrubbery borders in front are somewhat raised above the turf. The small beds are intended for the usual bedding-out plants, and a few specimen Gold and Silver Hollies, Deodars, and other Conifers are dotted about as indicated. The boundary fence and the house are to be covered with variegated and small-leaved Ivies, Cotoneaster, Virginian Creeper, or Ampelopsis Veitchi, Clematises, Roses, &c. The path on the right of the house is intended to be edged with Ivy. There is a conservatory at C, a set of flower beds immediately opposite, and a summer-house at S. The lawn is to be perfectly level, with a raised bank at the farthest end, the front of which may be a combination of rockery and trailing plants, and the back planted with Shrubs and Roses. To reach the kitchen garden behind the lawn, three wire arches, covered with creepers, have to be passed under, and specimen Apple, Pear, Plum, and Cherry Trees may be planted as indicated. Fruit trees may also be planted against the fences, and the remaining portion of the ground be utilised for the production of the choicer sorts of vegetables, salad plants, and herbs, the most profitable subjects to grow on a limited area.

The plan on the left is a suitable one for a villa placed between others, and which has no access to the house or garden except by the front gate. The planting of this garden is somewhat similar to the other. At the back of the house there is an ornamental rockery planted with Ferns and Rock-plants, backed up with creepers on the house. The oval lawn is quite flat, the shrubberies at the lower end and sides are raised, and the entrance from lawn to kitchen garden is arched with wire and covered with Clematis and Roses. The kitchen garden should be planted with fruit trees, as shown. All the kitchen garden paths should be edged with blue metallic edging tiles, as they resist the frost, and do not harbour slugs and insects.

Now as to the manner in which a garden should be laid out. First of all, when the site has been chosen for a new house, a definite plan should be prepared, with everything marked upon it that it has been decided shall be carried out, and which will save much



PLANS FOR SUBURBAN VILLA GARDENS.

work from being done twice over. The position of the house being marked out, clear away all the topsoil carefully from the site, wheeling it into convenient heaps for future use. This should be an order to the builder, and stipulated for in his contract. The ground should be staked out from the plan by actual measurements, the paths formed and properly drained, and should the lawn or kitchen garden appear wet, these may also be drained, and the position of the drains be indicated on the plan. The forming of the borders, trenching, and levelling may then be proceeded with, and when the house is completed the planting should be done, then the turfing and the gravelling of the paths when everything else has been finished. It is necessary, to perfectly enjoy a garden, that all the materials used should be suitable for the purpose; that the shrubs should be selected with judgment and well rooted; that the turf should be free from weeds, and the gravel of a good binding nature. The best time to do such work is either in the autumn or the spring, and preferably the autumn, as shrubs, fruit trees, and turf take root immediately after planting and stand better. In the spring they are sometimes sorely tried by drying winds before they can make a start to grow, and may possibly be killed out-right.

We have to acknowledge our indebtedness for the plans to Mr. Thomas Bevan, 31, York Rise, Dartmouth Park, N.W., who during the last ten years has had a great amount of experience in landscape gardening, especially in laying out town and suburban gardens, and who may be consulted on such matters with advantage by anyone who has a garden, large or small, and who does not know what to do with it.

GUNTON PARK GARDENS.

Gunton Park is the Norfolk seat of Lord Suffield, and situated nineteen miles distant from Norwich, on the East-Norfolk line of railway. The nearest station, Gunton, is about two miles from the Hall, and as his Lordship kindly allows the public free access to his gardens and Park every Thursday from May to September, there are on those days several vehicles which meet most of the trains from Norwich and Cromer, and carry the visitors at a very reasonable charge. A lovely ride it is too, passing on the way the modern church of Thorp Market, built of flint and freestone, with turrets at the angles, in the absence of a tower. The avenues of young and old trees are very interesting, and conspicuous among them are some Elms, whose habit of growth is different to any I had previously seen, and looking at a distance like trees that had been pruned up square in the form of a tower. The park is entered through a neat lodge gate, and from the time we leave the station until we return to it, we do not see anything that a critical gardener would consider untidy, for neatness and good order prevail everywhere. From the entrance gate we proceed some way amongst plantations of different years planting, until we reach the beautiful Gunton Tower, which stands on an eminence, and is 120 ft. in height, the drive passes through it, and the view opening out on the opposite side is very beautiful. In front is a large expanse of grass, with plenty of timber, and in the distance a mile away stands the Hall, seen through the trees, and which is reached by one of the best of roads, broad, hard, and smooth, with no signs of the grass being trodden down on either side, for most, if not all of the visitors who walk, keep to the road.

Passing along the road we soon get glimpses of the ornamental water. The park with its plantations, dressed grounds, deer enclosure, pasture, and water, covers an area of something over 1000 acres. It occupies the whole of Gunton parish, a good slice of the parish of Hanworth, and some of Thorpe Market. As we approach the Hall, we can see that entirely one half the south part is roofless, though the walls still stand erect. The northern half is intact, and in this part the family live when here. A disastrous fire broke out here on the 18th of December, 1882, and nearly all the state apartments were destroyed. The flower gardens, parterrés, and terraces are all enclosed with strongly built low walls, with an ornamental parapet; entering on the east side we find beds and borders all aglow, and in the neatest of trim, a good many sub-tropical plants are used, and all the beds are well filled up. I was much struck with the Clematises on the pillars, and in places growing over Ivy. The flower garden proper, is planted this year in the old English style, *i.e.*, mixed plants

mostly, and in the surrounding or outside beds, were good rows of Gladiolus, good spikes of Hyacinthus candicans, with good green foliage of its own, some of the most perfectly double Calendula officinalis I have ever seen, Agapanthus, Cannas, Nicotianas, Solanums, Single Dahlias, and some beds were devoted to the herbaceous Anemones, flowering very freely.

At either end of the south front there are small conservatories. One of them was full of large tree ferns, with tanks of water about; and the other one was all aglow with the lovely red and white Lapageria, flowering most profusely, the white one perhaps more so than the red. Their long growths were literally covered with flowers. What grand climbers these are! On the west side is the lawn tennis ground, with its banks planted with Yew, and kept so low that there is no obstruction to the view from any part. Proceeding northward the grounds are not so modern, for here we come into glades of forest trees, vistas and groves, and formed many years ago, as the trees testify, and very delightful these must be in the hot bright weather. Reaching the east side of the mansion, where the principal carriage entrance is, there is a large expanse of gravel, and on rising ground in the dressed grounds and among trees stands Gunton Church. The best end—which faces the entrance front of the mansion—has a handsome portico of the Doric order. This Church has no tower, but history informs us that it was rebuilt by Sir William Morden, Bart., father of the first Lord Suffield, who became heir to the estate in 1742, when he assumed the name of Harbord. Sir Harbord Harbord, the second baronet, was created Lord Suffield in 1786. The graveyard has no boundary fence to part it off from the surrounding grounds, and close by is the entrance to the kitchen gardens, which are six acres inside the walls and about two acres outside.

Amongst the many things worthy of notice was a batch of 1,600 Strawberries in pots, all plumping up their crowns well, and such crowns of Vicomtesse Hericart de Thury as we seldom see; this is the first crop forced here, and the first dish is generally picked early in March, as we have seen by reports of fruit shows in past springs, when Mr. Allan, the gardener-in-chief here, has exhibited them. I saw some Muscat Grapes in one house that were quite fit to grace the board of any nobleman in the Kingdom. On the wall we noticed a good crop of Peas swelling to a good size, also some fine fruits on some bush-apple trees, and the finest bed of Beet for good colour and culinary purposes I ever saw; the variety is Dell's crimson. Not feeling very well I did not go through the glass structures, or take such an extended walk through the kitchen garden as I should have liked to have done, for Mr. Allan does everything well, and his work will stand examination.—*Visitor.*

MIGNONETTE FOR EARLY SPRING FLOWERING.

A sowing should be made at once, so that the plants may get strong enough to stand through the winter. The most trying time is from November to the end of January, but if the plants have attained sufficient size and are strong and sturdy, they may with care be kept in a healthy state, but will, except under very favourable circumstances, make very little progress during the three months, therefore it is necessary that a little extra care should be taken in preparing the compost for this batch, as the plants have to stand so long in the same pots. The compost should consist of good fibrous loam, two parts, and one part of well-rotted manure, to which may be added some old lime rubbish, this will help to keep the soil sweet, as well as being beneficial to the plants. The pots should be well drained, and a little soot should be mixed with the drainage to keep the worms from penetrating; the pots must be filled very firmly, and the seeds should be well covered with soil that has been sifted through a ¼ inch sieve. After the seed is sown sufficient water should be given to penetrate through the soil, after which only an occasional sprinkle should be given to keep the surface moist.

The best position for it will be in a pit or frame with a southern aspect, the pots should be plunged up to the rims, and the closer to the glass that they can be kept the better; the lights should be kept close until the seed has germinated, when air should be given on all favourable occasions. As soon as the plants are large enough, they should be thinned out, leaving about 8 or 10 plants in a 48-sized pot, this will allow for a few damping off, or, if this does not occur, a few more may be pulled out later on. During the winter the plants will require sufficient protection to keep the frost off, but no artificial heat should be given if it can be avoided, as it will in no way forward their flowering, and will only tend to make them start into weak and sickly growth. The main elements towards success are, to keep the roots healthy by avoiding over watering, or allowing the pots to become too dry; give them all the light available, and plenty of air on all favourable occasions.

Varieties.—Since 1871, when "Parsons' White" was sent out, and which proved to be such a great improvement on anything that had previously been offered, there has been such a number of so-called new varieties offered, that it has become somewhat difficult to make a selection, and from what we have seen there is little difference, except in name, although some are inferior. All that we have seen may be divided into three sorts, *i.e.*, Red, White, and Yellow. Vilmorin's "grandiflora" is a good type of the first-named, it is of dwarf habit, the flower spikes are very stout, the individual flowers large, and the anthers are very conspicuous, which gives the flowers a reddish appearance; of the "Whites," Parsons,' if obtained true, is still one of the best; it is of vigorous growth, and produces very fine spikes of almost pure white flowers; on examining the flowers the petals will be found to be very large in comparison to the other sorts, and the stamens have very small anthers, in some spikes that we have examined these have been quite absent. Miles' Spiral is another good form of the White, the flowers are not quite so white as in the preceding, but it is of dwarf habit, and undoubtedly one of the best, especially for pot culture. Golden Queen is the best yellow, the anthers are yellow, and very conspicuous, which gives the spikes of flowers quite a yellow appearance.—*H.*

FRUITS, FLOWERS & VEGETABLES.

Potatos.—I notice, with satisfaction, in your report of the Sandy Flower Show that, amongst Potatos, The Dean, Chancellor, and Prime Minister, stood out well. During a long association with the growth as well as raising from seed of new kinds of Potatos, I have been struck with the need for sorts that will stand out well in poor soils in ordinary seasons, or in all soils in dry seasons. Still farther, I have found that where large-tubered kinds can be induced to produce fine crops of fair-sized tubers in soils of moderate quality, such crops are always far more free from disease in bad seasons than are other kinds grown in rich soil with dressings of manure. The kinds of Potatos named are all robust growers, producing large tubers of fine quality; but if grown in rich garden soil, as so many gardeners unfortunately do, not only are the haulms out of all fair proportion to the crop, but the tubers are usually far too large to be useful for domestic purposes. On the other hand, if grown in ordinary field land, which has been manured for a previous crop, and broken up to a depth of 12 to 14 ins., the produce will be a first-class healthy one, the tubers showing good clean ware size, rather than an undue proportion of big ones. Spite of the drought this season, which has so cruelly discounted Potato crops generally, and especially those of medium-growing kinds, I have lifted from the field splendid crops of The Dean and Prime Minister, but Chancellor being later, and not ready till October, is not yet lifted, still a good crop is plainly evident. I wish very much market-growers would employ the fork to cultivate their land with rather than the plough. They manure heavily, but the soil is never deeply worked, and in such seasons as the past one, the crops lacking root room, soon fail, and the produce is poor indeed.—*A. D.*

Propagating Violas for Bedding purposes.—No time should now be lost in securing cuttings from those varieties which, either on account of their floriferousness, or from excessive drought, could not be obtained earlier in the season. Cuttings of the right stamp will be fairly plentiful now, and where a limited number only are required, the best cuttings will be found about the base of the plants, and by removing a little soil therefrom, the operator will be enabled to secure many with small fibrous roots attached, these will not be very much behind the earlier batch. Where required in quantity, the tops will have to be utilised, the extremities making the best cuttings. They will need cutting to just below the joint, removing the leaves, and retaining a cutting from 2 to 3 ins. long, and if placed in any shady position, either under hand-lights, or under a north wall, they will soon form roots.—*J.*

The Reading Russet Potato.—Can any of your readers suggest the reason why this grand Potato is so susceptible to cracking both before and after being lifted. With me, it has always cracked more or less, but this season much more than usual. If lifted sound, a great number crack shortly after, and of course are worthless for storing. I am sorry it has this bad quality, for in all other respects it is a splendid sort to grow.—*Potatoist.*

The Fruit Crop at Frant Court.—When out for a ramble last night, through the pretty little village of Frant, which is situated on one of the highest points in Sussex, almost due east of Crowboro' Hill, and facing the Deer Park, at Eridge, I paid a brief visit to Mr. Henderson, gardener to the Hon. Miss Canning, who at all times gives a hearty welcome to members of the craft. My attention was there directed to the fruit trees in the kitchen garden, which is situated nearly 200 feet below the village, they were it seems all moved late in November last, and that they have been greatly benefited by the operation, you will be able to see for yourself, by some wonderful clusters of Apples and Plums which I send you to-day. The Damsons have set as thick as Alicante Grapes, and the great clusters are not unlike well finished bunches of that variety. The few sprays of the Harvest Plum, a small red variety which has another name that I cannot now remember, will also show how freely that sort is bearing.—*J.D. Aug., 8th.* [The specimens received amply bear out our correspondent's statements. The Apple shoot, Blenheim Orange, though only 18 ins. long, bears fourteen large cleanly grown fruits. It would be interesting to know what sort of crops the trees bore before being lifted.—*Ed.*]

Japanese Anemones.—Some strong plants of A. Japonica alba, or Honorine Jobert, are the admiration of all who see them. The plants bloom so freely and persistently, and the blossoms are of the purest white. Then there is A. japonica itself, with its pale rose flowers; a plant that is not half so much appreciated as it deserves to be. It is a charming companion to the white; not quite so strong growing, but very pretty indeed. A. japonica intermedia comes between the two; the colour pale rosy pink. All that is required is that they be planted and left alone, and then they will establish themselves and bloom for years to come.—*D.*

Strawberry, Barnes' Prolific.—This Strawberry, which "W. P. R." mentions in last week's issue, p. 6, has been a general favourite in this locality for the last fifteen years. It was introduced in this neighbourhood by Mr. Thomas Baxendale (at that time gardener to Henry Crowther, Esq., of Lockwood), who found it when in full fruit, in a cottage garden, at a small village called Hoyland, near Barnsley. Being struck by its hardy and prolific qualities, he secured a few plants of it, and came away with them as proud as the late Mr. Lee was, when he carried off his Fuchsia, as described in your first volume. Mr. Baxendale questioned the cottager as to where he had obtained his plants, but elicited no more explicit reply than from an old farm house in Lincolnshire. Mr. Baxendale took the plants home and increased his stock as soon as possible, and every year was rewarded with the finest and most abundant crops of Strawberries that anyone could wish to possess. A gentleman from Matlock hearing of Mr. Baxendale's crops, called upon him, and pronounced it to be Barnes' Seedling, a standard variety, grown about Matlock, and now known here under the same name. Whether it got from Lincolnshire or Matlock to Lancashire, or vice-versa, I cannot say, but if it was in existence upwards of twenty years ago in the neighbourhood of Preston as "W. P. R." states, in all probability it originated there. In any case, it is a good variety, and well adapted for these northern districts, on account of its hardy constitution, prolificness, and the firmness of its fruits. I grew it for ten years previous to a year or two ago, when I discarded it, as it seemed to degenerate or wear itself out. I find that Strawberries, like Potatos and

other vegetables, are all the better for a change of soil and air. With regard to Elton and Frogmore Late Pine, I can say that they are good late varieties, especially the latter, and both did well with me in my last place, some seven miles away, though they are not at all satisfactory here. My latest and best here have been Dr. Hogg and James Veitch; the last named has very large crimson fruit, of globular form, and good flavour, and it is a strong grower, and fine cropper. The soil here is of a strong binding nature, on a clay subsoil, and the elevation 500 ft. above the sea level. —*B. L., Lindley, Huddersfield.*

Gigantic Lilium auratum.—At Mr. Wm. Gordon's Lily Nursery, Twickenham, where many hundreds of very fine Lilium auratums are blooming in the open ground, among them is a plant bearing about fifty blossoms on a single stem—a very fine object. Mr. Gordon's strain of this favourite plant is very superior, a large number of the pure white and the crimson striped varieties appearing among them. A fine lot of L. speciosum cruentum, a magnificent Lily, is also in bloom at Mr. Gordon's, the bright magenta-crimson colour on the snow-white perfectly striped petals constitutes it by far the handsomest of its class. L. speciosum Kratzeri, in bloom at the same nursery, is the perfection of a pure white Lily, its flowers being without any tinge of colour and of exquisite shape. It also, like all the other speciosums, is very fragrant, and not with an odour which some only like and others dislike, but with a fragrance generally pronounced delightful.—*J.*

Ranunculus Segnieri.—This pretty little Buttercup is figured in the June number of *The Gartenflora*. It is a tiny Alpine gem, about 2 ins. high and grows in a little tuft. The leaves are much divided and dissected; the flowers are pure white, and measure ¾ in. in diameter. It is a European plant, and should be planted with other Alpines on the hardy rockery.

Escallonia macrantha and E. rubra.—These handsome summer flowering South American shrubs have long been favourites of mine, their evergreen bright shining leaves effectually clothing any low walls, against which they may be planted. The richly coloured flowers of both are now in great beauty, and valuable for indoor decorations. The ladies too, I find, like a spray for their hair. In very severe winters the plants whether grown against walls or as low bushes require a slight protection, and we have found a few fir branches answer the purpose admirably.—*T. W.*

Armeria cœspitosa.—This is a minute cushion-pink, not exceeding 2 ins. high, including the flowers. It is figured in *The Gartenflora* for June. The leaves are grass-like, and grow in tiny tufts; from the centre of these tufts a short peduncle is produced, which bears a little head of white flowers. It is an interesting little Alpine, and should be planted in the front of the rockwork.

Propagating Bedding Plants.—A great objection to rooting Pelargoniums in the open ground is that they have to be taken up in the autumn and potted, and to save this labour many put them at once into boxes or pots, in which they are to be stored for the winter. If this is done, a sunny spot suits just the same for standing them in till struck, but they should be placed somewhat close that they may shade and shelter each other, as, when in such a small body of soil, the drying becomes exceedingly rapid, and the cuttings are apt to suffer thereby. The variegated kinds, being more tender, and of a less sappy and robust nature, are best put in singly in small pots, and then placed under the cover of a cold frame, where the lights can be either kept on or off, according to the state of the weather. If wet, and it is necessary to have them on, they should be tilted behind, as they cannot well have too much air, for nothing militates against the striking of Pelargoniums so much as a close damp atmosphere, which soon causes decay of the leaves, and a general "fogging off" of the cuttings. All plants with small shoots, such as the Heliotrope, Verbenas, Ageratums, Lobelias, and others of that class, must be kept close, and, therefore, require just the opposite treatment; but instead of striking cuttings of any of these quick-rooting and quick-growing plants at this season, it is far better to keep a few store ones of each, and work up a stock in the spring. This may readily be done then by putting the plants in any forcing-house, where they can feel a gentle heat, which will soon start them into growth, and the tender young shoots taken off, will then strike as freely as weeds. All they will require to induce them to do this is genial warmth, such as that afforded by a dung-bed, or propagating box, where successive batches may be put in, and carried through in rapid succession.—*Alpha.*

Hardy Heaths for late autumn flowering.—Few plants are more worthy of cultivation than hardy heaths for late autumn and spring flowering. A bed, or some beds of them, in full flower in extensive pleasure grounds where there is often a lack of variety, would be a feature of interest as well as of beauty, and would be useful also for decorative purposes at a time when the winged tribe are being shot in the woods. Among the best sorts that flower at that season, I may mention Erica vagans intermedia, which is of spreading habit, and makes a fine mass, and E. vulgaris Steeli, which is equally valuable for massing or cutting. Erica stricta is pretty all the year round, and flowers very freely in the autumn, supplying sprays which a sharp hand, who has much to do with table decorations, would know how to turn to good account.—*H. W.*

Primula auricula.—An excellent figure of the wild form of this showy Primula is given in the September number of the *Botanical Magazine*. It is remarked that "this typical wild form does not appear to have ever been figured in any of the horticultural journals." Certain it is that it is a very showy plant, the flowers being large, deep yellow, and the umbels with numerous flowers. It is drawn from a plant which flowered on the rockwork at Kew during the present summer. Mr. J. G. Baker remarks "what the relation is of this widely spread wild type to the multiflora races of the garden Auricula is a subject that still remains to be fully worked out." It evidently both runs into varieties and hybridises freely with several other species, both of the Auriculastra and Anthritica groups, but the subject is much too wide to be discussed fully now. Primula auricula is one of the most widely spread of all the species, as it extends in a wild state from Dauphine and the Jura on the west, through Switzerland to Lombardy, the Tyrol, Hungary, and Transylvania. It is to be hoped that the origin of the garden Auricula is a subject which may be elucidated during the forthcoming Primula Conference

Veronica satureoides.—This neat little Alpine Veronica is a native of Dalmatia, where it grows from 4,800 ft. to 5,500 ft. above sea-level. The little tufts when in flower measure 3 ins. high; the leaves are cuneate and elegantly toothed, and the bright blue flowers are borne in little spikes. It should be planted in an open situation on the hardy rockwork. A good figure is given in the June number of *The Gartenflora.*

BURTON CONSTABLE.

Burton Constable, the palatial residence of the Constables, but not now occupied by any member of the family, is situated about two miles from Burton Constable station on the Hull and Hornsea station, and here in the kitchen gardens, as we learn from *The Hull News*, Mr. E. P. Dixon has established a nursery. The gardens are some ten acres in extent, and are devoted to the rearing and growth principally of forest trees, ornamental trees and shrubs, fruit trees and roses. There are acres of standard roses of the very best varieties known, acres of young fruit trees, some of them only of last year's grafting, and many of these are bearing most profusely. There are some extensive vineries here, and the vines, which comprise, some of the best known varieties, are just now in full bearing, and amongst the pendant bunches we noticed several which must have weighed four or five pounds each. Amongst the ornamental trees and shrubs which we saw may be mentioned the Acer Negunda variegata, Magnolia Soulangeana, and many examples of Cupressus Lawsoniana, Biota aurea, &c., also Picea Nordmanniana, Picea nobilis, &c. There are also many specimens of the Wellingtonia gigantea, such as have been from time to time planted by Royal hands at Bratinghamthorpe. Amongst the ornamental shrubs, too, there was one which certainly ought to be more frequently seen in our gardens and parks. We refer to the Golden Elder, which has, as its name implies, a considerable proportion of yellow in its leaves, whilst it produces an abundant white bloom, and set against a dark back ground is most effective. The flowering shrubs include Rhus cortinus, Spiræas in endless variety, Ligustrum lucidum, Lilacs in great variety, Viburnum opulus, &c. Amongst the fruit trees there are peaches, apples and pears of the choicest and most prolific varieties, but perhaps the greatest feature of this department is the raspberries. The variety most largely grown is one first introduced by Mr. Dixon, and which he has given the name of Baumforth Seedling. For some years now Mr. Dixon has largely exported the canes to America and the Continent, and wherever they have been sent they have given the most complete satisfaction. The fruit is larger than any other raspberry known, it is also unusually firm, and of the very richest flavour. Upwards of two tons of fruit have, during the season just closed, been gathered at the Burton Constable nurseries.

The standard trees for park and avenue planting include Acer Schwedleri, Acer Pensylvanicum rubrum, globosum, &c., Limes, Elms, and Planes, Sycamore, Birch, Beech, &c. There is also a very large collection of forest trees for cover planting, in the best possible condition for autumn planting, whilst the standard and half-standard roses are amongst the best and healthiest we have seen. The Burton Constable nurseries are not the most extensive of Mr. Dixon's grounds, as he has added at least 25 acres to his business at Coniston, and it is at this place more particularly that he raises those seeds which have made his name famous all over the world. He has still another department, and that a most attractive one, at Sculcoates, where stove and greenhouse plants are grown in glasshouses that cover one acre of land. From this notice it will be seen that Mr. Dixon's business is an extensive one, and certainly a visit to his several establishments cannot fail to be both interesting and instructive, especially to those who have known the business from its small beginning. It is one that has always been watched over by the master's eye, and managed with that rare skill and tact which has had its reward in the development of what is now the most extensive nursery and seed-growing business in that part of the country.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The chief work in connection with the plant houses just now will be the housing of the plants for the winter. Many people recommend top-dressing pot plants in the autumn, but as this renders it very difficult to ascertain when the plants are dry at the roots, and as it most essential that all pot plants should be carefully attended to with regard to watering at this season of the year, we think the practice of top-dressing is not a good one. It is a good plan, however, to scrape off any green from the surface and loosen the soil up a little, and any plants that require encouragement may have a slight sprinkle of fertilizer applied. In any case where worms have penetrated the pots, they should be watered with lime-water, this will generally dislodge, if it does not actually kill the worms.

THE KITCHEN GARDEN.

Transplanting, &c.—Where a sufficient breadth of Parsley for winter and spring use was not sown, as recommended at p. 715, now will be a good time to supplement the sowing then made by transplanting an adequate number of young plants in rows 1 ft. apart, and about 7 ins. asunder in the rows. From sowings of Endive made at the end of July, make good plantings under south and west walls, as also on warm borders; 1 ft. apart for the curled varieties, and 15 ins. each way will be none too much space for the Batavian varieties. In the event of dry weather at the time of planting, the plants should be watered until they have established themselves. Plants sufficiently advanced for blanching should be tied up forthwith.

Thin-out the plants of winter Spinach and Turnips to 9 ins. apart in the rows, and where the former crop has not already been sown, no time should be lost in doing so. Make successional plantings of Lettuce on warm borders, and tie up plants as they become fit for blanching. Cut down old stems of Globe Artichokes, and attend to the thinning, stopping, and nailing of Tomatos out of doors, so as to prevent overcrowding of the leaves and shoots, and the breaking of the latter by the wind. Provision should now be made for protecting the latest sowing of French Beans from the effects of early frosts, by constructing a temporary framework and covering at night with mats or old sashes when the sky indicates the approach of frost. Attend to earthing-up of Celery plants when necessary, and, when they are dry, taking care in doing so not to let the soil get into the heart of the plants.—*H. W. Ward, Longford Castle, Salisbury.*

ORCHID NOTES AND GLEANINGS.

The Catasetums and Cycnoches *(continued from page 12).*—Every district in South America seems to have a Catasetum peculiar to it, and each differs so much in colour, and particularly in the lip and its appendages, that it is not to be wondered at that the whole form a curious and interesting study, if not a botanical puzzle. Formerly the genus was divided into Myanthus, which generally bore many attenuated flowers, Monachanthus usually having fewer flowers with large, fleshy, pouch-like or helmet-shaped labellum, and true Catasetum; but more recent research fails to show that such an arrangement is consistent, and hence all are included in Catasetum. So widely different, however, is, for example, C. callosum, with its large spikes of thirty or so flowers like spiders, from C. macrocarpum, with its high wax-like flowers, that it is not surprising that some attempt should be made to separate them. Most of the varieties have a pleasing aromatic odour. They should be grown with Mormodes, as directed at p. 812, vol. i.

CATASETUM ABRUPTUM.—Flowers six to twelve, drooping on an upright spike; sepals and petals green, closing over a large fleshy yellow lip. Flowered by Mr. Moore, at Glasnevin, 1841.

C. ATRATUM bears about a dozen flowers on a stout spike; sepals and petals green, barred with crimson; lip yellowish and fringed.

C. BARBATUM.—Flowers borne ten or fifteen on a spike; sepals and petals bright green freckled and spotted with brown; lip bearing long beard-like fringe.

C. BARBATUM PROBOSCIDEUM is the same as the preceding, but bears in addition a curious long snout-like projection on the middle of the lip.

C. CALLOSUM.—This, like most of the other species, varies much in colour, some of the varieties being pale reddish green and others all purple. Sydney Courtauld, Esq., of Bocking Place, Braintree, flowered a fine dark variety this summer with several spikes, each having twenty to thirty blooms like winged insects.

C. CASSIDEUM.—Flowers large; sepals and petals greenish, abruptly ascending; lip yellow, wax-like, helmet-shaped.

C. CERNUUM (TRIFIDUM).—Flowers bright green, spotted red; lip three cleft; column yellow

C. CHRISTYANUM.—A very curious species, very variable in colour, the original having reddish brown sepals and petals, and curious green lip, with brown fringe on the side lobes. Mr. B. S. Williams figures it in the *Orchid Album*, t. 83. The variety obscurum is nearly black, the side laciniæ of the lip being rich purple, and the middle brownish olive. Introduced by Mr. T. Christy, of Malvern House, Sydenham.

C. CORNUTUM has fifteen to twenty flowers on a spike, green, spotted brown; the lip being curiously elongated, toothed, and horned.

C. CRISTATUM is a curious species, with pale green sepals and petals, and white fringed lip. It bloomed in the Gardens at Chiswick, in 1824.

C. DELTOIDEUM.—Sepals and petals green, barred brown; lip triangular, violet, with green centre.

C. DISCOLOR.—Flowers thick in substance; sepals greenish, striped rose; petals rose; lip green, stained with brown, fringed at the edge, and shaped like a bowl.

C. FIMBRIATUM.—Narrow sepals and petals, pink to green, spotted purple; lip large, fleshy, fringed, green spotted purple, very fragrant.

C. FIMBRIATUM FISSUM is a very handsome variety, with greenish flowers, spotted purple, and lip much fringed. Haynderii and Legrelli are also varieties of fimbriatum.

C. FULIGINOSUM.—This is a rather poor variety, with a sooty tinge over the flowers.

C. GLOBIFERUM is a curious species, with globe-like flowers, the sepals and petals closing over the large round blossoms, and leaving but a small aperture in front. Flowers reddish brown, the prominent part of the lip bluish white. It flowered first at Glasnevin.

C. GNOMUS somewhat resembles fimbriatum, but has a deep pouch-like labellum, fringed in front. Flowers greenish, marked with chocolate.

C. INTERREGMUM.—Flowers large and fleshy yellowish green; lip marked inside with crimson

C. LAMINATUM.—Sepals and petals reddish; lip white, curiously fringed with an incurved edge, and furnished with a strange looking raised keel up the middle.

C. LANCIFERUM is probably a variety of barbatum, differing only in the unreliable points of colour, and the arrangement of the horn-like processes on the lip.

C. LANSBERGII appears to be a variety of callosum. Flowers green, spotted purple.

C. LURIDUM.—Flowers greenish yellow, speckled with crimson, and closing up as in globiferum, but with scoop-like projection of the labellum.

C. MACROCARPUM.—This is the highest of the tridentatum section, having large waxy flowers, each four or five inches across; sepals and petals greenish yellow, with purple spots; lip yellow. It may be all yellow. It is well figured by Mr. B. S. Williams in the *Orchid Album*, t. 189.

C. MEDIUM.—A variety with numerous small flowers. Sepals and petals greenish yellow, with brown transverse bars; lip yellowish, with red side laciniæ; column the same colour, with purple spots at the base.

C. NASO.—This is a most extraordinary and weird looking variety from Caraccas. Sepals and petals emerald-green, marked with crimson, lip most curiously cut and fringed, the lower part continuing into a long nose-like projection. Centre of lip bright red and yellow.

C. PHASMA.—Appears to be intermediate between C. gnomus and sanguineum. Sepals and petals green with brown blotches: lip whitish.

C. PURUM (INAPTERUM).—Flowers wholly greenish white, the sepals and petals rising straight above the lip.

C. RUSSELLIANUM.—Flowered at Woburn Abbey in 1840. Flowers twenty, on drooping spike; sepals and petals greenish white, closing over the white, green-striped lip.

C. SACCATUM.—Sepals and petals yellowish, freckled with purple: lip curiously pouched, yellowish.

C. SANGUINEUM.—Like C. fimbriatum. Sepals and petals turned upwards, green spotted with red.

C. SPINOSUM.—Green barred with brown, lip fringed.

C. SCURRA.—This very distinct dwarf species flowered with Sir Trevor Lawrence in 1877. Flowers eight to twelve on a drooping raceme, pale straw or waxy white; lip trifid, the middle portion elongated, with a broad fringed expansion in front. A native of Demerara.

C. TABULARE.—A very curious species with reddish green sepals and petals, and broad shoe-like lip, singularly furnished with a broad creamy white, thick wax-like table, occupying nearly the whole of the surface of the lip, which turns up at the foot of the table, and forms a trench round it.

C. TABULARE BRACHYGLOSSA.—This is a very fine form of the type which Professor Reichenbach named for me.

C. TRIDENTATUM.—Flowered in the Chelsea Botanic Gardens in 1824. A good idea of it may be gained by imagining a smaller form of the plant Mr. B. S. Williams figures in the *Orchid Album*, t. 189. Flowers large, greenish yellow.

C. TRIDENTATUM CLAVERINGII has sepals and petals greenish outside, reddish in; lip yellow.

C. TIGRINUM.—Allied to barbatum. Sepals and petals whitish; lip ochre coloured, very thick and narrow.

C. TRULLA.—This curious species has bright green flowers, the large trowel-shaped lip bearing stained with red in the centre and front.

C. TRIODON.—Flowers large, glaucous, bluish green; sepals reflexed; petals upright.

C. VIRIDI-FLAVUM.—Flowers yellowish green ilp; massive, wax-like, bright yellow inside.

C. WAILESII is in the way of viride-flavum, but nearly all pale green, the large helmetted labellum being uppermost, and the petals turned down. A native of Honduras.

C. WARSCEWICZII.—Near to C. discolor. Flowers in close pendulous raceme. Sepals and petals greenish. Lip helmetted, spreading into a thin 3-lobed limb, the middle lobe of which is prolonged, and diverges into two fringed halves at the extremity, pale green, with emerald veins. It has the fragrance of Aërides odoratum.—*James O'Brien.*

Lælia amanda (Cattleya Rothschildiana).—A fine three-flowered spike of this rare Orchid comes to us from Messrs. Wm. Thomson & Son, of Tweed Vineyards, Clovenfords. The flowers, which are about five inches across, have broad sepals and petals of a warm rosy lilac tint, and handsome trilobed, fringed labellum, pale mauve, exquisitely reticulated with brownish crimson. The column is pure white heavily flaked with bright violet. Altogether it is a lovely plant, when grown as Messrs. Thomson grow it. Its flowers seem to partake much more of the Cattleya than the Lælia, its pollen masses, too, proving its inclination in that direction, for but four are perfect and the other four in a very rudimentary condition.

Odontoglossum Krameri.—An excellent figure of this charming species is given in the July number of the *Illustration Horticole.* In its delicate colouring it reminds one more of a Phalænopsis than of an Odontoglossum, though of course in no other character. The flowers are freely produced and last for a considerable time. It was discovered in Costa Rica by M. Kramer, a collector for Messrs Veitch and Sons, in whose collection it first flowered in 1868. The spikes bear from 3 to 7 flowers, which measure 1½ ins. in diameter; the sepals and petals are sub-equal and similar in colour, which is pale violet-red with broad white margins; the lip is ⅓ in. broad, the neck yellow, and the sub-quadrate limb of a pale violet-red, with a concentric red-brown band at the base. Mr. H. J. Buchan, Wilton Lodge, Southampton, showed a flowering plant of it at South Kensington, on Wednesday, for which he received a Cultural Commendation.

FLORICULTURE.

SINGLE AND POMPON DAHLIAS.—I confess that I hold a decided opinion to the effect that the newer varieties have become much too large for ordinary indoor decoration. That is the impression left on my mind by what I saw at the Crystal Palace on Friday last, and again in the Conservatory of the Royal Horticultural Society at South Kensington on Tuesday. If I had to decorate a table round which thirty or fifty persons were to dine, then I could use single dahlias with confidence, but in the case of single pieces on the dinner table, or decorations for a dinner party of eight or ten, the single dahlias are generally too large and formal. I have this season seen a great many centre pieces for the table put up for competition, but scarcely in one of them have I seen a bloom of a single dahlia. This leads to the inference that our best known decorators for the table eschews them.

Their use for decorative purposes in a cut state will decline, and that speedily, unless some new departure is made. I think we should do nicely if we threw away two-thirds of the named varieties, and confined ourselves (that is those of us who grow them for decorative purposes) to the pretty small flowered varieties of the gracilis type. Mr. Ware, of Tottenham, and Mr. H. Cannell, of Swanley, have these in variety; pretty little flowers, small in size, and much less formal in appearance than one-half of the named flowers. The blooms of these can be used with effect in single vases, but it is necessary that they be sparingly employed.

I am quite appreciative of the beauty of the Single Dahlias when set up in triangular shaped bunches as Messrs. J. Cheal & Sons, and others, had them at the Crystal Palace on Friday, and at South Kensington on Tuesday. No one can help admiring them, they are bright and very effective when seen in this way, but in the garden they are much less free of bloom, and are not nearly so valuable from a decorative point of view as the double Pompon varieties. Some one said at the Crystal Palace, that the Pompon varieties would take the place of the single flowers, my reply to this observation, was, the single types have never taken the place of the Pompon varieties; they have two great advantages over the single varieties, they are remarkably free of bloom, and they have generally dwarf upright habits of growth, that enables them to show off their flowers to the best advantage. Of how many named varieties of single Dahlias, can this be said? I have been amusing myself with blooming seedlings this season, and there is scarcely one in a dozen that is of good habit, they are of loose spreading growth, in many instances the flowers hang down their heads in an irregular fashion.

I have just made a selection of the best Pompon Dahlias, and the varieties run as follows:—Lady Blanche, white; Gem, bright crimson; White Aster, white; Darkness, maroon, very dark; E. F. Jungker, amber, very pretty; Flora Macdonald, primrose; Little Bobby, dark crimson; Fanny Weiner, yellow, slightly

tipped with deep purple; Dove, delicate lilac, tipped with purple; German Favourite, heavily tipped with bright crimson; Purple Gem, deep purple; Hilda, primrose, tipped with purple; Little Princess, white, tipped with rose; Nymphe, yellow, tipped with red; Isabel, bright orange-scarlet; Cupid, white, tipped with rose; Rosalie, primrose, sometimes edged with pink; and Nemesis, dark maroon, tipped with white. All the foregoing are small or medium-flowered. I have purposely left out of this list, varieties that are too large for cutting purposes.

Some of the raisers of seedling show and fancy Dahlias have given up the culture of single varieties, as the pollen from these are spoiling their progeny. I heard of one small amateur, who obtained a dozen seeds from a fine show Dahlia, and to his great dismay, they all came single, but this resulted from growing single varieties near his show flowers. Not long since I looked over a large piece of several hundreds of seedling Dahlias, raised from seeds taken from the best double flowers, and the proportion of singles was very large indeed.

The single Dahlias did during the past winter, what I have never known the double varieties to do under the most favourable circumstances, viz., they shed their seeds last autumn, which fell upon the ground round which the plants were growing; there they laid until the spring, when they germinated until they grew into plants, that have flowered abundantly.—*R. D.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*September 8th and 9th.*—Grapes and Dahlias were the special features of this meeting, which extended over two days, and with large mixed collections of various autumn flowers, made up a very attractive display. Of new plants there were very few besides those noted below which received certificates. A cultural commendation was awarded to Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, for a specimen of the striking Vanda Sanderiana, with two spikes of fifteen flowers; and Mr. Hugh Crichton, Bellaire Gardens, Greenock, exhibited some remarkably fine specimens of Glasgow Prize Cockscombs, the largest of which measured 2 ft. in length and 9 ins. across; and the floral Committee commended the strain. Mr. T. S. Ware's collection of cut flowers was as extensive and as bright as ever, and consisting largely of the various types of Dahlias. The New Plant and Bulb Company, who have been keeping up a show of Lilium auratum for some time, had the best display they have shown yet—a large collection—the perfume of which was quite overpowering. From H. J. Buchan, Esq., came a flowering plant of Odontoglossum Krameri, an interesting species near to O. pendulum, with small violet flowers, the crest of the lip yellow and the column white. Messrs. Keynes, Williams & Co. sent some new Dahlias, and Messrs. John Laing & Co. had a very pretty group of well-flowered Begonias. Messrs. Cannell & Sons had a large display of Dahlias of the various types, among them being a white show flower named Mont Blanc, which measured 7 ins. over. Messrs. Paul & Son, Cheshunt, and Messrs. J. Cheal & Sons, were also large exhibitors of mixed collections of Dahlias.

An interesting feature of the Dahlia show was the competition for the special prizes, initiated before his death, by the late Mr. Charles Turner. With twelve distinct show varieties, Mr. J. T. West, Cornwall, Brentwood, beat Mr. Glasscock, Bishops Stortford, and Mr. J. Walker, Thame; and with a dozen fancy varieties, the two first named exhibitors were respectively first and second in the same order, with Mr. T. Garratt, Bishops Stortford, third. For six distinct Pompon varieties, Mr. H. Glasscock, Mr. West, and Mr. J. Henshaw, Harpenden, secured the awards; while Mr. Chadwick, gardener to E. M. Nelson, Esq., Ealing, had the best half-dozen singles. In both nurserymens' and Amateurs' classes in the general competition, there was an admirable display of flowers, and the show blooms of Mr. Turner and Mr. J. Spoor, of Gateshead, the fancy varieties of Messrs. Keynes, Williams & Co., and the singles of Messrs. J. Cheal & Sons, were of exceedingly fine quality. In the nurseymens' classes, the prizes were awarded as follows:—For 48 show varieties, first, Mr. Turner; second, Mr. W. Boston, Carthorpe, Bedale; third, Messrs. Keynes, Williams & Co. For 24 show varieties, first, Messrs. Rawlings Brothers; second, Messrs. Saltmarsh & Son, Chelmsford; third, Mr. J. Walker, Thame. For 24 fancy varieties, first, Messrs. Keynes, Williams & Co.; second, Mr. Turner; third, Mr. Boston. For 12 fancy varieties, first, Messrs. Saltmarsh & Son; second, Messrs. Rawlings Brothers; third, Mr. J. Walker. The best 24 show varieties exhibited by amateurs, came from Mr. J. Spoor, Gateshead, all large, even-sized, and very fresh blooms, and the other prizes in the same class went to Mr. H. Glasscock, and Mr. C. Hocking, Stokesley, Yorks. For 6 fancy varieties, the awards went to Mr. J. T. West, Mr. H. Glasscock, and Mr. J. Buss, Parkside House, Ewell. The open classes for 24 Pompon varieties, and 24 singles, were specially good; with the former, Messrs. Keynes, Williams & Co,, beat Mr. Turner, and Messrs. J. Cheal and Sons; and with the singles, the last named firm were first. and Mr. Turner, and Messrs. Keynes, Williams & Co., second and third.

The new plants certificated were:—Dracæna Norwoodiensis, an erect-growing form, with leaves about 2 ins. wide, bright green, and striped with crimson and creamy yellow, a very useful decorative variety; and Lomariopsis buxifolia, a semi-scandent fern, with pinnate fronds, and small green oval pinnules; both from Messrs. James Veitch & Sons. Waltham Climbing Rose No. 1, a bright red flowered variety, shown in three forms, of which No. 1 was the brightest and best shaped, and No. 2 the sweetest scented; from Messrs. W. Paul & Son, Waltham Cross. Lilium auratum rubro-vittatum, a strikingly attractive and very distinct variety, large in size, with broad maroon and crimson bars down the petals; from Messrs. James Carter & Co. Dahlia, Mrs. Hawkins, a very fine sulphur-yellow coloured variety, belonging to the Cactus section; from Mr. T. S. Ware. Gladiolus, J. L. Toole, very bright scarlet, with a light centre; Prince Waldemar, bright rose-pink, with a light centre; and Lord Carnarvon, brilliant scarlet, with white centre; from Messrs. Kelway & Son; and Dahlias, George Paul, blush ground, tipped with maroon, certificated as a decorative variety; Bird of Passage, white ground, with a rosy purple centre; and Mrs. G. Rawlings, white ground, shaded with violet-purple; all from Messrs. Rawlings, of Romford.

The labours of the Fruit Committee increase as the season advances. To-day there were several collections of Plums, and one or two large ones of Apples to examine, besides several other things of a miscellaneous character. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, contributed good samples of about forty varieties of Apples, a dozen varieties of Plums, and fruits of the American cut-leaved Blackberry. From Messrs. William Paul & Son, came a collection of seventy-four varieties of Apples, all very fine samples. Mr. S. Ford, gardener, Leonardslee, Horsham, contributed a collection of seventeen varieties of Plums, nine of Pears, and a pretty dish of Purple Filberts. A collection of eight sorts of Plums, and a fine dish of Brunswick Figs, came from Mr. W. Divers, of Weirton, Maidstone; and Mr. J. Gore sent good samples of thirteen varieties of Plums, grown at Glenleigh, Hastings. From Messrs. G. Bunyard & Co., Maidstone, came half a dozen dishes of the handsomely coloured Lady Sudeley Apple; most profusely bearing branches of the Cluster or Farleigh Prolific Damson, and fine specimens of Souvenir de Congres, and Dr. Jules Guyot Pears; the latter a handsome golden-yellow variety, ripe now. Mr. Bates, gardener, Poullett Lodge, Twickenham, also contributed seven varieties of Plums, and besides a collection of eighteen varieties from Chiswick, there was a fine collection of twenty-eight dishes from Mr. W. Dance, gardener, Gosfield Hall, Halstead, and one of fourteen varieties from Mr. Rose, gardener, Lockinge Park. Messrs. H. Lane & Son, Berkhamstead, contributed seven very finely grown fruiting vines in pots, a prominent feature in the exhibition, and Mr. R. Bray, Bedfont, sent a capital dish of Williams' Bon Chretien Pears, grown on an orchard standard tree. Mr. T. Laxton showed beautifully-coloured samples of the Dartmouth Crab, a handsome variety in appearance whatever it may be to eat. Several seedling Melons were submitted, including Beauty of Wordsley, a green-flesh variety, the result of a cross between William Tillery and Colston Bassett, from Messrs. E. Webb & Sons. A large blue cooking Plum, named Self Help, came from Mr. T. Laxton, and beautiful examples of the Ham Green Favourite Tomato, a smooth crimson-coloured variety, came from Mr. Crocker, Ham Green Gardens, Bristol. Mr. Gough, gardener, Harefield Grove, sent samples of a new Golden Tomato, and Mr. W. Roupell, Harvey Lodge, Roupell Park, S.W., had some fruiting vines in pots, and cut bunches of some Frontignan varieties. Mr. Bockett, gardener, Aldenham Park, Elstead, showed several fruits of a nice-looking white-spined Cucumber, a cross between Model and Blue Gown.

Crystal Palace.—*September 4th and 5th.*—The annual autumn exhibition of Fruits and Flowers held here on the above dates, in conjunction with the National Dahlia Show, was, as regards the fruit section, at all events, one of the best all-round displays we have seen for some years. The Directors have of late years offered more liberal prizes than they used to do, and as a result the show has become popular with exhibitors, who made it worthy of the place. Large fruit shows, as a rule, produce much that is of poor quality, but on this occasion a high average was well maintained in all classes. The most interesting competitions were those in the classes for collections, which brought out a grand lot of fruit. Mr. Roberts, of Gunnersbury, again proved his ability as a grower, by securing besides many other prizes, the first for a collection of not less than twenty dishes, a collection which every gardener will admit requires some getting together. Mr. Roberts, however, proved equal to the occasion, staging well-grown, and highly-finished Alnwick Seedling, Black Hamburgh, White Tokay, and Muscat of Alexandria Grapes, Queen and Smooth Cayenne Pine Apples of handsome proportions, Apples, Pears, Plums, Figs, Peaches and Nectarines, and Quatre Saissons Strawberries, &c. Mr. Goodacre, Elvaston, was a close second; and Mr. H. W. Ward, gardener to Lord Radnor, a good third. The best of five collections of twelve dishes, was staged by Mr. Coomber, gardener, Hendre Park, Monmouth, who had very fine samples of Muscat of Alexandria and Gros Maroc Grapes, a good Smooth Cayenne Pine, fine Peaches and Nectarines, Figs, La Grosse Sucrée Strawberries, Plums, Clapp's Favourite Pears, &c. Mr. Miles, gardener to Lord Carington, was a good second; and Mr. Miller, gardener, Rood Ashton, Wilts, third.

The grape classes were unusually well filled, and the competition close in all of them. The first prize collection of ten sorts, shown by Mr. Roberts, was remarkable for the perfect finish of the bunches rather than for their size, in which respect he was surpassed by Mr. Ward's samples, which were a very close second. Mr. Wallis, Keele Hall, was third. With five varieties, Mr. Pratt, Longleat, showing fine well developed bunches, especially fine in the case of Black Hamburgh, won the first prize easily, Mr. Hudson, Gunnersbury House, coming in second, and Mr. Smith, gardener, Warren Hill, Loughton, third. The special classes for Black Hamburgh and Muscat of Alexandria, were exceptionally good ones, both sorts being numerously shown, and in fine quality. Mr. Pratt's first prize Black Hamburgh, were large in bunch and berry, and carried a beautiful bloom; and Mr. Lowry's three bunches of Muscat of Alexandria would have been hard to beat anywhere, being large, of good shape, with fine berries, of a rich golden colour. Mr. H. Dawes, gardener, Temple Newsome, had the best Gros Colmar, and the finest three bunches of Barbarossa, which weighed collectively 21 lbs. The Alicantes were a singularly even lot in quality, but Mr. Howe's three bunches, weighing 16 lbs., were declared the best. The Madresfield Court class was also a good one, and here Mr. Goodacre was first. Amongst other white varieties, Mr. Osman showed three remarkably fine bunches of the white Frontignan.

Peaches and Nectarines were shown extensively and well. Messrs. Rivers & Son's took the first prize for six dishes, and Mr. W. H. Divers, gardener, Kettou Hall, Stamford, had the best four, fine well coloured samples of well known sorts. The two Melon classes, also, brought out a strong competition, and the veteran Thomas Bailey, of Shardeloes, added another to the many first prizes he has won with this fruit. Plums, Pears, and Apples, especially the two last named, were extensively and well shown. The Pears from Mr. Butler, Orchard House Gardens, Sittingbourne, were especially noticeable for their fine quality. There was also a good class for Tomatos, and among the nu-

merous miscellaneous subjects, we noted some dishes of a Potato, called The Village Blacksmith, a round red, with a peculiarly rough skin, shown by Mr. Don, 20, Chapel Row, Nottingham.

Floriculture was well represented by a magnificent circular pyramidal group of Tuberous Begonias from Messrs. John Laing & Co. ; and large and most attractive collections of Gladioli were contributed by Mr. Campbell, of Gourock, and Messrs. Kelway & Son, the former taking the first prize. Showy groups of early-flowering Chrysanthemums came from Mr. W. Piercey, Forest Hill, Mr. N. Davis, Camberwell, and Mr. H. James ; and Hollyhocks, Asters, and other autumn flowers contributed much to the enjoyment of the visitors.

A word of praise is due to Mr. Head for his admirable arrangements and courteous attention to the exhibitors.

The National Dahlia Show was also a success, notwithstanding the fact of the dry season having been all against the growers. There was an excellent competition in most of the classes, and if many of the show flowers were rough, there were others of splendid quality, and the pompon and single varieties were in themselves an exhibition of an admirable character. The Turner Memorial Cup brought out only one exhibitor, Mr. Glasscock, of Bishops Stortford, to whom it was awarded. The absence of competition for the handsome silver cup was a great disappointment, and seems to have been brought about by many growers anticipating a strong muster, and concentrating their strength in other classes. In the nurserymen's classes, the Slough flowers, as of yore, took the lead in fine style, Mr. Turner's twenty-four show varieties and similar number of fancies being well first in both instances. Mr. William Boston, Manor Farm Nurseries, Carthorpe, Bedale, was a good second in the former class, and Messrs. Harkness & Son, Bedale, were third, both of the Northern collections being very fine. With fancy varieties, Messrs. Keynes, Williams & Co. were a good second, Mr. Boston third, and Mr. Henry Clark, Rodley, near Leeds, fourth. The leading prize winners in other classes were Messrs. Saltmarsh & Son, Chelmsford, Messrs. Rawlings Bros., Romford, Mr, J. Walker, Thame, and Messrs. Burrell & Co., Howe House Nurseries, Cambridge.

The Amateurs classes were also well contested, and some of the collections were specially good, notably one from Mr. G. Boothroyde, gardener to H. Coleman, Esq., Woodville, Dover. Mr. John Spoon, Musgrave, Low Tell, Gateshead, had also a fine symmetrical lot of blooms. In the Fancy class, Mr. Glasscock held his own well. The best show and the best fancy blooms in the Exhibition attracted much attention, the first named being a remarkably perfect specimen of the new white, Mrs. Gladstone, shown by Mr. Trauter, Upper Assenden ; and the latter one of Messrs. Rawling's novelties, named Frank Pearce, a well-shaped flower, light crimson, striped with maroon. The Pompon varieties were splendidly shown, and here Messrs. Keynes, Williams & Co., turned the tables on their rival, Mr. Turner. Messrs. Gilbert & Son, Ipswich, secured the leading honours in a smaller class, Messrs. Paul & Son being second ; and for 12 bunches of single varieties, Messrs. J. Cheal & Sons were well first.

Amongst miscellaneous subjects, Messrs. Cannell & Sons had a large display of Autumn Flowers ; and Mr. W. Bennett, Condover, Shrewsbury, exhibited one of his Simplex Pot-washing Machines, which much attracted the notice of Professionals.

The Eccles and Patricroft Linnæan Botanical.—In a former paper, mention was made of Eccles as being formerly famous for its wakes, and which, like most ill traditions and coarse weeds, "die hard". I last week saw a revival of the wakes, and never before was such a crowd ever seen in the district. The long contest between Manchester and the Liverpudlians in Parliament, with respect to the Ship Canal, having ended in Manchester gaining the victory, the local committee of Eccles and Patricroft determined to have a thorough rejoicing in commemoration of the victory, and chose the Wakes week. This district will, perhaps, receive the most benefit of any village on the route of the canal, second only to Manchester itself. There could not have been less than a quarter of a million visitors on the 31st inst. to see the demonstration of welcome to those who took part in the contest. Our botanical friends thought this a good opportunity for holding their annual exhibition in the Public Hall of Eccles. Mr. J. Parr, the hon. sec., of Trafford Road, Barton, Patricroft, certainly worked hard to make it a success. The chairman, Mr. J. Derbyshire, had the arrangement of the large hall, which had three long tables down the centre, a cross table at one end, with Ferns, specimen plants, &c., on either wing, while the platform had been furnished with flowering and ornamental plants kindly lent for the occasion by Mrs. T. Agnew, Fairhope, Eccles, and arranged by Mr. W. Elkins, with his usual good taste. In the centre of the front row was a grand mass of Alocasia metallica, associated with charmingly variegated Yuccas, Lilium speciosum, Crotons, and other specimens.

On walking round the room from the right side, we noted a fasciated stem of Lilium auratum, 3 ins. wide, with about fifty flowers on the top, forming a half globe ; though the variety was a poor one, yet it was effective from its peculiar shaped head ; next came a group of British Ferns from a working collier, Mr. John Royle, Swinton. Messrs. G. & W. Yates, Manchester, had a long table of Carnation and Picotee blooms of various kinds, these were succeeded by a grand group of hardy Ferns from Messrs. Tyldesly, Swinton, whose collection has been noted in The Gardening World. In front of the platform we note in Mrs. Elkins group some noble examples of Vanda tricolor superba, Vallotta purpurea, and grand spathes of Anthurium Andreanum, the best variety, backed with variegated New Zealand flax, Lantana borbonica, and other Palms ; spread on the floor in front of this group, and on tables in front, were dried specimens of Grasses, Mosses, Lichens, and Ferns, some very neatly mounted, others showing that the exhibitors had not sufficient patience or tact to mount their specimens neatly, yet, taken on the whole, and the class of workmen exhibiting, they were very commendable.

By the courtesy of the Honorary Secretary, we were favoured with a peep at a collection of Mosses and Grasses, dried, named and mounted some years ago by the well-known Cryptogamic botanist, Dr. Carrington, of Eccles, lent for the inspection of the members of the Society. It has been our pleasure in times past to see the herbaria of various botanists, but we are bound in honour to say that Dr. Carrington's specimens were the neatest and best we have ever seen ; we wished that every young gardener, who aims high in his profession, could have seen them and taken a practical lesson from them. Returning to the show, we inspect the Pelargoniums, Fuchsias, &c., and a group of plants from Mr. Cannon's gardens, Patricroft ; on the centre tables were the Dahlias, of which some good show flowers were exhibited ; the bouquet class, as also the singles, were not so good. Asters were very good, and the same may be said of Stocks, Phloxes, and Tea Roses. Of Hollyhocks, surely never were such poor wretched things put on a table. The vases were over crowded with flowers, one-half would have been efficient, and looked quite natural. One of the hand bouquets had flowers enough for three, which made it look quite lumpy and heavy ; the Picotees and Carnations were good and worthy of praise.

The Vegetables were excellent, taken as a whole, and in this section we saw some grand examples of the Red Giant Rocca Onion, before mentioned in your columns. Cucumbers were good and the competition very close. Grapes were good in bunch and berry, but rubbed in carrying to the Show ; and we also noted some fine Lord Suffield, Devonshire Quarrenden, and Juneating Apples. We hope that this young Society may be favoured with success, for it well deserves it. The judges had four hours hard work in making the awards, and that speaks well for two such high class practical men as Mr. W. Upjohn, gardener to the Earl of Ellesmere, Worsly Hall, and Mr. W. Elkin, gardener to Mrs. Thomas Agnew, Eccles.—*N. J. D.*

ANSWERS TO CORRESPONDENTS.

Vines.—*Peter Loonie.*—It would be very much better if the roots were in an outside border, and you cannot do better than lift them carefully at once and transplant them. The best soil is a good yellow loam with plenty of fibre in it, and cut up rough with a spade. Add to this some old lime rubbish, and some charcoal, wood ashes, or burnt ballast, if you can get it, and not too much manure. If the soil of your garden is fairly good and well drained, you need not, however, go to much expense for fresh materials. Plant the Vines as quickly as possible, and keep the foliage syringed, and the house close until new roots are made.

Names of Plants.—*Dr. Looker.*—Cattleya Loddigesii.—*Wales.*—1. Adiantum pubescens ; 2. The Bracken, Pteris aquilina ; 3. Selaginella cæsia ; the grub next week.—*J. H.*—1. Lastrea filix-mas cristata : 2. Polypodium dryopteris ; 3. Polystichum aculeatum ; 4. Cystopteris fragilis ; 5. Doryopteris palmata ; 6. Onychium japonicum.—*J. Davidson.*—Stapelia variegata.

Begonias.—*H. Jones.*—Your seedlings grown in the open-ground, are good in size, shape, and substance, and bright in colour, the crimsons specially so.

Communications Received.—D. P. L.—P. L.—H. J.—A. W.—J. D.—J. C. O.—W. & S.—J.—P. T. R.—J. D.—M & Co.—J, P.—E. S.—Wales.

TRADE CATALOGUES RECEIVED.

William Fell & Co., Hexham, Northumberland.—Dutch Flower Roots, Herbaceous and Alpine Plants, &c.

Alex. A. Campbell, Cove Gardens, Gourock.—Choice Hybrid Gladioli.

E. G. Henderson & Son, Pine Apple Place, Maida Vale.—Dutch Bulbs and other Bulbous Roots : List of Plants prepared for winter and spring bloom.

NOTICES TO CORRESPONDENTS.

Special attention is paid in the columns of the The Gardening World, to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department he is assisted by gardeners and specialists of great experience.

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

LONDON SEED TRADE.

September 9th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at to-day's market, with a moderate demand for Mustard and Trifolium, both of which articles realise extreme prices, owing to shortness of stocks. No change in values of Rye. Winter tares are selling slowly at lower figures than last week. No change in values of Clovers, Rye Grasses, or Bird Seeds.

COVENT GARDEN MARKET.

September 10th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Peaches, per doz.	1 0	4 0
Grapes, per lb.	0 6	2 0	Pine-apples, Eng., lb.	2 0	3 0
Kent Filberts, per 100 lbs.	30 0		Pine-apples, St. Michaels, each	3 0	5 0
Melons, each	0 6	1 6	Plums, ½ sieve	1 6	3 6

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces ..per dozen	2 0	
Cabbages ....per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton ; Kent Kidneys, 80s. to 100s. per ton ; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	2 0	4 0
Anemone, 12 bunches			Marguerites, 12 bun.	2 0	6 0
Arum Lilies, 12 blms.	2 0	6 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	2 0	6 0	Pelargoniums, per 12 sprays	0 6	1 0
Azalea, 12 sprays			— scarlet, 12 sprays	0 4	0 6
Bouvardias, per bun.	0 6	1 0	Pinks, various, 12 bun.	1 0	4 0
Camellias, 12 blooms.			Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.		
Carnations, 12 bunch.	2 0	4 0	Pyrethrum, 12 bun.	2 0	4 0
Cornflower, 12 bunch.	2 0	4 0	Rhodanthe, 12 bun.		
Cyclamen, 12 blooms.			Roses (coloured)	1 0	2 0
Cineraria, per bunch.			Roses (indoors), doz.	1 0	3 0
Day Lily, 12 bunches.			Roses, per doz. bun.	2 0	6 0
Epiphyllums, 12 blms.			Spiræa, 12 bunches		
Eschscholtzia, 12 bun.			Stephanotis, 12 sprays	3 0	6 0
Eucharis, per dozen	3 0	6 0	Stocks, 12 bunches	2 0	4 0
Gardenias, 12 blooms.	2 0	5 0	Sweet Peas, 12 bunch.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Sweet Sultan, 12 bun.	4 0	6 0
Lapageria, white, 12 blooms	2 0	3 0	Tuberoses, per dozen.	0 4	0 6
Lapageria, red, 12 blms.	1 0	2 0	Tulips, per dozen		
Lavender, 12 bunches	4 0	6 0	White Jasmine, bun.	0 6	0 9
Lilium candidum, 12 blooms			Woodroffe, 12 bunches		

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	24 0	Genista, per dozen		
Arum Lilies, per doz.			Heaths or Erica, var., per dozen		
Asters, per doz.	4 0	6 0	Hyacinths, per dozen		
Azalea, per doz.			Hydrangea, per dozen		
Balsams, per dozen	3 0	6 0	Ivy Geraniums, per dozen	3 0	6 0
Begonias, per dozen	4 0	12 0	Lilium longiflorum, per dozen	18 0	36 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen	9 0	12 0
Calceolarias, per doz.			Marguerites, per doz.	6 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Deutzia, per dozen			Petunias, per dozen		
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.		
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen	3 0	9 0			
Foliage Plants, various, each	2 0	10 0			

SITUATION WANTED.

ORCHID GROWER or ORCHID and PLANT GROWER.—Advertiser would be pleased to communicate with any lady or gentleman requiring the services of a good practical man having had twelve years' experience in the above capacities.—Address G. CYPHER, F. Sander & Co., Orchid Importers, St. Albans.

SHOW.

THE GRAND NATIONAL POTATO EXHIBITION will be held at the CRYSTAL PALACE, Sydenham, London, S.E., on October 7th, 8th, and 9th, 1885.

For Schedules and particulars apply to P. McKINLAY, Headley Lodge, Croydon Road, Anerley, S.E.

Entries close on September 30th.

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 19, 1885.

FLORICULTURAL ACTIVITY.—One remarkable instance of this is the large number of announcements of Chrysanthemum shows to be held during the month of November. They appear to be springing up on every hand, indicating that the culture of the Chrysanthemum is spreading rapidly and widely. It is impossible to have a Chrysanthemum show without flowers, and flowers represent growers. It is not only in the towns, large and small, that exhibitions of this popular flower are to take place; but the country villages are found holding their Chrysanthemum festivals, gilding the departing autumnal months with some of the warmth and colour afforded by the summer season. The cottager, in common with the denizen of the great city, and the gardener at the spacious park lying between these two, alike can exhibit their prowess, and gain some degree of honour.

Is it because the Chrysanthemum carries on to the end of the year something of the full flush of the glory and beauty of the summer, that men and women take to it with such a keen zest, as if willing that it should be with them as long as possible, until the parenthesis of winter comes in to bury it all in the slumber the repose of that dreary time brings with it? The poet has put into passionate verse something of this feeling of clinging to what must yet pass away for a time:—

"Aye! we must part. The boughs will soon be bare,
Or covered with the soft, smooth, silent snow.
Hushed is the blackbirds' singing. Long ago—
Far off, the days seem since the swallow came.
Spring spread her robe of green; the summer's flame
Deepened to autumn's crimson. Still the same
Change presses forward, and our cry is vain.
Linger a little. Oh! remorseless Time,
If prayer could stay thee or entreaty bind,
What worship would be thine!"

In private gardens, also, where no exhibiting is done, the growth of the Chrysanthemum has greatly increased. In these days, when cut flowers are so largely employed for decorative purposes, and when no social gathering appears to be complete without some gay blossoms to give effect to the festive board, the Chrysanthemum comes in with the late summer months and fills up an enormous gap; and by the introduction of late-blooming varieties, it is now possible to have blooms as late as the end of January. Indeed, the flowering season of what we may call the queen of autumn now extends over a period of six months, rivalling, if it does not surpass, the Rose in the duration of its valuable floral service.

The success which has attended the National Chrysanthemum Society is an indication of the widespread regard for the flower it particularly cherishes. Some of its staunchest friends doubted the wisdom of the step which converted it from a local into a national institution; but the step was a wise and far-seeing one. It has operated to galvanise into newer and freer life some societies that had fallen away into a state of decay presaging death; it has called into existence new societies by the dozen; to these, by means of its liberal scheme of affiliation, it lends valuable assistance. Its annual exhibitions at the Royal Aquarium have greatly popularised the flower, and the result is gain—great and decided gain. The medals of the National Chrysanthemum Society figure in the schedules of prizes of societies affiliated with it; their possession is a greatly coveted honour. There is a large demand for Chrysanthemum plants, and nurseries devoted specially and almost, if not quite, solely to their culture spring up. Raisers are encouraged to produce new varieties, and a good one is instantly seized upon and its praises proclaimed. Chrysanthemums rob the winter of half its terrors and dulnesses, and almost joins autumn to spring. May the flower flourish! May societies to encourage its culture, and exhibitions of plants and flowers increase. So shall communities be gladdened, and human hearts made happier, and men become knit together by a common bond of interest, having their energies stirred by a desire to excel and conquer; and their spirits refreshed by the contemplation of natural beauties heightened into larger scope of excellence by the craft and skill of the cultivator.

GARDENING MISCELLANY.

Mr. John Green, lately gardener at Wilmington Hall, Dartford, has been engaged as gardener to J. B. Lee, Esq., Sonning, near Reading.

Picea nobilis.—A Kentish correspondent writes:—"I have to-day, cut a branch of Picea nobilis, with ten cones on it, all in a cluster, about 2 feet in circumference. I never saw anything like it before.

The Chrysanthemum Show in the Temple.—The annual exhibition of these pretty winter flowers in the Inner Temple Gardens will be opened to the public about the middle of next month. This exhibition will be held as in former years in the spacious glass house erected in the gardens for the purpose, facing the Thames Embankment.

The proposed Scottish Gardeners and Foresters Mutual Benefit Association.—At the annual meeting of the Scottish Arboricultural Society, held in Edinburgh last month, an interesting discussion was raised by Mr. Dunn, of Dalkeith, as to the share the Society should take in establishing a Mutual Benefit Association for arboriculturists and horticulturists, specially in the northern part of the kingdom. Mr. John Methven who had been taking a very warm interest in this movement, testified to its need from a lengthened personal experience of the class, whom it was proposed to combine together for their mutual benefit. Some members thought that foresters and gardeners were mostly connected with similar institutions already in operation amongst the working-classes. On the other hand, it was generally agreed that cases of distress were all too rife, from the Scottish working-classes being too independent even to look for such mutual aid as this was solely proposed to be. It was ultimately agreed to request the Council to consider the matter in all its bearings, and to formulate a scheme of action by the Society to be considered at the next annual meeting.

Illustrated Bulb Show Tickets.—A sample of these has been sent to us by Messrs. Hooper & Co., Centre Row, Covent Garden. They are in the form of tunnel-shaped cards, illustrating in colours the flowers of the bulb offered—in most cases of the natural size. The one we have seen, a group of Ranunculus, is remarkably good. They are intended for florists and seedsmen, and it is believed that by their use the windows of bulb dealers will be transformed from their present dullness into interesting and instructive sights. They are not only highly ornamental, but also durable and cheap, for with care they can be made to last several years.

Ealing, Acton, and Hanwell Horticultural Society.—As this society this year celebrates its twenty-first anniversary, having held its first show in 1864, it has been arranged that the exhibitors at the society's meetings shall dine together at the Lyric Hall, Ealing, on Wednesday, September 23rd, under the chairmanship of Mr. Richard Deau, the hon. secretary, who has filled this important post for the space of ten years. It is not often that opportunities are offered for gardeners of all classes—nurserymen, amateurs and cottagers—to meet together in pleasant social intercourse; and it is not matter for surprise to learn that a large number will be present on this particular occasion. The president of the society, the Right Hon. S. H. Walpole, will be present, and several of the leading gentry who support the society.

Gardeners and the Franchise.—At the Revising Barrister's Court, held at Acton, on Tuesday, the Conservatives objected to a number of claims made by servants at Gunnersbury House. Mr. Roberts, the head gardener, stated that two of the applicants occupied separate and distinct lodges, and the terms of their service required that they should be continually on the premises. Another claimant had four rooms above a coachhouse, to which an outside staircase gave independent access; and a fourth, a gardener, occupied, with four others, a building in the gardens, but had a bedroom exclusively for himself, and exercised a general supervision over the premises. The Revising Barrister admitted all the claims.

Melon Culture at Harefield Grove.—In Mr. Webster's extensive plant and fruit growing establishment at Harefield Grove, Mr. Gough has recently planted no less than 1,200 Melon plants for a early winter crop, 1,000 of them being of one variety only, the New Harefield Grove, which Mr. B. S. Williams will send out next spring. This Melon has been before the Fruit Committee on one or two occasions, but failed to get a certificate, yet it is one of the most prolific and best flavoured varieties in cultivation. It has a smooth yellow skin, white flesh, of a delicious flavour, and averages in weight from 3 lbs. to 4 lbs. Moreover it commands the top price in the market, and that speaks volumes in its favour.

The National Pear Conference.—The Committee who have charge of the arrangements for this forthcoming event, have issued a form to be filled up by exhibitors, giving information as to the number of varieties exhibited, the situation where grown, aspect, and amount of shelter, the character of the soil and subsoil, &c.; and a selection of varieties most suited to the district, arranged for the following seasons, viz., July and August, three varieties; September, three varieties; October, six varieties; November, six varieties; December, six varieties; January to March, six varieties: a selection of varieties suited for orchard cultivation, not exceeding twelve; a selection of stewing pears, four varieties; and general remarks as to modes of cultivation, pruning, stocks, &c. A neat show card is also being issued, on which exhibitors are requested to write the name of the variety shown, its season, average fertility, stock, and description of the tree. At the close of the exhibition, the cards will be collected and retained by the Committee for future reference.

An Octogenarian Nurseryman.—On Monday, Sept. 7th, Mr. Wm. Barron, senior partner in the well-known firm of Wm. Barron & Son, Elvaston nurseries, Borrowash, reached the ripe age of eighty years. Mr. Barron is esteemed, not only as a business man and a large employer of labour, but also by reason of his interest in one of the great social questions of the day,

he having been a prominent advocate of the temperance cause for a great many years. On the date named, there was a pleasant gathering at his residence, when sixty-five employées and friends were entertained to an excellent dinner, and during the course of the proceedings they showed their goodwill towards their venerable host by hearty congratulations, and the presentation of a handsome armchair. This was accompanied by an address complimentary to Mr. Barron as an employer, and expressing the hearty wishes of all the signatories for his continued good health and activity. The time of the guests was agreeably spent in the inspection of the grounds, conservatories, &c., and later in the evening tea was provided, and Mr. Barron took the opportunity in responding to the greetings which he had received of giving a most interesting sketch of his long life, taking care to inculcate the advantages to be derived from temperance.

American Florists and the Flower Trade.—At a recent gathering of American florists at Cincinnati, the president, Mr. John Thorpe (formerly of Stratford-on-Avon) is reported to have stated that 24,000,000 cut Roses were sold last year; Carnation flowers, he thought, would reach 125,000,000; 200,000 dollars represent about the amount paid the Dutch last year for Hyacinths and Tulips; 700 people are supposed to be engaged in selling florists' supplies, and there are probably 2000 cut flower sellers. Florists have grown four-fold in ten years. Catalogues have increased five-fold; these make trade for those who do not catalogue. 'Florists are the most generous of human beings. Few people give so much of their ware to public institutions as florists. Still, it was a generosity that paid by the increase of floral taste. There were 2000 first-class gardeners in the United States, and thousands of amateurs without professional help."

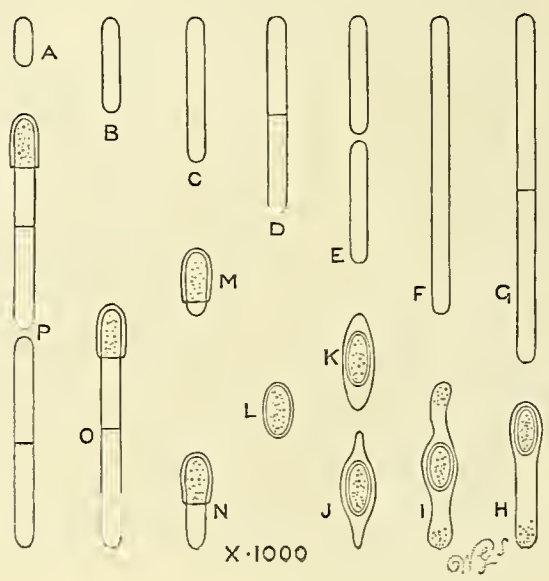
Hydrangea paniculata grandiflora.—This is probably the finest member of the genus, and certainly one of the best late summer-flowering deciduous shrubs with which our gardens may be beautified. When it is stated that a single truss or panicle of its white flowers often measures from 12 to 18 ins. in length, and that it is not unusual for old plants to produce from thirty to fifty such trusses, the value of the plant as a flowering shrub at once becomes apparent. We have seen fine specimens similar to those above noted literally borne down by the great weight of their broadly-shouldered panicles of pure white flowers. It is an excellent plant among shrubs generally, or planted here and there among Rhododendrons, and deserves a far more extended cultivation than it at present obtains.

The International Potato Exhibition.—This annual symposium of potatos will soon be here again, for the autumn is creeping onwards rapidly, and in about eighteen days the gathering will commence. This year, as last, the show will extend over three days, but as no practical inconvenience was then found, doubtless none will present itself this year. Those of our country friends who come up to town to exhibit, get a day longer, it is true, but they can, doubtless, find many methods of usefully employing the time. Arising from various causes, some material alterations have been made in the schedule, specially in the direction of limiting the number of classes into which any one exhibitor may enter, as it is thought, the not unfrequent sweep made by one or two competitors of all the best prizes, has a detrimental effect, and can hardly be regarded as otherwise than injurious to the best interests of the shows. A consolation class with good prizes attached, for any competitor who has never yet taken a first prize at any of the shows, will perhaps help to bring a few new ones into the field. On the other hand, the disappearance from the schedule of the most valuable prizes invariably offered by a leading firm will provoke surprise, but it is stated that the conditions under which such prizes were offered, this year were such as the committee, in justice to other trade houses, could not agree to. Certainly, in matters of this sort, it is a pity any kind of conditions should be affixed, as they materially detract from the merit which otherwise would attach to the prizes. Possibly the existing difficulty may be more amicably arranged next year, but it is very evident that the show is altogether wanting in breadth of management, and should have a more fully representative basis; if that be not provided it must soon die out. It is satisfactory to learn that, in spite of the dry season, growers are turning out very fine clean samples, and it is anticipated that the show will, in the matter of exhibits, display good average quality.

WET-ROT IN POTATOS.

(Bacillus Amylobacter, Van Tieg.)

Every intelligent gardener who reads something of the current literature of the day must be more or less acquainted with two subjects. The first is the wet-rot of Potatos. When Potatos are lifted, it often happens that certain examples are quite soft, and filled with a white, filthy, putrid, sour-smelling, creamy liquid. Sometimes stored Potatos fall into the same loathsome and offensive condition. All gardeners by personal observation know only too well the sickening wet-rot at sight. The second subject is probably known only by hearsay, or by reading; it is the "germ theory of disease." It relates to highly microscopic organisms, chiefly termed Bacteria and Bacilli. A great number of very eminent men of science believe that many diseases of plants, as well as of men and other animals, are caused by the presence of the almost inconceivably minute fungi named Bacterium, Bacillus, &c. It is hardly likely that working gardeners have seen these minute objects in a living state; indeed, they are almost unknown to many regular workers with the microscope, for the reason that many of the parasites are so minute, that ordinary high powers of the microscope hardly show them at all. For their observation the very highest powers must be used, in conjunction with the very best arrangements for light, for if the best microscopic glasses are used, without the most critical lighting, very little can be done. The fungi to which we refer, however, easily take up stains;



a perfectly transparent fungus can be easily stained purple, red, or brown, and so be made more visible.

One of the most eminent and justly respected botanists of the present time, Van Tieghem, says that the wet-rot of Potatos is caused by a micro-organism named Bacillus Amylobacter. The name Bacillus is derived from the Latin word, *Bacillum*—a little staff. Amylobacter is derived from the Latin *Amylum*—starch, and *Bactron*—a staff or cane, hence Bacterium. The name really means, the minute rod or bar-like fungus which attacks starch. The Bacillus of wet-rot at certain times contains starch in its cells; the existence of starch is proved by the iodine test.

The accompanying illustrations show form and mode of increase of the Bacillus of wet-rot in Potatos. The drawing is enlarged to 1,000 diameters—a very high scale of magnification. It will be better understood when we say that two millions of the real objects could be placed side by side upon one side of the young Bacillus as seen magnified at A.

The illustration above at A shows an infant rod, cell, cylinder or bladder of Bacillus Amylobacter; it quickly grows in length to the sizes shown at B and C. When the length of D is reached, a joint appears across the middle as shown, and the single rod then breaks up into a pair of rods as shown at E, and each of the newly formed pieces grows to the size shown at F; when the size of G is reached, another joint is formed across the middle, and two new rods are again speedily set free. The Bacillus thus rapidly increases in number by division over and over again repeated. After the process of division has gone on for a considerable time, a large colony of Bacilli is formed (termed by botanists a zooglœa). This colony often excretes a slimy gelatinous hyaline material, and this material holds together the colony of living rods in one mass. The colony, or zooglœa state, is a resting, and not an actively vegetating state. In this latter resting state, the rods change their form as at H, I, J. and K, these new forms each enclose a strongly refringent dark coloured roundish or oval spore or seed as shown. At length the spore frees itself from its investing membrane, and exists as at L, its old membrane or rod having perished. The spore now begins to swell and germinate, the basal part opens as shown at M, and the inner material protrudes; further protrusion is shown at N. On reaching the length shown at O, a joint is formed across the middle, and then a new series of rods is commenced. These new rods now go on increasing in size, and forming new joints and individuals, till other series like A, B, C, D, E, &c., are produced, and so the process goes on indefinitely.

When the wet, rotten, creamy, or pasty material taken from Potatos destroyed by wet-rot is carefully examined, this highly microscopic and curious fungus named Bacillus Amylobacter, is invariably found in prodigious quantities.

A highly important question in regard to the fungus before us, is whether the Bacillus is capable of starting wet-rot in sound Potatos, or whether it is a mere accompaniment of putrifaction. The fungus is sometimes seen in apparently healthy plants, but it is far more common in decayed plants and vegetable material in a state of putrescence. It is a well ascertained fact, that the Bacillus often works in company with the common potato fungi named Peronospora infestans, and Fusisporium Solani, two fungi which are remarkable, the first for setting up putrescence, and the other for greatly accelerating it. The Peronospora it is evident often starts the putrescence which is favourable to the Bacillus. The Bacillus in turn is of such rapid growth, and is such a powerful ferment, that it not only destroys the Potato tuber, but it kills both the Peronospora and Tusisporium.

The following facts, however, appear to be certain, when the Bacillus rods have a surrounding of water, they can attack the cell walls of the potato tuber and cause them to swell and dissolve. By this process the Bacillus sets free the starch granules of the potato, and these granules are in turn invaded and disintegrated, and so the soft putrid condition of the Wet Rot is brought about.

As the creamy putrescent mass within diseased potato tubers destroyed by Wet Rot swarms with the living rods and spores of Bacillus Amylobacter, and as these rods and spores can break down cellular structure and destroy starch, it follows as a consequence that the disease is highly infectious, especially in damp positions. The evidence appears to entirely point in this direction, although it is possible that future and more searching observations may modify or somewhat alter our ideas as to the Bacillus being the *sole cause* of wet-rot. The common potato fungus, Peronospora infestans, it is well known can both break down vegetable cells and injure starch.

Wet-Rot is common in the "pies" or pits of some districts, the fungus is kept alive and in good condition by the warmth and humidity of the pit, the moisture necessary for the fungus is supplied by the gradual percolation of the rain. When the spores of the Bacillus are once formed, they are capable either of immediate germination or of remaining in the ground in a living state for a long time. It is said that the spores can remain in a resting state in the ground for years, and then on the advent of favourable conditions germinate and resume active vitality. Dr. E. Klein says, the hyberuation of the spores can be prolonged for such a time, that there is no reason to assume that these periods "have any limit, it makes no difference whether they are kept dry or in the mother liquid." It will be seen from a consideration of these facts how highly necessary it is, where possible, to destroy by burning all potato tubers infected with wet-rot, for to merely throw the creamy or watery mass on the ground is one of the most certain means of preserving the existence of the fungus.

Bacilli, in the rod condition, are killed by drying, they cannot reproduce themselves in any dry place, or in, or on, any dry substance. They propagate in damp ill drained places and amongst wet and decaying refuse. The course to be taken by the practical potato grower, to prevent attacks from the Bacillus, is therefore

obvious, the ground must be properly drained and no stagnant moisture or decaying refuse should be left about.

Although the rods of Bacilli may be killed by drying or in boiling water, it is known that neither drying or moderate boiling will kill the spores of these pests. The spores of Bacillus subtilis, when placed in boiling water for a short time, are merely excited to a more speedy germination. A moderate immersion in boiling water does them no harm. An hour's boiling will, however, cause many to die, and two hours' boiling is sufficient to cause general death. Heating the spores to 80° C. is more fatal to them. Dr. Klein says, the great resistance of the spores "to low and high temperatures, to acids and other substances, is due to this, that the substance of each spore is enveloped in a double sheath; an internal sheath, probably of a fatty nature, and an external one, probably of cellulose; both are very bad conductors of heat." Freezing kills the rods or cylinders of the Bacillus, but it has no effect on the spores.

The evidence as to Bacteria, Bacilli, &c., being the true cause of disease is much more conclusive in some instances than others. There can be no doubt that in some cases mistakes have been made. The mistakes of masters and original investigators are, however, always excusable. In exploring new ground, explorers cannot be expected to be always right in their view; and it never follows, that because an observer has expressed a certain opinion one day, that he must have exactly the same opinion that day twelve months.

The subject of the germ theory of disease has been brought into undeserved disrepute by the little professional teachers, who copy what other people have said, and put the observations down as their own, or as the observations they have "confirmed." A master often changes his opinion; but a confirmer never—he sticks to his blunder till the end; having "confirmed" something he must stick to it, or his stock-in-trade will be gone, and his "confirmation" looked upon as —not to put too fine a point upon it—a fiction.—*W. G. Smith, Dunstable.*

PLANTS FOR FORCING—BULBS.

The demand for winter flowers increases yearly, and has now attained to such a magnitude, that the cost of production forms, in many establishments, one of the most important items connected with the garden expenses. It would be impossible to state what the amount of money is, which we in this country expend annually to gratify our innate love of flowers; but for such as we are now more immediately concerned with, it must amount to many thousands sterling.

Bulbs are now so cheap and so easily grown, that they need no longer be regarded in the light of being within the reach of the opulent or well-to-do classes only; of course, they may very easily be made an expensive luxury, to do so, is merely a question of quality and quantity, at the same time, our artizans, mechanics, and fairly well-to-do cottagers may grow for themselves and enjoy such things as Hyacinths, quite as easily as those who are more favourably circumstanced in regard to riches and conveniences for growing them. This brings us to the more practical part of our subject, which will deal mostly with cultivation, and the selection of species and varieties.

Hyacinths.—To produce large handsome spikes, these require liberal treatment, and they will well repay any extra attention they may receive at the hands of their cultivator, providing it is of the right kind. The following compost, if the best results are desired, should be employed, viz.: two parts good turfy loam, rather of a rich and light texture than otherwise, one part of well decayed cow manure, and one part of coarse silver sand, and a little leaf mould may also be added, if the loam is of a calcareous nature. The whole should be chopped up fine, and well turned over two or three times, taking care to pick out all the worms; the turf should, if possible, have been stacked up for at least six months previous to being used. Although we recommend this mixture as a suitable compost, it must not for a moment be supposed to be a *sine qua non*, or that bulbs will not thrive in a material differently composed; in many instances, as we ourselves know from experience, turfy loam is most difficult to obtain, and where such is the case, ordinary garden soil or road scrapings mixed with well decayed manure, leaf mould and sand will do, and with good after attention, very presentable flowers may be grown.

The pots should be clean, and of a size usually known as 4 in. and 5 in., but if they are to be grown for exhibitions, 6 in. are the best; the smaller size pots will require one crock only as drainage, to be placed the hollow side downwards, whilst those of the 6 in. size will be all the better for a few additional small ones. When potting fill the pots full of soil, and press it down moderately firm, make a small cavity in which to place the bulb, and draw the soil up to the latter so as to half cover it. Some little judgment must be exercised in potting, for if the soil is pressed down too firmly, the roots will force the bulbs either on one side or clean out of the pots, and if it is made too loose, they will not thrive so well as they should do; from this it becomes obvious that the "happy medium" is the great point to be aimed at in potting.

When potted, they should be stood outside on a bed of coal ashes, and covered over to a depth of 6 or 8 in. with the same material, here they may remain for some few weeks, by which time the pots ought to be filled with roots, and the flower spikes just making their appearance. As regards the time of flowering, that is a matter which concerns more immediately those in charge, and depends entirely on the time of potting and subsequent treatment in artificial heat. We may, however, here remark, that they should not be taken from outside and put in a high temperature, they must be gradually inured to both more light and heat, as to resort to extremes would be to court failure. If wanted

CHIONODOXA LUCILIÆ.

to flower at Christmas, they should be potted this month, and for succession a month later, but if a long succession is required, a batch should be potted every two or three weeks from now to the beginning of December. The following will be found

A good selection of Hyacinths.—*Single Red.*—Amy, Charles Dickens, Fabiola, Garibaldi, Gigantea, Homerus. King of the Reds, La Superbe, Lady Palmerston, Lina, Macaulay, Mrs. Beecher Stowe. *Single White.*—Alba maxima. Avalanche, Baroness von Thuyll, Grande Vedette, La Franchise, L'Innocence, Madam van der Hoop, Miss Nightingale, Mont Blanc, Princess of Wales, Queen Victoria, Snowball. *Single Blue.*—Argus, Baron von Thuyll, Blondin, Charles Dickens, De Candolle, Duke of Connaught, General Havelock, Grand Lilas, King of the Blues, Lord Byron, Lord Derby, Prince of Wales. *Single Yellow.*—Anna Carolina, Bird of Paradise, Due de Malakoff, Ida, King of the Yellows, La Pluie d'Or, L'Interessant, Obelisque, Primrose Perfection, Prince of Orange, Rowland Hill, Tamerlaine. *Double Red.*—Bouquet Royal, Bouquet Tendre, GrootVorst, Koh-i-noor, Lord Wellington, Louis Napoleon, Peabody, Prince of Orange, Princess Dagmar, Princess Louise, Regina Victoria, Sans Souci. *Double White.*—Anna Maria, Bouquet Royale, Florence Nightingale, Jenny Lind, La Tour d'Auvergne, Lord Derby, Madame de Stael, Prins van Waterloo, Princess Louise, Sceptre d'Or, Venus, Virgo. *Double Blue.*—Bloksberg, Charles Dickens, Garrick, Laurens Koster, Lord Raglan, Louise Philippe, Murillo, Prince Alfred, Purple Prince, Richard Steel, Thomas Moore, and Van Speyk.

Roman Hyacinths.—Where these are required very early they ought to be potted without delay, five bulbs to be placed in a 6 in. pot, and, like the preceding, they should be placed outside, and covered with ashes until the pots are fairly well filled with roots. Wherever these are esteemed, the blue as well as the white variety should be grown; and will be found most useful for decorative purposes.

Narcissus.—These require much the same kind of treatment as the foregoing, placing from four to six bulbs in a 6 in. pot, according to the size of the bulbs. Those of the Polyanthus type will be found much the best for forcing, and for this purpose the following varieties are perhaps the best to grow, viz., Bazelman Major, Early Paper White, Gloriosa, Grand Monarque, Her Majesty, Jaune Supreme, Lord Canning, Newton, Princess of Wales, Soliel d'Or, States General, White Pearl. Of Jonquils, the best will be found in Single Sweet Scented, and Queen Anne's double.

Tulips.—Similar treatment to the above will be found to suit these, but in regard to size of pots, we would say that 4 in. is plenty large enough, putting five bulbs in each. No collection of spring-flowering bulbs can be said to be complete without a good selection of these pretty and useful flowers. It is unnecessary to give a lengthy list of these, suffice it to say that all the Duc van Thol's are worth growing, and force very well, as also do the following:—Pottebakker, scarlet, white, and yellow.

Crocuses should always find a place amongst forced bulbs, and for pot culture we commend, Albion, Golden Yellow, King of the Blues, Othello, Queen Victoria, and Sir Walter Scott; 3 in. pots are best for these, and from six to eight bulbs may be put in each. Of miscellaneous bulbs for small pots, Scilla Siberica, S. bifolia, S. campanulata alba, Tritelia uniflora, and the blue and white Chionodoxa Luciliæ (see illustration), may be named as deserving every attention.—*J. H.*

(To be continued.)

NOTABLE TREES AT WHITTINGHAME.

Amongst the many fine trees and shrubs which abound in the beautiful grounds of Whittinghame, East Lothian, the property of A. J. Balfour, Esq., M.P., we noticed on a recent visit a handsome specimen of Araucaria imbricata, bearing eight female cones, each as large as a cannon-ball. This tree like most of the Conifers at Whittinghame, was in vigorous health, about 40 ft. in height, and clothed to the ground with healthy branches. Not many yards distant stands, perhaps, the most remarkable tree of its kind in Britain, viz., a gigantic specimen of the "Swamp Gum Tree" of Australia (Eucalyptus viminalis), quite the dimensions of a forest tree. The tree in question was planted in 1846, and was brought as a seedling from Australia by a member of the family. It grew rapidly in its new home until the memorable winter of 1860-61, when it was cut down to the ground by the severe frosts which prevailed during that winter. During the following summer it broke away into four limbs, which have now reached a height of about 60 ft., forming a tree of a novel and striking character. The girth of the stem below where the massive limbs project is nearly 12 ft., and the branches are laden with flowers and an abundance of last year's seed-vessels.

The question arises, how has this gigantic Eucalyptus escaped uninjured during the severe winters which have occured since 1860-61? Is this a hardier species than others which have been tried in this country, or has the constitution of the tree become hardened by acclimatization? Mr. Garrat, the able and intelligent head-gardener at Whittinghame, furnishes a more satisfactory explanation regarding this matter. He states that during severe seasons, when his neighbours' thermometers register below zero, not more than 24° are registered at Whittinghame. The presence of such handsome specimens of Cupressus funebris and Picea Webbiana, the latter at least 50 ft. in height and bearing numerous cones, abundantly testifies to the mild and genial nature of the climate at Whittinghame.

There is here also a venerable Yew tree of enormous dimensions. The stem is a little more than 10 ft. high, to where the branches are given off, the circumference being nearly the same. The branches, however, have a radius of about 100 yards, many of them having now become rooted into the ground, thus forming an immense bank of the densest foliage, and completely covering the raised knoll, on which the tree is planted. Tradition loves to linger round most of the old Yews in this country, and the venerable tree at Whittinghame is no exception. The story runs that Bothwell and the other Scottish nobles opposed to Darnley, the husband of the ill-fated Mary Queen of Scots, repaired to the sequestered shade of this very tree, where they formally entered into a covenant to compass Darnley's death. Be this as it may, the tree is certainly old enough to have rendered this possible.—*R. L., in Forestry.*

SCOTTISH GARDENING.

NOTES ON MELON CULTURE.—Judging from the quantities of Melons which are grown in gardens, it is evident that this very useful fruit is more extensively cultivated than it was some years ago. During the last two years we have seen some very successful Melon culture, and while Melon houses are more numerous now then they used to be, we have seen excellent fruit grown in frames, plant protectors, and in ordinary low pits, and in the latter with little or no artificial heat. While we believe in having a full command of heating power in all structures where exotic and tropical plants especially of any kind are grown, it often appears to us that the heating power is sometimes abused. Draughts of front air, and a fierce fire heat going at the same time are some of the evils most prejudical to forcing, either fruits, flowers, or vegetables. When fruit is ripening, with the leaves hard and firm, they are capable of resisting injury in a manner that tender young foliage cannot do. Front air can then be given with less caution or dread of injury. Fire heat and cold air entering structures at the same time, are fertile causes of destruction to plant life. It gives cause for surprise to many why such unnoticeable practices should be so prevalent, while common sense suggests that they are antagonistic to sound reasoning.

We do not know any plants which are more susceptible of injury from such untoward treatment than Melons. This is, however, very different from the Melon plants which are prepared, planted out, and grown on the safe "old school" system, which allowed a minimum of heat and a maximum of air, as compared with the expeditious practice so common with some modern cultivators. There is such a multiplicity of methods adopted to grow Melons, that it is difficult for amateurs or young beginners to learn a general system from reading works on Melon culture. Circumstances very often have to dictate the course of procedure; some have most efficient means to grow early, mid-season, and late supplies, and others can only do the latter.

The first fruit we consider from the beginning of April to the end of May. The second from the first of June to the end of July, and the third from the first of August to December. There are several classes of Melons which should be chosen for early supplies, amongst which may be named, Beechwood, Golden Perfection, and Davenham Early, an early kind which was raised at Davenham Bank, near Malvern, a well managed place where we have seen very fine early crops. There are some of the scarlet-fleshed kinds which are very easily grown, and come in remarkably early with very moderate forcing, but many of the kinds familiar to us in our youth have disappeared from cultivation, and they have not been supplemented by others of superior merit. Melons too, like Potatos have been swept out of existence by the disease too well-known in many parts, and which has given rise to so much difficulty and vexation to many a clever cultivator, whose most ingenious inventions have failed to combat the enemy, which has often devastated many a well filled Melon structure.

We do not refer to the disease which attacks the stem at the collar immediately above the soil, but that which we think emanates from an attack on the roots, which become knotty, and cease to perform their functions. The leaves become blotchy, as if scorching had taken place; and often, before the crop is well set, suddenly collapse. We have noticed the worst cases, when the plants have been extra vigorous, and in what would be considered first-rate condition. Examples of the disease have developed before the foliage was well formed. In some districts it has never appeared, while in others it often has been so prevalent, that growers have become discouraged, and have ceased to cultivate Melons. The system of culture which we have seen resist this disease most, has been by planting and fruiting the plants in pots, or confining them in narrow brick beds, so that the soil becomes a mass of fibre, wiry and tough like thread, depending a good deal for support from applications of liquid manure, or small surfacings of artificial manure well incorporated with a small portion of healthy loam pressed firmly on the surface of the pots. Charcoal is invaluable for root formation, and, we think, an excellent antidote to disease.

Though we never at any time suffered much from this, we have not been quite exempt from it. While we write, we can see traces of its work, and believe that if the roots could ramble out into deep soil, and form large corpulent feeders (instead of being confined in a trough of solid loam, with some vine manure in it), the disease would do irreparable mischief. Last year, in our Melon house, as well as in pits and frames, the disease became very prevalent, and gave much trouble. Rather dry airy treatment warded off its power of totally destroying the foliage. When there are not plenty of healthy leaves on the plant till the fruit is ripe—or at least changing to ripeness—Melons are nauseous, and worse than useless. We fear there is a deal of this defoliating of the plants, by some cause or other, before the fruit has approached near enough to ripeness. We write advisedly, as when judging at exhibitions, we can often with difficulty find out enough of specimens which are worthy of the prizes offered. A tasteless Melon, though ever so beautiful, is one of the most useless of vegetable productions. Odour, is said by some, to guide the senses when Melons are being judged; but we never at any time could accept this as really sound practice. Often has a delightful odour been supplemented by abominable flavour. Some kinds which have a thin but hard leathery rind, do not emit (but very sparsely) any aroma. We have witnessed more of this lately than usual. Another argument against the non-cutting practice is, that scarlet fruits are often exhibited for green-fleshed, and *vice versâ;* such cannot be determined without the use of the knife. Some kinds have very thin skins, with a great depth of juicy flesh, and little or no core in them; these are items of great moment while the judging is under weigh.

We read of success this season in some parts of England, where Melons have been grown in un-heated structures. In such warm seasons (in the south) as the past has been, such structures are the most suitable of all for mid-season crops, and up to the present time. Among the best looking and finest flavoured Melons which we have ever seen or tasted, were grown in the same district referred to. Just after the crops of early Potatos had been lifted, the ground was trodden hard and strong plants planted in May and June, watered, and kept close for a few days, till growth was astir, then the ordinary treatment was given, and capital crops matured with sun heat, and with no more trouble than one would give to ordinary Vegetable Marrows. Last season, here, Melons were excellent, which were matured in pits without either top or bottom heat; they were planted after late forced Asparagus and Potatos, only adding a little more soil, and treading the surface firm; then mulching firmly with old mushroom-bed manure after the fruit was set, to keep in moisture, and save applications of water. At the present time, a number of fair fruit are nearly fully swelled in a common frame, which has had no bottom heat in it since April; judicious airing, watering, and husbanding of sun-heat, does a deal in the absence of artificial heat.

Notwithstanding all the new names which have been given to what are said to be new Melons (and there have been really some good acquisitions made of late years), some of the old kinds of probably more than half a century's fame, are good ones at the present time, and wherever they are still in stock, the seed should be carefully saved and well managed. Those old hands who retain such kinds, are all good Melon growers. No Melons which we meet with can surpass them—The old Beechwood, Bromham Hall, and Golden Perfection, will compete with any Melons which we have tasted on exhibition tables, or elsewhere. It has sometimes seemed to us, that some of our old friends who have always enjoyed peculiar immunity from disease, could attribute their success to the system of cultivation that they pursued, and the retaining of kinds which have strong hardy constitutions. We can refer to the management of a remarkably successful neighbour, who has laboured for many years in the capacity of gardener and forester. For two seasons we have gone expressly to see his Melons; it cannot be said that he cultivates early Melons, for his means for raising plants are not well-suited. He has some plant protectors raised on a low brick wall, inside, a hot-water pipe runs round each, some leaves are trodden inside, and in the centre of the lights a pair of plants are placed, and an average of half-a-dozen, or more, large fruits, are ripened and cut from each light. The protectors are only about 4 ft. wide, they are probably less; the foliage, strength of stems, health and cleanness, is such as we never saw surpassed. The kinds grown, are, probably five or six, and simply named after the style of the fruits. We noticed, that little syringing, if any, is given, and not much damping of soil, except at watering time, when the roots have their supplies. Air is given early, and not taken off till danger from scorching is past, and evidently, an abundance of air is allowed during the day.

For many years we have grown Melons in pots, by placing a good sized pot on firm soil, and in this one half plunged the pots in which the Melons were growing, with plenty of room at the bottom for emission of roots. This plan has given us often supplies of fruit (both as to quantity and flavour) superior to any method we ever tried, and on no occasion have we seen disease of any kind under such a system. The cankering at the collar of melons generally arises from the same cause as canker at the collars of Heaths, Lachenalias, Daphnes, and many other plants, viz.: giving moisture freely on the surface and round the stems, while the main roots down in the soil were suffering from the absence of moisture. At Dunkeld, we lately observed a good contrivance for preventing the collars of Melon plants damping, tiles of circular shape, with holes in their centres, through which the melons (from their early stages of growth) are trained and bevelled, so that moisture is thrown off the stems, and no canker can attack them from damp at the stems. The crops of Melons, in various stages, at Dunkeld were very heavy, and the foliage good, likely to finish all the fruit in prime condition.

We might epitomise freely on numerous examples of Melon growing, most creditable to the cultivators, but to none could we consistently give greater credit than to our friend who gives so much satisfaction, by the fine supplies of fruit (sent to his employer's table), cut from simple plant protectors of the most unpretending description, such as we have already described, and probably this veteran (Mr. Mathieson, Kinnaird House, Stirlingshire) has had such uniform success for more than half a century. We have known many of the same school of cultivators, who have grown their Melons by similar means, and never failed in growing abundance of fine fruit, and disease (such as has given so much vexation to many of the best cultivators in the country) was never known. In the case of "old school" practice coddling is avoided, and there is no hard driving which is more haste than good speed.—*M. T.*

CAMELLIAS.

PREVIOUS to arranging Camellias for the winter they should be gone through and thoroughly cleansed. Scale is usually the most troublesome of insects that infest the Camellias, and where it has once got fairly established, it is very difficult to eradicate, but with care they may be kept down, and eventually eradicated, if constant attention is paid to them. In commencing operations, some insecticide should be prepared, and this may be a little stronger than is used for most other plants. A small brush is the best thing to use for the stems, leaf-stalks, &c., and this should be stiff enough to remove the scale, and the leaves should be washed with a sponge. After the plants have been gone over once, they should have a good syringing, and then be examined again to see that all the insects have been removed. Where the buds have set thickly, they should be thinned out before they begin to swell much.

POTTING.—There is some diversity of opinion with regard to the best season of the year for re-potting, some recommend the spring, after the plants have done flowering, but as the plants usually begin to start into growth almost before they have done flowering, and as disturbing the roots at that period is sure to retard the growth of the plants to some extent, we prefer re-potting in the autumn, after the buds are set, but before they begin to swell much, the plants will then have time to get well rooted into the new soil, and will therefore make more vigorous growth, than if disturbed just at the time when they are starting into growth. The compost for potting should consist of good fibrous loam and peat in equal parts, a liberal addition of cow-manure that has been previously dried, and then rubbed through a half-inch sieve, and a good sprinkling of sharp sand. The pots should be well drained, and the plants potted firmly.

After the plants have been potted, they must have careful attention with regard to watering; if the balls

are allowed to get too dry, the buds are sure to fall off, at the same time care must be taken, that they are not over watered, as this is equally damaging. The plants should also be kept regularly syringed, as they are very impatient of a dry atmosphere, especially after being out of doors where they will have had the benefit of the night dews.

Temperature.—From the time the plants are taken indoors, until they have done flowering, the temperature should be kept as low as possible, for the present; plenty of ventilation should be kept on night and day, and later on, when it is necessary to close the house, or to have a little artificial heat for the sake of other plants that are grown in the same house, care must be taken that the temperature is not allowed to rise sufficiently to excite the Camellias, or the buds will be liable to fall of. It is no uncommon thing for Camellias to drop their buds just as they ought to begin to swell, and the cause may generally be traced to either allowing the plants to become too dry in the pots, or keeping the house too close.—*H.*

The Amateurs' Garden.

THE GREENHOUSE.

The Violent Storm of wind and rain, and the cold chilly weather that has since set in brings home to us the fact that autumn is here, and that it is no longer safe to leave greenhouse plants out in the open, which being so, they should be carefully gone over, and the pots examined to see that the holes in the bottoms have not become blocked, previous to scrubbing and cleaning the same, before removing them into the house. That this may be in good order to receive other plants, the woodwork, stages, and glass ought to be washed, as cleanliness and light are very important, and that there be as much of the latter as it is possible to get during the dull season to come, it will be necessary to thin out all roof climbers, to let the life-giving element in.

Chrysanthemums.—The aim with most people who grow these highly popular flowers is to get the blooms large, which can only be done by disbudding and high feeding, the way to carry out the first-named being to rub out or break away all laterals or shoots that show up the main stems, except just two or three at the top, and on these the big blossoms will come.

Liquid Manure and Watering.—What tells against the strength and vigour of Chrysanthemums more than anything else is letting them get dry at the roots, as when reduced to that stage, they lose their leaves, and become mildewed, pinched, and starved in the bud. To prevent this they should be looked over daily, and thoroughly soaked through the ball, giving them dilute liquid manure three or four times a week, and after hot sunny days a sprinkling overhead with clean water, will do them much good.

Staking and Tying.—Although it is necessary to stake and tie the plants to afford them proper support, no more sticks should be used than are absolutely required; and these ought to be so placed as not to show, or be as inconspicuous as possible, as nothing looks worse, or detracts more from the appearance of the specimens, than to have the stakes bristling out all over their tops.

Begonias.—Tuberous-rooted varieties of these will now require less water and close watching, or they are apt to go off by rotting at the collar, and to prevent this, any that have done blooming should be kept almost dry and stood away in some cold frame, or other light airey situation, to ripen previous to storing them away for the winter

Gladioli.—Of the many bulbous greenhouse plants, few, if any, are more valuable than the different varieties of Gladiolus Colvilli, which being dwarf, small, and early, are well adapted for pot culture, the right time for starting with them being now, as the corms are dormant and may be sent through to buyers by post. As the roots are not nearly so large as the tall kinds, they may be potted five or six in a pot, the most suitable size for growing them in being 32's, and the proper soil sharp sandy loam, in which the corms should be pressed firmly, leaving the crowns just out at the top. The potting over, all they require after is a little water to give them a start, but they must not have more till they get into leaf.

THE FLOWER GARDEN.

Transplanting Evergreens.—Never, perhaps, were Evergreens in better order for transplanting than they are this year; the absence of rain for such a long time having checked exuberant growth, and caused that made to ripen and solidify, which being so, all plants of moderate size may now be moved with safety, but the sooner it is done the greater will be the success.

Expedition in Planting.—The great point in all planting operations is to carry the work out as speedily as possible, in order that the plants may not be long out of the ground, as when they are, not only do the roots suffer through being dried, but the leaves flag, and shrivel, and the bark contracts, after which a long time must elapse before the shrubs recover from the check, and get a fresh start. To prevent the evils referred to, the way to manage is to dig holes before lifting the plants, as then they may be carried straight away, and popped in at once.

Lifting with Good Balls.—In taking them up, the thing to be particular about is to secure good balls, which may be done by opening out a trench a fair distance from the stems, and then gradually removing the earth from among the roots with a fork, when any plants so operated on may be lifted with a moderate quantity of soil, and transferred to fresh positions without feeling much change. The thing to be particular about is spreading out the roots, that they may take their proper course, instead of being doubled up and crippled, as, when in that condition, the plants never do well.

Planting High.—Another important point in transplanting evergreens, is to see that their collars are not buried deeper than they were before, and in heavy wet lands it is better to have them even higher or above the ordinary level, and to make the ground up to them, especially if they happen to stand out alone, as then they show off to greater advantage.

Mulching and Staking.—Why plants so often suffer after being moved is, through not being mulched and staked, for, however well they may be watered at the time, the moisture soon evaporates during dry weather, and if the heads of the shrubs move, the roots cannot get hold. This being so, they should have some half rotten dung or litter placed around them, and be staked and securely tied, so as to prevent swaying, and keep them rigid, when they will quickly re-establish themselves.

Beds and Borders.—Autumn, windy autumn, is now upon us, and to be prepared for the gales we may now expect, all plants that have heavy tops, like Dahlias, &c., should be securely supported, or they will be broken down and spoiled. It is the practice with some to take the Gladioli up out of the ground as soon as they have done blooming, but the doing so is a great mistake, as the longer they remain where they are the better it will be for them while there is any life in the leaf, as the corms keep on growing, and ought to be allowed to ripen off of themselves.

Anemones.—These are lovely things, and come very early into bloom, the best way to get them being to sow seed in the spring, and plant out, but those who have not done so can obtain roots cheap, and should put them in at once, the most suitable situation for them being a warm sunny border, where, if they have light rich soil, they are sure to do well.

THE FRUIT GARDEN.

Vines Outdoors.—If half the skill and attention were bestowed on these as on vines growing under glass, much better results would be obtained, but instead of thinning and having their shoots regulated, they are left pretty much to themselves. As sunlight and air are necessary to ripen the fruit, all superfluous leaves and laterals should be removed that the bunches may be exposed to the solar rays, and if the weather again sets in dry, a soaking will be needed at the roots, which will enable the Grapes to swell to a good size.

Vines Indoors.—The most important matter in the management of young vines is to get the rods well ripened, and this can only be done by keeping plenty of air on the house, both night and day, and at the same time having a little heat in the pipes or flues to maintain a dry condition of the atmosphere, which will assist greatly in hardening the wood and plumping up the buds, when they will be able to start strong in the spring. Pruning: To insure this, and force as much strength into them as is possible, every shoot and lateral the vines have made should be removed at once, leaving only the main foliage up the sides of the rods, but taking every care of that in order that the buds may not be robbed of their support till it dies away and falls naturally later on in the autumn.

Vines in Fruit.—The treatment these require is to have a little warmth in the pipes during the night, and on all cloudy damp days, so as to keep the air buoyant and active, without which, moisture is sure to condense on the berries, and not only spoil the bloom, but cause the Grapes to rot in the skin. To prevent this, the ventilators should always be a little way open, which will help the circulation. and do much good to the fruit.

Peaches and Nectarines.—In cases where the roots of these are in inside borders, it often happens that trees suffer from want of water at this season, and when they do this, it is impossible for them to keep healthy, and free from red spider, so as to plump up their buds. Although it may seem useless to many to water after the Peaches and Nectarines are gathered, that is a time when it is of great benefit, as it much depends on keeping the foliage fresh as late as possible, and to this end it should be syringed, but all the air that can be given must be kept on the house continually, or, better still, if it can be done, the lights removed, so as to expose the trees to the full influence of the weather till the winter sets in.

THE VEGETABLE GARDEN.

Tomatos.—The soaking rain has set these growing at a great rate, but as at this time fresh shoots are useless, the plants should be closely stopped and thin, that what fruit is on them may be fully exposed to the sun and air, the combined influence of which will cause it to ripen properly, and be of good flavour.

Scarlet Runners.—These will now be independent of further assistance in the way of watering, but to keep the rows in bearing till frost comes and destroys them, all beans must be picked off as soon as fit for use, for to leave any on to seed soon distresses the plants.

Potatos.—If these are not already lifted, no time should be lost in getting them out of the ground, as, the long spell of dry weather, followed by such a heavy fall of rain, the tubers will soon sprout again, and if they are allowed to do this, their quality will be spoiled, and they will be useless for cooking.

Onions.—The thing with summer Onions in getting them to keep well through the winter, is to have the bulbs thoroughly ripened, which can be done by spreading them thinly on the ground, and allowing them to remain till they are properly dried and hardened, when they should be stood in some open airy shed, by bunching them and hanging the bunches up to the rafters.

Spinach.—To have this good, the necessary thinning out must be done early, that the plants may not be disturbed when they get large, but have plenty of room to spread and become strong before winter sets in. As a top dressing, nothing answers better than soot, which should be sown thinly over the beds, and the ground then hoed, which will destroy surface weeds, and let the soot in.

Turnips.—The same remarks just made about Spinach apply to Turnips, which need encouragement to make rapid growth, and bulb quickly, as it is only when they do this that they are tender and mild after cooking.

Lettuce and Endive.—To provide a good supply of these for salads, any spare cold frames should be planted, and the lights left off till bad weather comes, when they may be put on to protect and shelter the plants. Those who have not the convenience of glass, will find it a good plan to plant close up to the foot of a wall or fence, as there the Lettuce or Endive will be more safe from the frost.

Queer Names.—A correspondent says:—"It is amusing how plants get queer names. 'Joseph on the palings' for Josephine de Malines Pear reminds me of a joke of a similar kind. Recently a lady friend going through my garden asked a name which I told her was a kind of Lythrum. I was surprised some days afterward to be told that the 'Bed-room' plant I had called her attention to was certainly a beautiful thing. She wished me to note by this reference that she had remembered the name."—*Gardeners' Monthly.*

TREE FRUITS AND THE GALE.

The fierce winds which so boisterously and so roughly careered over the face of the earth last week, accompanied as they were by heavy rainstorms, have committed havoc with the tree fruits, Apples, Pears, and late Plums suffering most severely. Doubtless in the vast area of market orchards which surround the metropolis alone, very many thousands of bushels of fruits were laid low, indeed more fruit was thus removed forcibly from the tree and bruised against the earth, than often greets us as a seasons crop. Fallen Pears, especially if hard fruits, are valueless, whilst wind-fallen Apples, only the best samples pay for picking up, and even then, it has been found difficult to give them away, so plentiful are these fruits and so cheap.

Of course, the remaining fruits will improve in size, as a result of the thinning, and of the rain, and because of the thinning of the crop now, better prices may be looked for later. Where trees had so far suffered that they had lost their leafage, or were otherwise affected by drought, no doubt the sudden flooding of the earth with moisture, has caused an equally sudden rebound in the action of the sap, and large numbers of fruit, are, as it were, dislodged, or forced from off the trees, through that cause alone. There can be little doubt, however, but that the bloom buds now forming on the trees, and without which no fruit can be hoped for next year, will swell and benefit immensely from the moisture which has so freely fallen, and the thinning of the crop now, will also so far relieve trees, that many may be induced to give some moderate crops next year, should the season be favourable.

A big crop one year, and very poor ones for two or three years, is not at all the formula of cropping procedure we wish to see, we cannot at all command nature, but something may be done to arrest irregularities, by reducing these exhausting crops to moderate ones earlier in the year, when they do happen.

THE LAVENDER.

A few days ago, a box of sweetly fragrant spikes of blossom of the Lavender reached us, sent by a gardener who grows it largely. It was greatly welcomed by the good housewife, and now drawers, wardrobes, cabinets, &c., are redolent with its charming perfume.

This well-known plant is the Lavendula vera of botanists, and, being included among our garden herbs, is one of the most aromatic. It is a native of the southern and warmer parts of Europe, and is abundantly cultivated, especially in France, where, in Provence and Languedoc, it is said so to flourish that ovens are heated with it, Rosemary and Sage being also used for the same purpose. It is said to possess virtues in its natural climate which it does not possess when naturalised in other countries, and, in fact, although its essential oil enters largely into the composition of our medicines, and is esteemed for its beneficial effects in several maladies, yet its cultivation is by no means general, it being chiefly confined for the London market to Mitcham, in Surrey, while in other quarters it is merely cultivated as a garden plant.

Lavender is from the Latin verb, *lavare* (to wash), and it is said that the ancients employed it largely in their baths. The expression "Laid in Lavender" has arisen from the old custom of using the plant to scent newly-washed linen.

"Its spikes of azure bloom
Shall be, ere while, in arid bundles bound,
To lurk amid the labours of the loom,
And crown our kerchiefs clean with rare perfume."

It was formerly believed that the asp, a dangerous species of viper, made lavender its habitual place of abode, for which reason the plant was approached with extreme caution. In Spain and Portugal Lavender is used to strew the floors of churches and houses on festive occasions, or to make bonfires on St. John's Day. In Tuscany it is employed to counteract the effect of the evil eye on little children. The Kabyle women attribute to Lavender the property of protecting them from marital cruelty, and invoke it for that purpose.

A very poor and light gravelly soil is best suited to the plant, in such being more fragrant, long-lived, and more capable of enduring severe weather than in a rich one. In rich or moist soils it grows luxuriantly, but it is, in general, destroyed during the winter. The situation in which it is planted cannot be too open.

There are three methods of propagation—by seeds, by roots, and by cuttings. The latter plan is most generally adopted, and the slips or cuttings should be of the current year's growth, and they may be planted in May or June; it may also be propagated by cuttings of those which are a year old, which are to be planted in March, April, and early in May. Both slips and cuttings should be from 5 to 7 ins. in length, which, after being stripped to half the length of their lower leaves, are to be planted to that depth, either in a shady border or in a frame. They should be shaded during mid-day until they have taken root. The rows of cuttings should be about 6 ins. apart each way. Water must be given only in moderate quantities until the cuttings have rooted. Slips, with roots, can be taken off in March and April or September, and planted deeply in the soil, at least 1 ft. apart in the rows, and the rows 2 ft. apart. The ground should be hoed occasionally, and the plants kept trimmed by the removal of over-luxuriant and straggling shoots, and withered flower-stalks. The flowers are produced in July and August, and the spikes of flower should be cut when the blossoms on the lower part of the spike begin to change to a brown colour. The bunches are hawked about the streets of London and elsewhere, and they are purchased for their perfume and for preserving clothes from moths.—*J. W.*

WOODWARDIA RADICANS.

One of the most striking features in the large Fernery at Tatton Park, Knutsford, in which all the Ferns are planted out, are some grand masses of this ornamental species. The Fernery is of large proportions, both in length and height, and tree Ferns with stems 8 to 10 ft. high, with fine spreading heads of fronds, have still plenty of room for further development. On some bold masses of sandstone the Woodwardias are planted, and have established themselves, so that at the present time the effect produced on one's mind on entering the Fernery and beholding one of these grand clumps is not easy to describe. One mass has a spread of 8 ft. in width, many of the fronds measuring 6 ft. to 8 ft. in length, while the colour is of the pleasing pale green peculiar to this species.

It would appear that conditions such as these are the most favourable for this plant, *i.e.*, a cool temperature, planted in such a manner that the fronds falling down are near the cool moist surface of the rocks below; for since it is proliferous at the apex of the fronds, we may reasonably come to the conclusion that the pendulous fronds soon meeting the soil the young plants quickly take roots and soon become established. If these are the natural conditions, we should always plant this species in situations where the fronds may continuously be cool and moist, though not necessarily wet. An abundance of water will be required in such a position, more especially when growing, yet all through the season the roots must be kept well moistened.

This species, and its variety cristata, are often grown in baskets. Occasionally they are found growing freely and looking well, but often it is the case, that though the fronds come up freely and numerously, on account of the dry condition of the atmosphere in which they are suspended, almost as soon as the frond is developed it is attacked with black thrip, and the fronds must be quickly removed to prevent their becoming unsightly. Such a condition of things leads one immediately to the conclusion that the baskets are placed so that they are too hot and too dry. Place them lower down, even on a pedestal or a mass of rock by a wall, let the fronds hang down so that the upper surface can be looked upon instead of always looking up at the underside of the fronds, and I feel sure that many plants will grow better for their change of locality.—*W. Swan, Fallowfield.*

Dutch Bulbs in America.—With a view to promote in America, by all proper means, the love for flowers in general, and Dutch bulbs in particular, the General Union of Bulb Cultivators, Haarlem, have offered the leading horticultural societies of the United States, prizes for Hyacinths in bloom at the spring exhibitions in 1886. The offer has been accepted by the Pennsylvania Horticultural Society, Philadelphia, and by the Massachusetts Horticultural Society, Boston. The prizes offered are gold, silver-gilt, and silver medals, and will be competed for by nurserymen, florists, and seedsmen dealing in bulbs, with collections of 50 named sorts of Hyacinths in pots.

A REMARKABLE ELDER.

It is not an uncommon occurrence to see Ferns, seedling Ash, Sycamore, Yew, and other plants and trees growing on the top of old walls, and some of them do well for years, while others—like the corn that fell on stony ground—soon perish for lack of earth. A short time since I was paying a visit to Adare Manor, a beautiful place, with extensive pleasure grounds backed up by a large belt of trees, with evergreen Shrubs, Conifers, &c., filling in the foreground. The surface is undulating and very effective in appearance, and a little to the left a river comes down by the side of the mansion, which adds much to the beauty of the landscape. My attention was called by the able head gardener, Mr. A. Barker, to a curiosity which he found in one of the outlying woods or plantations on the demesne, and which he has since had brought home and placed on the top of the lawn near the outskirts of the pleasure ground. It is a common Elder, about 12 ft. in height and of corresponding breadth, growing out of a block of limestone, which cannot be far less than 2 ft. long, nearly as much in width, and about 1 ft. in depth, and without a particle of nutriment on which to exist, as far as could be seen.

I carefully examined the stone as it stood, and the stem of the tree, which I found to be over 4 ins. in diameter at its base, and so tightly packed into the stone that it is impossible to get the point of a knife between the stem and its singular root-hold. To show that there was no deception, Mr. Barker turned the stone on its side, which then brought to view a strong root, which had been cut off about a foot from the underside of the stone on its removal to its present quarters. I presume there was a natural fissure in the stone that had allowed the root to force its way through into the soil underneath. Through having been removed late in the season, which has been unfavourable to newly-removed trees treated in the usual manner, and doubly so to a tree whose fibrous roots have been cut away, and then stood on the level ground with, as previously stated, one large root only left to begin again with, the growth has not been more than 3 or 4 ins., just sufficient to show that the treatment received has only checked, not materially injured, it. Young rootlets are being freely produced all along the root left, and these will doubtless, ere long, strike into the soil, so that next season, if all goes well, the tree will not, in appearance, be any the worse for the removal.

I ought to have said, that when in its wild home, some of the annual growths were fully 2 ft. long. Altogether, it is a well-furnished specimen, which will doubtless be pointed out to those favoured with a look round Adare in years to come.—*E. Dumper, Summerville, Limerick.*

APPLE, MRS. BARRON.

The benefits accruing from the Apple Congress held in 1883, at Chiswick, are admitted on all hands to be very great. It gave a great stimulus to planting, and it served another highly useful purpose in bringing into public notice the merits of many varieties little known among growers, yet worthy, on various grounds, of wide cultivation. One of the sterling good sorts thus brought into notice, is the subject of this note and the accompanying illustration—a variety which has been grown in the Chiswick collection for some time under the name of Yellow Bellefleur. That it is but little known may be assumed from the fact that at the Congress only two home-grown specimens were exhibited—not a solitary sample of it being found in any of the large trade or private collections. On comparison, it proved to be quite distinct from any other variety staged, and much superior to any other sort grown under the name of Yellow Bellefleur. Under these circumstances, it was thought worthy of recognition as a distinct variety, and was given the name of the popular lady which it now bears

It is a large and handsome culinary variety, in season from October to February, and most suitable for cultivation in an orchard where the tree can be afforded plenty of room. The fruits are oblong in shape, somewhat angular near the eye, and the skin pale yellow, changing to orange as the fruits ripen. The eye is large and open, set in a shallow basin; the stalk short and stout; and the flesh of a pale straw colour, tender and sweet.

THE POTATO CROP.

The crop of tubers on our light Surrey soils will, in most instances, be under the average, and in some places very much below it. It would be interesting to your practical readers generally, if some of your numerous correspondents would favour us with a few remarks concerning their experience with the varieties grown by them under the trying circumstances of the past season, stating briefly the results obtained as regards quality and yield. From my own observation and experience, I conclude that those who are depending on the later kinds for their winter and spring supply should be on the alert, for where the haulm is still green they have already started into a second growth. The Magnum Bonum appears to be exceptionally liable to do this. A neighbouring farmer had the whole of his crop of this sort last year entirely spoiled from this cause; they were absolutely unfit as food for either man or beast, and some other large growers, for the same reason, could not sell their produce, and used many tons of them for cattle feeding. I have grown this variety from the first season it came out, and only three times have we had it really good.

Beauty of Hebron, which commands the best price in the market, has entailed a heavy loss on one grower who planted a ton of seed, and now that the crop is lifted finds the produce under one ton and a half. This was owing to many of the sets not growing, and to a large proportion of those which made an effort to grow, being killed off by rust. I designate it thus, for want of a better term, as the affection seems to be quite different to the ordinary disease. The few sets which survived, yielded a good crop of fine tubers. Has this anything to do with the shallowness of the eyes, rendering them liable to injury when moving them about? Schoolmaster has turned out moderately well, free from disease, and good in quality. Vicar of Laleham gave a much better crop, free from disease, and first rate in quality. The Reading Abbey is good in quality, and only a few are diseased. The eyes of this variety are too deep, and, like the Champion, it is a wasteful Potato, so much having to be cut away in dressing them for the table.

Ashleaf and other early kidneys were a very light crop with us, the dry weather having set in too soon for them. Magnum Bonums began growing again, so we have lifted most of them, and find a few diseased ones, more this season than in any other, but perhaps not more than 10 lbs. in a ton. Our great dependance is on our crop of White Elephant, and to all who have light, poor soils, I can with every confidence recommend this variety. The objection urged by many against it, of its being too big, will seldom hold good here. I took it in hand, thinking, that when in dry seasons the crop of other staple varieties would, from the smallness of the tubers, be a light one, this might, from the great size it attains in rich holding soils, give us a crop of fair-sized tubers. I find the Cottagers who grow it speak loudly in its praise, indeed, in some instances, had it not been that they had a patch of this, their store of "spuds," as they term them, would have been a poor one.

I may add that we find them equal in quality to the Beauty of Hebron, and our cook's expression respecting it has always been, that "it is the beautifulest potato" she ever cooked. Looking at the very slight attacks of the disease we have had during the last three years, I sometimes think, that had proper measures been taken, the malady might have been stamped out by now.—*W. B. G.*

Apple, Mrs. Barron.

FRUITS, FLOWERS & VEGETABLES.

To Keep Wasps Out of Fruit Houses.—When at Elvaston Castle Gardens the other day, I noticed buckets containing tar in some of the vineries and Peach-houses. Being of an inquisitive nature, I asked Mr. Goodacre what they were there for, and received the frank reply, "That's the way to keep wasps out of fruit-houses." He has tried this plan, and found it a complete success. As I know these pests are a great trouble to many of our brother gardeners, I ask them to try Mr. Goodacre's plan, and let you know the result. The materials used are cheap enough to be within everybody's reach, and Mr. Goodacre assured me that he had not seen a wasp or bee in his houses since he has used the tar in this manner.—*Alfred Outram.*

The St. John's Worts.—To the Hypericums to which "J.," p. 21, calls attention, I would add H. oblongifolium (very beautiful), H. aureum, and H. glandulosum. The last, though the flower is not large, is beautiful as a shrub, especially when in fruit. I have not tried H. triflorum out of doors, and unless it comes from a great height it is not likely to be hardy. I would gladly exchange H. oblongifolium for it if "J." has small plants.—*George F. Wilson, Heatherbank, Weybridge Heath.*

Pansies, diseased.—The Pansies in this district (South of Scotland) have this season been subject to some kind of disease. I have just been looking over a bed, one half or more of the plants in which have perished, and I find other growers complain of the same thing. I send you one or two of the plants, and should be glad to know if you have heard of any such complaints from other districts.—*R. F.* [Are you sure the disease of your Pansies is anything more than the bad effect of the late hot and dry summer? We can see no trace of disease as caused by insect or fungoid parasites. Pansies are, however, sometimes badly attacked by fungi, and in the incipient state of the disease or diseases thus set up, the diseased plants are not to be distinguised from yours. We, however, do not think your plants are "diseased" in the true sense of the term, but that they are probably suffering from the drought of the late summer. Many cultivated plants—for instance, turnips—are now, in some places, exactly in the condition of your Pansies.—*W. G. S.*]

Roses in Winter.—I have a house of Roses planted out in beds (Niphetos and kindred varieties) and want them to bloom in winter. They have been planted twelve months, and have grown freely this summer. Should I keep them growing, or should I take the lights off and give them a rest for a month or six weeks. If someone experienced in rose-growing would help me in this matter, I should be greatly obliged.—*A. Swanson, Barton-on-Humber.*

The Fruit Trees at Trant Court.—With reference to your note at p. 27, I may say that when Mr. Henderson took charge of the gardens about eight years ago, he found that most of the fruit trees had been planted without names, as bought at a nursery sale, so that he had to wait until they fruited before he could get to know what they were. A few solitary ones fruited, and proved to be good varieties, although much cankered. Mr. Henderson suggested to his employer that it would be much better to plant a few varieties which he knew would suit the locality—such Pears as Easter Beurré, Winter Nelis, Josephine de Malines, Beurré Langelier, Vicar of Winkfield; and of Apples, Cox's Orange, Kerry Pippin, Worcester Pearmain, &c.; but owing to various causes, until last autumn, no changes had been made, several trees which had been planted only in clay, and much too deeply, were dug up, the clay thrown in ridges, and the trees root-pruned, as many of the roots had perished. They were then banked up with light refuse from the rubbish heap and staked; owing to the drought of 1884 fruit buds had been formed, but the trees looked sickly and would undoubtedly have perished. This season they have done well, made a better growth, and carry as fine a lot of fruit as anyone could desire. In another part of the garden were the soil is more open on a sandy subsoil, some large plum trees were dug up and fresh planted, not a single tree succumbed, but bore an extra crop of fine fruit. The kitchen garden at Trant Court is not walled in owing to a fresh dislike to interfere with the picturesque landscape seen from the house. Walls would indeed be an eyesore from any point. The soil varies very considerably, no less than four different sorts of soil and subsoil being found in the garden, and in many parts there is scarcely a foot of good soil before clay, sand, gravel, or marl is reached.—*J. D.*

Potatos cracking.—Although I have not unfrequently met with split potatos, yet I have previously not heard of that complaint being made about Reading Russett. So far as my experience goes, cracking is attributable to check in swelling from drought and then to sudden renewed expansion through heavy rain falling. Of course that would only happen when the tops were still green, and would not result in such a season as the present; for instance, when rain fall heavily after the greater part of the early and second early kind had died off. But whilst I have met with cracked tubers in the wet, I have never met with any which split after lifting. That is a marvellous and, I think, most unwonted feature, owing entirely to some local circumstances, as for instance, the tubers being lifted whilst the skins were yet thin and tender, or they may have been removed from a hot parched soil direct into a store or cellar, in which the atmosphere was moist; or even have been buried in some material holding moisture, and thus caused an unlooked for expansion of flesh through absorbtion. Of course, this theory hinges entirely upon the capacity of the Potato to absorb moisture after it has been lifted from the soil, a point upon which we have no evidence either way. If the moisture theory will not account for this posthumous cracking, then it may perchance arise from change of temperature. The subject is an interesting one for the plant physiologist, and worthy of keen observation by scientists. Frost and excessive heat alike produce just the same effect upon Potatos, Apples, &c., for these natural phenomena cause the sap cell or, more properly speaking, the cellular tissue, of which these fruits are composed to expand equally; and the outer coating, like that of a steam-pressed boiler, must burst in the end. It may be taken for granted that some such action is operating in Potatos to create this splitting, but how really produced yet we can but imagine or suggest, and probably at present none can fully demonstrate.—*A. D.*

Middle Men and Fruit Growers.—Noticing the remarks in your number for August 29th, on the low returns made to growers by London market salesmen, I may say that your observations apply with equal force to the provinces. I could add numbers of complaints made by fruit growers in this district, but confine myself to sending you the following cutting from the *Peterborough Advertiser*, of August, 29th:—"Gooseberry Grower" asks:—"How is it, that a salesman in the London Spitalfields market, should only forward to me his net sum of £33 2*s.* 5*d.* for 25 tons of the finest samples of gooseberries that were to be found in the third week of the present season, when the ruling market price, averaged, taking the three days that they were delivered, £5 7*s.* 11½*d.* per ton? Will they still assert that we do not buy over and over again, in the first transaction we may have with them, their tubs, baskets, and bags? Can I, out of that £33 odd, pay the cost of gathering and packing, which, exclusive of rent, rates, and taxes, amounts to at least £2 per ton?" I am myself an extensive fruit grower in Hunts, and being well situated for using the Great Eastern Railway, it is my intention to open a fruit and vegetable shop in the north-east of London, to retail all I can at a reasonable price, and sell the remainder wholesale myself in a market. I should esteem it a favour if any of your correspondents would advise me in the matter. In the district selected, there should be some extensive works going on, and a market near the Great Eastern Railway, but where is there such a district? Would Stratford be suitable?—*A Hunts Fruit-grower*

The Vineries at Barassie.—The Grape crops in the Vineries at Barassie, a place situated near the sea shore, some six miles north of Ayr, are remarkably fine, and worthy of a note in your columns. Barassie belonged to the late D. Y. Stewart, Esq. and subsequently to his widow, owing to whose death it was put up for sale on the 9th inst. Four of the five vineries are span-roofed, and the fifth a three-quarter span; the first is 120 ft. long, 21 ft. wide, and 9 ft. high, and planted with Alicante, Lady Downe's Seedling, and Mrs. Pince's Black Muscat, of which, Mr. Cockburne, the gardener, speaks in the highest terms as regards its long keeping qualities; he has kept it till March without a shrivelled berry. The second house is 100 ft. long, 13 ft. wide, and 13 feet high, and planted with Alicantes, a few Lady Downe's Seedling, Muscat, and Golden Champion, a variety of which with Duke of Buccleuch, the late Mr. Stewart was very fond. In the third house, which is 90 ft. long, 29 ft. wide, and 21 ft. high, are Alicantes, Lady Downe's Seedling, Gros Colmar, and Mrs. Pince's Black Muscat; and in the fourth, which is 61 ft. long, 15 ft. wide, and 13 ft. high, Black Hamburgh, and Duke of Buccleuch occupy 36 ft. run of the structure, the remainder being devoted to Tomatos; while the three-quarter span, 43 ft. long, 13 ft. wide, and 13 feet high, contains, Black Hamburgh, and Golden Champion only. In all the houses the crops are remarkably heavy, and of fine quality.—*J. D.*

Sanday's Seedling Potato.—This Potato is claimed as a distinct seedling, and is said to be a cross between Crystal Palace and River's Royal Ashleaf. This reputed parentage appears to be a kind of afterthought, for, to the best of my knowledge, no mention was made of this when it was first shown at the Crystal Palace. Having grown it, I fail to see any difference between it and the ordinary Lapstone, though it is said to be less pointed than that variety. As other of your readers have no doubt grown it, it will be interesting to learn what is their estimate of it. I should hesitate to show it and the Lapstone in a collection of twelve varieties.—*E. W.*

Mutisia decurrens.—Earnest as "J." (p. 21) is in his praise of this lovely climber, he does not overrate its merits in any point; for it certainly is a plant of great beauty. With regard to its management and propagation, and the skill in its cultivation for which he is kind enough to give me credit, I am bound to say that I never found the plant either difficult to grow or propagate. I consider it just such a plant as Tropæolum speciosum—one that will grow itself if put in a proper position, in a soil and situation that it likes, but which no amount of coaxing will even get it to live in a place that is not suitable. Knowing that most people failed to propagate the plant, I carefully studied it, and from its habit, and from the delicate woolly covering of its young growths, I came to the conclusion that the failure arose from the cuttings being kept too damp and close. I therefore made up some cutting pots of turfy loam, watered them well overnight and next day, taking off a number of young side shoots (with a heel where possible), I dibbled them in in the usual way, and placed them alongside the parent plant, which was in a shady part of a Camellia house. The part of the house in which they were was rather moist, and so the cuttings did not require water for several days, although no bell-glass or frame was put over them. In a fortnight or so they were well rooted, and potted off singly. Afterwards, I never had any trouble in striking the young side shoots whenever I could get them, and I found that they rooted freely if only just stuck in the soil in which the old plant was planted. M. decurrens is just one of those plants which if one old specimen is depended on, that one invariably goes off suddenly; but if several young ones are propagated and tried in several ways, a place can generally be found where it can take care of itself. I believe the cuttings would strike root well out-doors like Pelargoniums.—*James O'Brien.*

Birds.—I have just been engaged putting a large number of fine Marie Louise Pears into paper, indeed, the wall now resembles one large head in curl papers, and I have to thank the mischievous tom-tits that so much labour is needful. It is, indeed, exasperating to find day after day that these little creatures are spoiling all the best fruits, simply by pecking holes in them close to the stems. Netting a big area of wall is out of the question, especially if one has no nets, and as I cannot be always on the look-out with a gun, the putting the Pears into paper seems to be the only means of keeping the birds out of mischief. But whilst the tom-tits are worrying me in this way the sparrows have set on voraciously to a batch of Lettuces seeding, and I am compelled to cut it, and get the seed under cover, really before it is as ripe as desirable. What makes the matter so much more aggravating is that in some years the Lettuce seed gets very much eaten by maggots, and if the birds would destroy these they would do good service. This season maggots seem to be scarce, but birds are, alas, extra plentiful, hence seed is destroyed wholesale. But the

greatest harm is done by the sparrow to the Marigold flowers, especially those of the Giant African kinds. These, let them be almost as big as Dahlias even, they set upon, tear all to pieces, and strew the ground with the flowers, thus wasting the seed shamefully. Why they should do this I cannot well understand, unless it be that they are seeking for small black insects which infest the flowers, but then they do the blooms no harm. So great has been the injury done, that in spite of a detestation of shooting, I have been obliged to borrow a gun and blaze away, but even then it seems almost needful that someone should stand by all day, so daring are these sparrows. If they would look after the grubs which are so destructive to plants this season, or otherwise render gardeners service, all would be well, but, year after year, all our care of birds, they are the most destructive of creatures, and the most ungrateful.—*A. D.*

Thunbergia fragrans.—Although not so strong growing as many stove climbers, this is still a first-class plant for the purpose ; indeed, in no other position is it seen to the same advantage as when trained to the roof of the house. Being a native of the East Indies it will stand plenty of heat, and revel in the same, and will amply repay such treatment by the abundance of bloom produced. It is no unfrequent thing to see throughout the entire length of the shoots three or four flowers from the axil of each leaf, with buds in course of development. True, the flowers are short-lived, but this is fully compensated for by the rapidity with which they succeed each other. A plant here has been in flower since April, and is still nearly as full of flowers as during the month of July, which is perhaps its best month. To all appearance it will continue to bloom for some time yet, to our great satisfaction, for in the dull days of winter, as much as in summer, it enlivens the house with its pure white flowers, which are then doubly appreciated. I do not think any flowering plant, excepting some of the Orchids, are so generally admired as this one. As to soil, equal parts of loam and peat, with a rather less quantity of manure and sand added will be found to suit it. It is much subject to brown scale, and if grown in too dry an atmosphere red spider will be pretty certain to find it out.—*E. Dumper, The Gardens, Summerville, Limerick.*

Lilium auratum.—The long continued exhibitions of cut blooms of this noble Lily in the Conservatory of the Royal Horticultural Society, at South Kensington, must have impressed many of the regular visitors with some notion of the enormous number of bulbs grown this season by the New Plant and Bulb Company, at Colchester. We have several times noted this collection, and the wide range of varieties included in it, and this week have to acknowledge the arrival from Colchester of a box of blooms which severely taxed our resources in the way of water-holding receptacles. The spikes were cut just before the buds were fully developed, and they have opened splendidly in water—a hint that some may be glad to take advantage of.

Hardy Fruits.—At p. 826 of your last volume you allude to an Apple, "Peter the Great," as a new American variety ; but Rivers, in his catalogue many years since, described it as a Russian Apple, and from the name he would appear to be right. In Pears you allude to "Petite Marguerite" as a new variety from America ; but it was entered in Scott's *Orchardist* many years since as having been received by him from M. Leroy, of Angers, in 1865. Scott also states that it was raised by him and fruited first in 1862, and the name would suggest that it was of French and not American origin.—*H. T.* [Both varieties are new in the sense that they are known to but very few growers in this country. Neither of them are to be found in the *Fruit Manual*, and only one specimen of the Apple was shown at the Apple Congress. As to their American origin, we should have said that Mr. Bunyard obtained the trees from that country.—*Ed.*]

The Variegated Colt's-Foot.—The Tussilago or Colt's-Foot is known to many, and only too well in some cases, as being among the worst of weeds to eradicate from any garden where it has once obtained a footing. Its existence is generally indicative of stiff and rather moist soils, and I well remember a field near Nottingham, on the Trent side, several acres in extent, completely covered with it ; and who could wonder, when bad farming and the plough and harrow played their parts—the plough assisting in its multiplication and the harrow in the distribution of the species, the variegated form of which I am about to advocate the use of. It is worth noting, that while the typical species is a great pest, the variegated form has no equal among variegated plants. It is very attractive among deciduous trees, or it may be used with good effect in bedding arrangements in a variety of ways. By way of restricting its roots, it should be planted in pots, and owing to its silvery or creamy variegation, is best employed in proximity to such plants as Coleus and the like. Where large ribbon borders exist it will prove useful, or if planted in lines it would prove very effective. The leaves are large, from 6 to 8 ins. across, broadly obovate and downy. It might also form an excellent ground-work for Lobelia cardinalis Queen Victoria, and make a striking contrast.—*E. J.*

Single French Marigolds.—We have received from Messrs. Dobbie & Co., of Rothesay, a box of the most beautiful French Marigold blooms that can well be conceived. Every bloom is of the most perfect form; the colour of the petals being pure yellow and beautifully striped on each side with bright brown or dark chestnut-red. Anything more pleasing and attractive among marigolds we have not seen for a long time. They are certain to become great favourites, especially among ladies, when Messrs. Dobbie come to exhibit them at some of our great central exhibitions. If the habit is good they will be valuable for bedding, and equally useful for cutting for indoor decoration, as they stand a long time in water and mix up admirably with other flowers, as we have proved for ourselves.

Euonymus radicans variegata.—Judging from its specific name, and also from the manner in which it is generally seen, one is lead to believe that this plant is best suited for trailing, and while as such it is very desirable, it has other uses no less important. When some twelve years ago I first saw it used as a wall plant, it struck me as being somewhat wrongly placed, but as I watched its progress, and noticed how little attention was necessary to keep it in order, I began to regard this (which was to me a new departure at that time) as a most useful plant, especially as its position was an exceptionally dry one, on account of the overhanging eaves of the house against which it was placed preventing the rain from reaching it. As a silver-leaved plant against a wall it is a good and useful one, of denser and more compact growth than any of the silver-leaved Ivies, which in many cases take a long time in establishing themselves, and, indeed, when they commence growing the growths generally are sparsely distributed. The Euonymus may require a few nails at first to keep it in its place, afterwards it will keep quite close to the wall of its own accord. This seems all the more remarkable, since, in common with the other species and forms, it does not emit those claw-like appendages which fasten most plants of a climbing tendency to the substance to which they are growing in their onward course.—*J.*

Rosa rugosa.—Of all the wild Roses of Japan this is without doubt one of the finest, a plant that deserves a place in every garden. It is one of those informal subjects which delight to ramble at will, and for isolated specimens on the lawn, for the large rockery, and such-like places, it is well suited, being in or out of flower always attractive. Its flowers are from 3 to 4 in. across, salver-shaped, and of a bright rose ; these are borne in profusion about the substantial deep green glossy leaves ; and after the flowers come the fruit, large, and of a showy coral red. It fragrance, too, must not be overlooked, for it is most noticeable in early morn. The white form is equally free and vigorous, and makes a good companion to the type. We have also seen it as a standard, budded on the common briar ; it requires a stout vigorous stock, however, to support it, when it forms an attractive plant.

Campanula carpatica pallida.—This very pleasing variety has, despite the long-continued drought of the passing summer, kept up an incessant supply of its lovely lilac mauve-coloured flowers. It is especially suited for a front row border plant, or for the rockery, or, indeed, any position where a good depth of fairly rich soil may be had. It grows about 15 in. high, rather more if erect, but as it assumes a slightly decumbent habit, this may be taken as its full height when established. We have lately seen a fine tuft of this more than 2 ft. across, and which has carried hundreds of flowers during the season ; still a few remain, souvenirs, as it were, even at this late date, of its modest beauty when in its prime. For those who prefer pleasing shades to gaudy colours this is one of the best summer ornaments for the flower garden, and a fine perennial.

THE GARDENERS' CALENDAR.

THE FRUIT HOUSES.

VINERIES.—There is not much to be done in these other than maintaining a somewhat dry and airy atmosphere, and watering the inside borders two or three times in the month with clear water. This should be given in the morning, and if the weather should be dull at the time, the fires should be started, so as to heat the water in the pipes sufficiently to prevent the condensation of moisture on the berries, and also to promote a buoyant internal atmosphere. Look the bunches over two or three times a week, and remove therefrom any decayed berries that may perchance be in them, also remove house-spiders, which, if left to themselves, would soon disfigure the best formed and, it may be best finished bunches, by reason of their knocking the bloom off the individual berries and otherwise giving them a dirty appearance.

In many places I observe that the Gros Colmar grape is only beginning to colour, but the foliage being good, there is ample time to lay on that beautiful colour and bloom which, together with the size of the berry and compactness of the bunch, impart such a commanding appearance to this otherwise third-rate quality grape. But in order to make the most of the time between this and the date of the vines shedding their leaves, a somewhat warm, dry, and airy atmosphere should, as already stated, be maintained.

MELONS.—Plants growing in frames placed upon hot-beds, will require to have the linings made up round them with fermenting material, such as long stable-dung or short grass, so as to impart sufficient heat to the interior of the bed and frame to prevent the night temperature from falling much below 65° until the crop is secured. And, with this object in view, withhold the syringe from the plants, also abstain from giving water at the roots, as the latter can absorb all that is necessary for the ripening of the crop from the manure-heap in which they are growing.—*H. W. Ward, Longford Castle.*

THE KITCHEN GARDEN.

CAULIFLOWERS.—Prick out the first batch of these under hand-glasses placed 2 ft. apart, so that there is room between the glasses in the row for the top of each glass to be placed when taken off, and for this purpose four bricks should be placed in position for covers to rest upon. Previous to putting out the plants a surface dressing of wood-ashes should be put on to prevent the attack of insects. Put from six to nine plants into each hand-light, according to the size of the latter. These can be thinned out to three and five in February and March next, lifting them carefully with all the adhering soil, and transplanting them into a suitable situation. In order to maintain a sturdy growth the top lights must be left off, and only be replaced on the approach of frost, or during heavy rains. The plants thus treated, together with a few hundred plants wintered in 3-inch pots, will supply the earliest batch of Cauliflowers in May next, and to which these plants raised from seed at the same time as those in glasses, and subsequently pricked out in a cold pit or frame 5 or 6 ins. apart every way, and transplanted a week or later than those in pots, will make a capital succession. These plants, like those in the hand-glasses, should have the sashes and shutters left entirely off in the absence of frost, heavy rains, or snow, the object to be secured in each case being the same—a sturdy growth. Failing the above accommodation, a sufficient number of plants may be wintered in an improvised frame, fixed in a warm corner, and protected during frosty nights with hurdles to which mats have been fixed, the whole to be covered with dry Fern in the event of severe frost.

LETTUCE.—This is another important crop, and one that requires some care in wintering it. The plants, raised from seeds sown at the same time as the Cauliflower, will now be ready for pricking out in pits, frames, and warm borders. These may be grown in the same way, and under the same conditions as those recommended for Cauliflower plants in glasses ; but a greater number of plants may be put under a light, or in pits, &c. Those for early spring use should be wintered in glazed pits, planted in rows about 6 ins. apart, in light soil, and which should be within about

9 ins. of the glass. In addition to these there should be wintered a sufficient number of plants in cold frames, with wooden shutters and Fern as a means of protection from frost when necessary, to transplant the thinnings in favourable situations in early spring.

A good planting should also be made on a warm border, in rows 6 ins. apart, and 3 ins. in the rows. These plants, which, on the approach of frost, should be covered lightly with Fern, which, in the event of severe weather, should be increased, and again removed and replaced as may be found necessary. These plants, we say, will, making due allowance for mishaps during the winter, supply sufficient plants, thinned out of the rows in spring, with which to make successional plantings, and which will come into use after the produce supplied by the plants left in rows has been exhausted. Before pricking out the young Lettuce plants, and finally transplanting them, it is a good plan to surface-dress the ground with fresh soot, which should be raked in slightly. This, I find, from several years' experience of its use, serves not only as a safeguard against the attacks of insects, but also as a fertiliser of the soil.—*H. W. Ward. Longford Castle.*

THE PLANT HOUSES.

Housing Plants.—All work in connection with getting plants into their winter quarters should now be pushed forward as fast as possible; it is better to be a little before-hand than to run the risk of plants being exposed to too much wet, and we are never safe from frost after the middle of September. In arranging the plants, each class should be kept as much together as possible, and if such plants as are likely to require fumigating are kept together, it will be an advantage. After the plants are taken into the houses, plenty of ventilation should be kept on, both night and day, as long as the weather is favourable, and as the plants will be deprived of the night dews, the syringe should be used occasionally. Any plants that have been planted out in the ground to make their summer growth should be taken up at once if not already done. After they are potted they should be kept close and shaded for a few days, but as soon as they have taken hold of the new soil they should be exposed as much as possible.

Winter-flowering Heaths.—The autumn and winter-flowering species are so useful that there are few establishments that can afford to be without them. E. hyemalis is perhaps the most useful of all the genus, and this may be had in flower from a little later on until after Christmas with a little management. If required for early use, a few plants may be placed in heat, but they should have a position where they will get the full benefit of the sun. In many establishments the winter-flowering Heaths are bought in, and where this is the case it should be remembered that most of the large Heath-growers supply their plants liberally with manure in some form or other, and to get the plants to flower well it is necessary that this treatment should be continued to some extent. Soot-water is a good manure for Heaths, to which may be added a little cow-dung or guano; it should be allowed to stand until it has settled down, so that it can be used in a clear state.

Solanum capsicastrum.—These also require liberal treatment to finish them off well, and they must on no account be allowed to become too dry in the pots, or the leaves are sure to turn yellow, and perhaps fall off before the berries are ripe.

Genistas.—Any plants that are not sufficiently bushy to make good flowering plants may be stopped once more; but this should be done at once. The cold pits will be the best position to keep these in for some time yet, but they should have plenty of room, as if they are allowed to become crowded they will lose their bottom leaves.

Zauschneria Californica.—This is one of the most effective of late summer and autumn-flowering perennials, and one which was well suited by the past summer, as it prefers a hot, scorching sun. It is a beautiful plant, producing in great profusion spikes of brilliant scarlet flowers in loose one-sided spikes, the individual flowers somewhat resembling those of a Pentstemon in its tubular outline. It is a true herbaceous plant, growing about 1 ft. high, and forming a compact cushion. It should have plenty of surface-room, as it is rather inclined to spread owing to the number of stoloniferous growths which are produced in the early part of the year. It grows freely in any light loamy soils, and soon forms pleasing and attractive tufts. At the present time it is highly valuable in the flower garden.

THE TOWN CLOSE NURSERIES, NORWICH.

This extensive Nursery and trial ground, an important branch of the business conducted by the Messrs. Daniels Brothers, at the Royal Norfolk Seed Establishment, is pleasantly situated on the Newmarket Road, about one and a half miles from the Market Place, Norwich, and easily reached by omnibus.

The Messrs. Daniels, we understand, employed the ground at first only as a trial ground in connection with their great seed business, and only commenced the cultivation of plants in the ordinary way of trade when compelled by force of circumstances—their large connection and central situation in the Eastern Counties—to do so. At the present time the Nursery includes a number of useful houses and pits, filled with a selection, rather than an extensive collection, of flowering stove and greenhouse plants, florists' flowers, hardy herbaceous, and Alpine plants, &c., while in the open-air, bedding plants, Dahlias, Gladioli, and other things of a useful decorative character, are grown in considerable quantities, together with dwarf evergreen shrubs, &c.

A fine new span-roofed house, 185 feet long and 20 feet wide, facing the main entrance, was at the time of our visit, a few weeks ago, filled with a large collection of all the newer varieties of Zonal Pelargoniums and Coleuses, &c., among the former being specially noticable, on account of their fine qualities, such sorts as Baron Duranteau, semi-double, the pips measuring 2½ in. across, deep crimson, with a purple shade on the lower petals; Dante, a very fine single flower, bright rose with an orange blotch on the upper petal; General Briere de Lisle, double, bright salmon-red; M. de Lesseps, one of the finest of all doubles, the flowers resembling a small Camellia, and bright scarlet in colour; Mrs. Johnson, bright rose, an immense trusser and very free; Mrs. Holford, and Lady Chesterfield, both bright salmons; and Triomphe de France, double, salmon coloured centre, with a creamy yellow edge, a large trusser and exceedingly fine.

In other houses we noted good crops of the firm's new Cucumber, Duke of Albany, a handsome dark green variety, which grows to the length of from 20 in. to 26 in., and has a good local reputation as a prize winner; and a considerable number of pot vines, including the leading popular varieties, with Black Hamburgh and Foster's Seedling in the greatest numbers. In the plant houses, among a variety of other useful subjects, we noted a fibrous-rooted Begonia named sphacelata, a fine green leaved, erect growing plant with white flowers, which are much appreciated for cutting. Another most useful plant, also grown in quantity, is the showy Agapanthus umbellatus. The collection of herbaceous plants is not extensive, but select, the subjects most favoured being those which are of free growth, good bloomers and attractive in appearance.

In the open quarters we noted large masses of Perennial Phloxes, Pentstemons, Antirrhinums, Single and Double Dahlias, which had made a fine growth notwithstanding the dry season; large quantities of Galtonia candicans, Lilies, and Gladioli, the latter extremely showy, and including such fine varieties as, Horace Vernet, Ophir, Christine, Zampa, Pactole, Phedre, Ginevra, Crœsus, &c. The beds of annuals were exceedingly gay, and especially the Godetias, a flower with which the firm have been very successful in introducing some valuable new varieties. One immense bed of seedlings, all the result of careful hybridisation, was an especially attractive object, by reason of the floriferousness of the plants, and the great variation in colour, and in the habits of the plants, rendering a close inspection particularly interesting. One of the latest novelties raised here is Godetia The Bridesmaid, a beautiful flesh pink flower with a rich rose flake on the petals. We also noted a very fine white variety of the Whitneyi type, with a crimson spot in the centre. These are both novelties which will be welcomed by the lovers of these showy annuals when sent out. The firm have also a novelty in a golden-leaved Chrysanthemum Burridgeanum, a very attractive annual with a dark centre, enclosed by a ring of yellow, and an outer border of white.

The Messrs. Daniels' make a speciality of Potatos, and grow in their trial grounds some 280 named sorts, that are already in commerce, and this season they have a most extensive and interesting trial of seedlings, consisting of between 3,000 and 4,000 varieties of their own raising. Among so many the greater portions will doubtless be unworthy of another seasons trial, but something specially good should surely be found when the tubers are lifted. Great interest is also taken by the firm in Mangolds, of which they have a great number under trial—one of the favourites being the Mammoth Yellow or Golden Tankard. The Pea season had been a short one, but grand crops had been harvested of that fine second early variety, which was Certificated at Chiswick under the name of Lye's Favourite. It bears fine handsome pods of round white peas, and is becoming a great favourite with market growers. Another good variety that came under our notice is the Midsummer Marrow, sent out last spring, a dwarf variety growing only to the height of 2 ft., but an extraordinary bearer, and producing six or seven good peas in a pod. It is a first-rate sort for late autumn or early spring sowing. In the Matchless Marrow, a new variety, not yet sent out, we have another high class mid-season variety, which grows to the height of 4 ft., and in general character seems to fit in between Ne Plus Ultra and Veitch's Perfection, while in flavour the peas are of extra fine quality.

Another novelty we noticed among Lettuces is a brown Cabbage variety called the Continuity, which stands longer before running to seed than any other known sort. A bed of plants raised from seeds sown last autumn, kept sound and fit to cut for the table two months after other varieties had "bolted," and become useless. It forms medium sized hearts, of nice crisp leaves, and is of good flavour, and might very appropriately be called The Dry Weather Lettuce. The limit on our space prevents us noticing many other interesting trials which the Messrs. Daniel's have in hand, but we cannot pass them over without testifying to the careful and intelligent manner in which all their seeds are proved, and novelties tested before being sent out, the necessity for which becomes apparent when we learn that some 60,000 customers are served every season, and it would not pay to have to rectify many errors.

The business operations of the firm in the town are conducted in three separate establishments, and a fourth warehouse is used for storing the bulkier class of seeds, such as Clovers and Grass Seeds, Swedes, Peas, &c. At the handsome shop in Exchange Street, the local trade is mainly conducted; the Counting-house and Flower Seed Department, and the Potato and Vegetable Seed Warehouse being in Bedford Street. As furnishing some idea of the extensive business transactions of the firm, we may mention, that of the 60,000 names in the Ledgers, there are 600 "Smiths," and an even greater number of "Jones's," the next highest number bearing the name of "Taylor." In the Scotch and Irish lists, the largest number have the prefix "Mac" or "Mc," while in Wales, the names of "Jones" and "Williams" most largely preponderate.

During the season, 160,000 Catalogues and lists are printed and distributed, the cost of postage alone amounting to some £2000. The clerical labour required in writing addresses alone is a very serious item, and quite a little army of assistants are required during the first few months of the season. To facilitate the collection of flower seeds, they are all put up in neat packets and sorted out into pigeon holes, some hundreds in number and of various sizes, according to the demand for each special article, and Stocks and Asters stand about the highest—from 15,000 to 20,000 packets.

At the present time the dispatch of bulbs keeps the assistants fully occupied, a very fine lot of bulbs having arrived from Holland on the morning of our visit. In the Vegetable Seed warehouse, an extensive block of buildings—the seeds are all treated in the same way as the flowers, but of course are much more bulky. The stacks of Parcel Post boxes, stiff card boxes made by the Norwich Box Co., bear silent witness to the extensive use made of this means of distribution. Another interesting feature in this building is the Potato Store, and the system adopted for keeping the tubers sound and dormant, seems to be about the best that could be devised. The tubers are placed in trays made of battens nailed together with an open space between each strip, and each tray holds six pecks. When filled they are stacked one above another, and as the air can freely pass through, the tubers keep remarkably sound.

ORCHID NOTES AND GLEANINGS.

On resting Dendrobiums.—A great many Dendrobes will now be finishing up their growth, and will in their turns want putting into their resting quarters. If we consider the length of time which should elapse before the plants ought to start into growth again, the necessity for placing them in some position where, by the aid of proper treatment, they may be kept healthy and plump without being prematurely excited into growth, must immediately present itself. It is well to let the pseudobulbs thoroughly finish up and begin to harden before removing the plants to a cooler house, but it is not well to leave them too long in heat for the earlier part of the resting season.

The drier and airier the house in which the plants are placed to rest is kept, the better will they stand a cool temperature, and even benefit by it, but a cold, damp house often causes great injury. In some gardens a cool, dry vinery is used for resting the Dendrobes, and in others a cool intermediate house is set apart for that purpose. Wherever the plants are placed, it should be borne in mind that they want looking after just as much as they do when growing, although watering being much reduced, they need not take up so much time. The Dendrobes may be divided into several sections, the largest being that which includes D. nobile, D. lituiflorum, D. Wardianum, D. Bensoniæ, D. crassinode, and all those other Indian kinds which lose their leaves when at rest. These are the easiest managed, and simply require keeping cool and dry while at rest.

The next division includes D. chrysotoxum, D. aggregatum, D. Jenkinsi, D. densiflorum, D. Farmerii, &c., which are commonly called evergreen kinds; these rest well with D. nobile, and only require a little water now and then to keep them plump. The D. macrophyllum (superbum) section, D. anosum, D. Dayanum, and all allied species, want well looking after to see that they do not get put in too cold a place while at rest; they should, therefore, be rested warmer than the nobile and Wardianum class, as they are liable to injury.

The nigro-hirsute section, D. formosum, D. infundibulum, D. eburneum, D. Jamesianum, D. longicornu, D. hedyosmum, D. Lowii, &c., are perhaps the worst-managed of any section of Dendrobes. They refuse to be treated together, and only thrive when grown each separately, or with the one or two which requires similar treatment. With D. formosum, D. eburneum, D. longicornu, and D. hedyosmum, the most prolific cause of loss is growing the plants in pots. When so grown, they generally go on well until the resting time comes, and often seem right when the next growing time comes round, but frequently they are unable to grow again, as their eyes have decayed. A few growers do these well in pots, but, as a rule, they are only safe in baskets or on blocks. I have known them grown in pots, and successfully wintered by being shaken out of the pots and simply suspended in a cool house until the growing season came round again. They certainly resent having much stuff about them in winter, and are soon ruined if it is kept moist.

D. Jamesianum and D. infundibulum thrive better in pots, and they should be wintered in a cool part of the Cattleya house or, as some do them, on a shelf in the cool house. D. Lowianum grows best in a pot, and it seems to require rather more heat than the others. There are also many other Dendrobes requiring special treatment, but which any reasonable person can soon master if he be careful to secure for each a good growth, and afterwards a fair rest before growing time comes again.—*James O'Brien.*

Angræcum Leoni.—The Angræcums are among the most singular and interesting of the entire Orchid family. Whether we mention the large flowering A. sesquipedale with its spurs 12 ins. or 14 ins. long; the singular shell-like flowers of A. pertusum, producing its blossoms on the upper part only of the spike; or the pretty arching spikes of A. citratum, all are deserving of culture, and should have a place in every collection. A. bilobum too should not be forgotten, while A. caudatum is one that on no account should be omitted. With the exception of a slight tinge, greenish yellow, mixed with brown in A. caudatum, and a tinge of primrose-yellow in A. citratum, the flowers of all the species, so far as we have had them in cultivation, are of a clear ivory-white. In just one or two forms, however, a little green or brown may be observed in the spur, the invariable accompaniment to the flowers of this genera.

I have before me now a flower of one of the most recent introductions, A. Leoni, and though it is not to be compared with A. sesquipedale as far as size is concerned, it is nevertheless a most beautiful thing. Pure white, ivory-like flowers, with a spur 4½ in. long, with a strange twist in the middle by which instead of the point of the spur pointing downwards, it just turns exactly in an opposite direction. The flower I have was just cut from one of the recently imported plants, and though not so large as I had expected to find it, yet I doubt not as the plants get stronger, push out new roots and become established, the blooms will also come larger and stouter. As it is, blooming so soon after importing, and, withal, so freely, it is a very desirable plant, and as it gets more known, will, I am sure be eagerly sought after. The bloom measures from the tip of the upper sepal to the tip of the labellum 2¼ inches, and the same in width across the petals. I speak of the upper sepal, &c., as the flower is in my hand; on the plant the flower stalk has just half a twist, and the labellum comes to the top, as in A. eburneum. Whether it will always come so remains to be seen.

The thick leathery leaves curving downwards, are undivided, except just a little at their base, where they join the stem of the plant. The flowers are very sweetly scented, and as is the case with A. sesquipedale, it would appear to be more fragrant at night than during the day time. As it is stated to be found at an elevation of 4,000 to 5,000 ft. in the Comora Islands, it should succeed best in an intermediate house, but then that just depends on the season when it is first received; if it should come in the summer, it would probably be quite warm enough. If, however, the plants come in early spring or autumn, perhaps it would be the best course to keep it in a light position in the East India house. When once established and new roots have appeared, then give it less heat, with an abundance of light and water whilst growing.—*W. Swan, Fallowfield.*

Orchids in Flower at Westbrook, Sheffield.—This is not the best time to inspect collections of Orchids, as it is now what is generally termed "the slack season;" but where there is a good collection, as at Mrs. Wilson's, one can always see something interesting. Amongst the clean and healthy Vandas may now be seen the rare and beautiful V. Sanderiana, with its erect spike of large flowers. V. Lowi is bearing a fine drooping spike of richly spotted flowers. These two new Vandas have another good quality; they flower freely in their young state. Saccolabium Blumei majus, Phalænopsis, Sanderiana, P. violacea, Odontoglossum Roezlii album, and O. Alexandræ, several plants, some very fine, both in spikes and flowers. Poor varieties find no favour with Mrs. Wilson's son, Mr. A. Wilson, who is, without doubt, an excellent judge of these plants. O. Pescatorei, O. Lindleyana, O. vexillarium rubellum, Oncidium macranthum, O. incurvum, Grammatophyllum Ellisii, Epidendrum vitellinum majus, Masdevallia ignea, Cattleya crispa, Miltonia Regnelli, Zygopetalum Gautieri are also in bloom. They are well arranged in a span-roofed flowering house, interspersed with tuberous Begonias, which have a very pleasing effect. The Orchids are all in a condition which reflects great credit upon Mr. Pidsley, the gardener.—*J. W., Sheffield.*

FLORICULTURE.

The Hollyhock.—It was, indeed, pleasant to see the fine old Hollyhock so well and finely represented at the Crystal Palace Show. It is true that nearly all the exhibitors came from the north of England, where there must be a considerable revival of Hollyhock culture, and the specimens exhibited were so good that they recalled the palmy days of the Hollyhock, when Chater, Paul, Ward, Rake, and others, raised and exhibited in friendly rivalry. Happily for floriculture, no florists' flower, however it may fall into neglect from some cause or the other, falls away utterly. Some one takes it to his heart, and grows it quietly, sometimes winning back again for it a constitutional vigour that it may have lost through excessive propagation. Eventually it is again shown in rare form, and then the forfeited popular fame is obtained for it once more. The Hollyhock has undergone some such vicissitude, but it is surely coming again to the fore, as was evidenced at the late show.

The principal exhibitor was Mr. Geo. Finlay, gardener to Mrs. M. Proud, East Layton Hall, Darlington, and not only is he a successful cultivator, but he is a raiser also, and appears destined to give us a batch of new and very fine flowers. Such varieties as Grace Darling, Mrs. Maynard, Octoroon, Pride of Layton, Favourite, John Finlay, Robert Ryle, Pollie Hogg, and Flora Macdonald, appear to be quite new, and, in all probability, raised at Layton Hall. There were very fine examples of such grand old varieties as Hercules, Nobilis, Ruby Queen, Formosa, Majestic, Walden Queen, Conquest, Joshua Clarke, and Venus, mainly, if not wholly, raised by the late William Chater.

Is the ravages of the disease gradually being overcome? We think there are evidences that is so. We have this season seen some patches of plants, and in all cases, were they were being cultivated, they were greatly improved in appearance, and were less damaged by disease than has been usual for some years past.

Let fanciers of the Hollyhock turn their attention to the production of vigorous growing seedlings. Let robustness of habit be made a prime consideration, and quality of flower can follow. But let them also grow with the greatest care any fine named varieties they may possess, doing all that in them lies to neutralize the effects of the disease. This done, a revival will surely come with strength, and we may anticipate the time when spikes and blooms of Hollyhocks shall once more be a prime feature of our late summer exhibitions.

HORTICULTURAL SOCIETIES.

Derby Horticultural, *September 9th and 10th.*—The annual show of this society was held in connection with the Agricultural Society's Exhibition on the recreation ground; but unlike the experience of previous years, the weather was very showery on the opening day. On the second day, however, it was gloriously fine, and consequently the show was largely attended, and was undoubtedly a success. The exhibition was held in three spacious marquees, a large round tent being used, as at Clay Cross and York, for the open competition, one for amateurs and cottagers. The leading prizes in all classes brought out strong competitions, and the various exhibits were quite up to the average. The principal prizes for stove and greenhouse plants brought together the old rivals, Messrs. Cypher and Tudgey, and the latter had again to lower his colours to the Cheltenham grower. Mr. Ward, Riddings House, was awarded the first prize in the amateur's class; but in the opinion of several competent judges, the second prize lot, belonging to Mr. C. Roberts, of Leek, should have had this honour, his plants being fresh, bright, and healthier than the others. The same error of judgment occurred also in awarding the prizes for Black Grapes. Those exhibited by Mr. Goodacre, Elvaston Gardens, and placed second, although not so large in bunch, were finer in berry and better finished, and should have held the premier position. The same thing occurred in the judging of Peaches. The committee, we think, would do well to consider this matter seriously, for nothing injures an exhibition sooner than unsatisfactory judging. In his first prize group of twelve stove and greenhouse foliage and flowering plants, Mr. Cypher had Allamanda nobilis and Hendersoni, Clerodendron Balfourianum, Ericas, Irbyana and retorta major, Ixora Colei, Phænocoma prolifera, Kentia Forsteriana, Latania borbonica, Cycas circinalis, and Crotons, Sunset and Prince of Wales, a good dozen, but we have seen better; Mr. Tudgey, who was second, showed Bougainvillea glabra, Ericas, Aitoni and Irbyana superba, Ixora amabilis, Statice profusa, Cycas revoluta, and C. circinalis, Kentia australis, Crotons, Johannis and Andreanum, and Pritchardia pacifica, his weak point being the flowering plants; Mr. Haslam, of Hartoft, whose plants were much smaller, but nice and clean, was third. For twelve stove and greenhouse flowering and foliage plants, open to gentlemen's gardeners, the first prize was awarded to Mr. Ward, Riddings House, Alfreton, who had Crotons, Mortii and Weismannii, Ericas, Iveryiana superba and Austiniana, Vallota purpurea (a good mass, very showy), Ixora Williamsii,

Lapageria rosea, Anthurium Andreanum, Kentia Balmoreana and Australis, Phœnix sylvestris, and Cycas revoluta; second, Mr. C. Roberts, Highfield Hall, Leek, who showed nice fresh clean plants of Dipladenia splendens (not often seen now), and D. profusa, both good, Anthurium Scherzerianum, Clerodendron Balfourianum, Allamanda nobilis, the old neglected Gloriosa superba, in grand form, Erica jasminioides alba, Latania borbonica, Thrinax elegans, Kentia Australis, Croton majesticus, and Encepholartus villosus, a good dozen, which should have decidedly been placed first. The other prizes went to Mr. W. Milford, Allestree Hall, Mr. F. Gilbert, Duffield Hall, and Mr. W. D. Robinson, Meynell Langley, whose collections contained some fair specimens, but generally lacking quality and size; these groups combined, formed a grand centre to the spacious circular marque.

Cut Flowers were shown in quantity—the Roses were good for the time of the year, the Dahlias and Marigolds very fine, as were also the Asters and Gladiolus; Verbenas were poor. Trusses of double and single Zonal Pelargoniums were better. Bouquets were shown in considerable numbers, but the prize was easily taken by Mr. Cypher, whose well-known artistic arrangement should afford a valuable lesson to the other competitors. As is often the case, good flowers were spoilt, owing to the crowded way in which most of them were put together. Miss Cypher also easily won the first prize for Bouquets exhibited by ladies—those shown by the fair sex were far superior to the others generally; with a table of plants, flowers and fruit arranged for effect, on a table 8 ft. by 3 ft., the prize was easily taken by Mr. Ward, Riddings House, with a very good display.

Fruit was good, especially the Grapes, and the competition strong and very keen. The first prize, for a collection of ten distinct sorts, was awarded to Mr. Goodacre, Elvaston Castle Gardens, whose collection consisted of a good Pine, Melon, Muscat Grapes, Barrington Peaches, Pond's Seedling Plums, Pine Apple, Nectarines, Morello Cherries, Jargonelle Pears, Moor Park Apricots, Worcester Pearmain Apples—a good lot indeed; as were also Mr. Ward's, Riddings House, and Mr. Evan's, Chaddesen Hall, who were second and third, in the order named.

Grapes, both white and black, were shown in quantity, and the quality was good. The first prize for black Grapes, two bunches, was awarded to Mr. Evans, Chaddesen Hall; but in our opinion, those exhibited by Mr. Goodacre should decidedly have had the premier award, instead of the second; third Mr. McVinish. For white Grapes the last named exhibitor, Mr. McVinish was first, with good bunches, fine berries, well coloured, of Chassell's Napoleon (labelled Muscats); second, Mr. H. D. Smith, Alvaston Hall; third, Mr. G. Bolas, Hopton, who both showed good samples of Muscat of Alexandria. The Pines were not up to the usual standard of excellence. Peaches and Nectarines were only fairly represented, as also Melons; but Apples were first-rate, some splendid samples were shown, both of dessert and kitchen varieties, and the same may be said of Pears.

Vegetables.—Collections of twelve sorts were shown well, the leading prizes going to Messrs. J. and H. Hickling, of Loughborough, who were first, with Messrs. Salisbury and Cooper second and third, in the order named. Potatos and other vegetables were exceedingly well shown, both by amateurs and cottagers, who, in other classes open to them, showed well all round, their plants, flowers, fruits and vegetables, reflecting great credit upon those who exhibited. The children who competed for the bouquet of wild flowers are also to be congratulated upon their exhibits.

Miscellaneous Exhibits not for competition included a collection of twenty-five sorts of Apples from Mr. Goodacre, Elvaston, the varieties being such as he had found, from his long practical experience, the best adapted for the district. They were shown upon boughs just as they grew, and were legibly named, so that the public could see for themselves the prolific qualities of each. Messrs. Barron & Sons, Elvaston, showed a choice collection of Coniferæ, &c., containing many novelties of sterling merit, and which ought to have been named to be of any service to intending planters. The same firm also exhibited rustic summer-houses, garden-seats, &c., and the splendid form of Lilium auratum, known as rubrum vittatum, in which bright red takes the place of the golden marking in the ordinary auratum. Mr. Cooling, nurseryman, Derby showed collections of plants, cut Dahlias, Roses, &c., wreaths and crosses, which were greatly admired. Mr. John Campbell, gardener to C. E. Newton, Esq., Mickleover Manor, Derby, showed six splendid bunches of grapes, well finished, of two Muscats of Alexandria, 5¾ lbs. each, two Cannon Hall Muscats, about the same in weight, and two Alnwick Seedlings, also very fine bunches, over 4 lbs. weight, and well coloured.—*A. O.*

Royal Caledonian Horticultural.—*Sept. 9th and 10th.*—The autumn exhibition of this society held as usual in the capacious Waverly Market, was a great success, the show of fruits especially, being very extensive, though not equal to that held at the Crystal Palace in the previous week, as regards the quality of the Grapes. The entries in all classes numbered over 1,500, and fully 200 more than at the Great International in 1883, and during the two days the show was open the sum of £340 was taken at the doors, the largest amount recorded at any previous ordinary autumn show. The most successful exhibitor of Grapes was Mr. Hammond, gardener to Sir Wilfred Lawson, Brayton, Carlisle, and next to him came Mr. Forbes of Callendar, and Mr. McKelvie, Broxmouth Park, Dunbar. For a collection of twelve sorts of fruit, Mr. Murray, gardener, Culzean Castle, Maybole, was first, beating Mr. McIndoe, gardener to Sir J. W. Pease, Hutton Hall, Guisborough. With eight dishes Mr. McKelvie, Broxmouth Park, also beat Mr. McIndoe, and for a collection of ten sorts of hardy fruits, Mr. Fairgrieve, gardener, Dunkeld, came in first, Mr. McIndoe again coming in second. The black Grapes took the precedence over the white ones, both for size and finish, and Mr. Hammond's samples were of a high order of merit He secured the first honour for twelve and eight bunches, and the second prize for four, showing, in the first named class, Pearson's Golden Queen, Alicante, Gros Maroc, Raisin de Calabre, Muscat of Alexandria, &c. Mr. Forbes, first prize, four bunches, were also very fine; and among other prizes awarded was a special one to Mr. G. Ramsay, Fordel Gardens, Inverkeithing, for five bunches of a white Grape not named. Messrs. William Thomson & Sons, of the Tweed Vineyards, Clovenfords, exhibited two lots of their fruits as prepared for transit to London. The Grapes, named the Duke of Buccleuch, were loosely laid on tray baskets, on which they remain inside box cases during transmission, and they arrive at their destination usually almost as fresh as when cut. Messrs. Thomson & Sons were awarded a special prize for packing and the general excellence of the fruit. The best two bunches of Muscat of Alexandria came from Mr. James Day, Galloway House, Garlieston, and the best Black Hamburgh, from Mr. Forbes, of Callendar. In the Alicante class Mr. Hammond was again to the front, while for a single bunch of Gros Colmar, Mr. James Cocker, Bonnybridge, was first; and Mr. W. Murray, was first for Lady Downes. Mr. McIndoe had the best flavoured black Grapes, and Mr. Machattie, New Battle Abbey, the best flavoured white. Mr. James Morrison, Archerfield, had the best single and best pair of Pine Apples. Mr. Hammond was also in strong form with Peaches in a good class, and also with Melons; and Mr. Hunter, Lambton, cleared the board of the first prizes for Pears, Apples, and Plums. Mr. Hunter had also the best collection of dessert Apples, and Mr. McIndoe the best six culinary sorts. In the single dish classes, Mr. Malcolm M'Lean, gardener, Vinters Park, Maidstone, had the best King of the Pippins, and was second in several other competitions. Vegetables were shown extensively and well, the competition in most of the classes being very strong.

In the department for plants there was an excellent display, Messrs. Ireland & Thompson were again to the front for the best table of plants; Messrs. R. B. Laird & Son being a good second. The first prize winners had in this group, foliage plants, Orchids, Pitcher Plants, Crotons, and Begonias; as arranged for effect, the table was pleasing and light in appearance. Mr. Robert Grossart, gardener to James Buchanan, Esq., Oswald Road, was first in the gardeners' class with a similar table, which showed some superior foliage plants, Orchids, and Crotons. The Rose section was naturally an attractive one, but, of course, not so important as at the earlier shows of the year; there was, however, a a fairly large display. Messrs. Cocker & Sons, Aberdeen, took a couple of first prizes, and on this occasion, obtained precedence over Mr. Hugh Dickson, Belfast, a well-known prize-taker and grower of Roses. Superior collections of cut flowers were shown by Messrs. Ireland and Thompson, and Messrs. R. B. Laird & Sons, composed of stove and greenhouse flowers, and they respectively took the first and second prizes. The Dahlias were prominent in the cut flower class, and some large and handsome double blooms was shown by Mr. W. Montgomery, the Glen Nurseries, Cardross. The first prize-takers for single blooms were Messrs. John Lamont & Son; of the remainder of the cut flowers, Gladioli were an attractive display, but they were not equal to former seasons; Heaths were again largely shown, and included several good specimens, both as regards shape and flowering. There was also a good collection of stove and greenhouse plants; and amongst the Ferns, which were generally equal to previous displays, the Adiantums, perhaps, took prominence.

Royal Horticultural of Aberdeen, *Sept. 10th and 11th.*—As briefly announced in our last issue, this annual exhibition proved to be the best ever held in Granate City, both as regards the quantity and quality of the productions exhibited and the number of visitors. The display of fruit was especially fine for the district, and the competitions generally very keen and closely contested. Her Majesty's first prize for a collection of fruits was won by Mr. Fairgrieve, gardener to the Dowager Duchess of Athole, Dunkeld, who staged excellent examples of Grapes, Peaches, Nectarines, Apricots, Melons, Apples, and Pears, &c. The second prize, a timepiece, given by the Earl of Aberdeen, was won by Mr. Forrest, his lordship's gardener at Haddo House, who ran his more successful rival very close; and the third award, a silver epergne, given by Sir John F. Clarke, was taken by Mr. Clarke, gardener to the Earl of Wemyss. The other leading prizes were awarded as follows:—To Mr. Campbell, nurseryman, Blantyre, a cup for the best twenty-four Carnations; to Mr. Hunter, gardener to J. L. Grant, Esq., Richmond Hill, a cup for the best eighteen cut Roses; to Mr. Hunter, gardener to Sir Francis Grant, Monynusk, a challenge cup, given by Messrs. Wm. Smith & Son, seedsmen, Aberdeen, for the best basket of vegetables; and to Mr. Grigor, Sunny Bank, Aberdeen, a cup for the best collection of Potatos.

Among the trade exhibitions of plants, cut flowers, &c., Messrs. W. Smith & Son, Messrs. J. Cocker & Son, Messrs. Ben. Reid & Co., Messrs. D. & W. Croll, Dundee; and Mr. Campbell, Blantyre, and Mr. M'Pherson, Deemount, were large contributors. Prominent among the vegetable exhibitors were Messrs. Ogg, Morkue; Henderson, Pitmuxton; and Beattie, Auchterless. In other sections the prize-takers included Mr. G Maitland, Woodside; Mrs. W. Pope Gardener's Hall; Mr, Smith, Aboyne Castle; Mr. Milne, Cluny Castle; Mr. Minty, Mr. Kilgour, Mr. A. Reid, Urie House; Mr. J. Ogg, Fintray House, &c.

QUESTIONS AND ANSWERS.

Bamboo Canes.—Will some readers of the Gardening World kindly inform me where Bamboo Canes, for staking plants, can be bought?—*C. G.* [We believe most of the Horticultural Sundriesmen, whose address will be found in our advertising columns, keep them in stock.—Ed.]

Grape, Chasselas Napoleon.—*G. C.*—This is a large, ovate, white Grape, like the White Tokay, which is grown in France to some extent. It does not set very freely, and is quite third-rate in quality. Another variety, somewhat like the Royal Muscadine, is also called Chasselas Napoleon.

Names of Plants.—*C. Penn.*—Please send better specimens, and number them.—*M.*—1, Aspidium dilatatum (Lastrea dilatata); 2, Athyrium Filix-fœmina; 3, Athyrium Filix-fœmina laciniatum; 4, Aspidium (Nephrodium) molle; 5, Veronica longifolia subsessile, sometimes called Hendersoni, in gardens; 6, Solidago canadensis.—*A Constant Reader.*—The flowering shrub is Leycesteria formosa, and the conifer, Retinospora filicoides, as near as we can tell from such a small bit.

Names of Fruits.—*T. F., Cheshire.*—It is the old Sweet Damson, and not worth planting, as it only bears a crop about once in seven years. A large number are grown in the hedges about Swanley, Kent, and they bear a crop now and then. What you bought, in all probability, came from that district. If you want a good, regular cropper, plant Crittenden's Cluster or Farleigh Prolific.

Chrysanthemum Boxes, &c.—*Sam Johnson.*—Mr. N. Davis, Lilford Road Nursery, Camberwell, keeps a stock of Exhibition boxes, cups, and tubes, of the regulation pattern. Your other enquiry next week.

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Royal Berkshire Seed Establishment, Reading.—Bulb Catalogue for 1885.

Charles Turner, Royal Nurseries, Slough.—Dutch and other Choice Bulbous Roots, Roses, Fruit Trees, Hardy Trees and Shrubs, Climbing Plants, &c.

Chantrier Freres, Montefontaine, Plailly (Oise), France. New Plants, Fine-foliaged Stove and Greenhouse Plants, &c.

Henry Bennett, Pedigree Rose Nursery, Shepperton.—Pedigree and New French Roses for the Autumn, 1885.

Richard Gilbert, High Park Gardens, Stamford.—One dozen Specialities in Flowers, Fruit, and Vegetables.

Communications Received.—A. O.—E. D.—G. F. W.—E. J.—J. W.—A. F. B.—G. B. (many thanks)—W. S.—J. D.—W. H. W. T.—D. J. N.—J. T.—T. B.—W. H. (many thanks)—B. B.—H. W. W.

SHOWS.

THE GRAND NATIONAL POTATO EXHIBITION will be held at the CRYSTAL PALACE, Sydenham, London, S.E., on October 7th, 8th, and 9th, 1885.

For Schedules and particulars apply to P. McKinlay, Headley Lodge, Croydon Road, Anerley, S.E.

Entries close on September 30th.

CRYSTAL PALACE.—INTERNATIONAL POTATO SHOW and GREAT AUTUMN EXHIBITION of HARDY FRUITS, October 7th to 10th.

For Schedules apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND EXHIBITION, November 11th and 12th. Schedules (free) on application.

NOTICE.—Floral Committee Meetings at the ROYAL AQUARIUM, on October 14th, 28th, November 11th, 25th, and December 9th, at 2.30 p.m. precisely. (Regulations see Schedule).

WILLIAM HOLMES, Frampton Park Nurseries, Hackney, London.

National Chrysanthemum Society's Catalogue, 6d. each.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 26, 1885.

Floral Grief.—Funeral reformers are just now awakening to the conviction that the present fashion of smothering the coffins of our dead with costly wreaths, crosses, and other floral devices is developing into a serious evil, and altogether the reverse of reform, or of any regard for simplicity, purity, and refinement. If we were writing solely in the interest of flower-growers and wreath-makers, we might exclaim the more of this sort of thing the better for the trade, because it does but bring grist to the flower-grower's mill. It is, however, very difficult to see in what way true horticulture can be benefitted by any continuation of a practice which must of necessity be fitful, and associated only with the most nervous forms of sensationalism. It may be well to banish from funerals the lugubrious and costly cortege, the feathers and sashes, and the mutes and other official aspects of mourning, because not only is all this kind of thing very costly, and a tremendous infliction upon those left behind, but it is, after all, but an exhibition of pride and vanity of the most depraved kind, for it is but an attempt to show to the world that grief, which is not deep, and sorrow that is not poignant, can find no other solace than in this attractive way.

From grave to gay seems, however, to be as easy a leap as from lively to severe; hence there is now seen a reaction from the masquerade in doleful black to one hardly less meritorious in glass and gilded panoplys, with exposed coffins yet smothered in floral devices, and thus pride and vanity are still as much gratified and appeased now, in these so-called days of funeral neatness and reform, as when the nodding feathers, solemn mutes, and lugubrious processions held sway. It is not a matter for surprise, therefore, to find that some who really have at heart the purifying and simplifying of our funeral fashions—for, after all, these ceremonies are but fashions—should feel alarmed at the progress of the new state of things, and perceive that costliness may exhibit itself in wealth of floral wreaths and crosses, and vanity be as amply gratified now as in days gone by. Even growers of flowers for this purpose may well feel some alarm at the development thus shown, because they must realise that such fashions are insincere, sensational, and sickly, and may at any moment collapse.

It really is well worth the consideration of funeral reformers, whether the association of show or ceremony with the disposal of our dead is not a great mistake after all, and that when all that is mortal is returned to its mother earth, it should not be performed with quietness and dispatch. In one respect, the association of flowers with funerals have one terrible significance, which few seem to realise—they so soon fade and die. Their beauty and sweetness is, when thus employed, so evanescent, they may well serve to show those who are yet left behind that mortal life is very fleeting, that the flesh of all human kind, rich or poor, is but as grass, and that it soon withers and dies. If there is one place more than another at which proud human nature should feel humbled, it is at the grave-side, when we are brought face to face with the terrible fact, that whatsoever may have been in life our social distinctions or differences, death levels all; and even the body borne to the grave under a mountain of costly wreaths and crosses of flowers reverts to the same substance as do that one on whom not a flower has been laid or a tear shed. There will presently come a revulsion of feeling from wreaths and other floral designs, which constitute upon the living a tax such as is becoming unbearable, and the sooner our growers realise that such a change is inevitable the better for them.

GARDENING MISCELLANY.

The Orchid Conference.—We understand that the Official Report of the Orchid Conference, held in May last, will be issued next month to all Fellows of the Society. It will embrace (1) a report of the proceedings at the Conference, including a paper read by Mr. H. J. Veitch, F.L.S., on the hybridisation of Orchids, with illustrations, and a paper by Mr. James O'Brien on the cultivation of Orchids, (2) botanical and horticultural reports by Mr. Henry N. Ridley, B.A., F.L.S., Natural History Museum, South Kensington, and Mr. F. W. Burbidge, F.L.S., Trinity College Gardens, Dublin, (3) an alphabetical List of the genera of Orchids, (4) a catalogue of exhibitors and exhibits. It will be in book form, octavo size, and contain about 150 pages.

Mr. J. Cameron, outside foreman to Mr. McKinnon, Melville Castle, Lasswade, Midlothian, is engaged as gardener to H. Ryder, Esq., Westbrook, Hemel Hempstead.

Industrial Exhibitions.—Not long since we called attention to these in connection with flower shows, and advocated their extension as calculated to be the means of working great good if judiciously arranged and worked. Our friend, Mr. Thomas Sibbald, Nurseryman, Bishop Auckland, has just sent us some particulars of a show of this character, held in connection with a Horticultural Exhibition at Shilton, an important coal district near Bishop Auckland. This exhibition, which is a somewhat varied one, is perhaps unsurpassed in the Kingdom. It is stated there were 3,400 entries altogether—horticultural, mechanical of all sorts, needle-work of every description, bread and butter making, &c. In addition, there was a capital show of poultry, many hundreds indeed. A tent, 120 feet in length by 40 feet in width was entirely filled with articles submitted by school children. There were competitions with mechanical works in metals done at the show; and machinery in motion. It is scarcely necessary to say this show is eminently successful. Here then is a striking proof of the value of Industrial Exhibitions in connection with flower shows.

Essex Field Club.—At the Sixth Annual Cryptogamic and Botanical Meeting of this Club, to be held at Buckhurst Hill, Epping Forest, on Friday and Saturday next, papers will be read on "The Uses of Fungi," by Dr. H. T. Wharton, and on "Some Botanical Mare's-nests—chiefly Fungological," by Mr. Worthington G. Smith.

Mr. G. Knight, who for some years was gardener at the Royal Hospital, Chelsea, died at Sarisbury, Southampton, on the 13th inst., aged 71 years.

Plants Certificated in Ghent.—At a meeting of the Belgian Chambre Syndicale des Horticulteurs, held in Ghent on the 14th inst., certificates of merit were awarded to Mr. A. Van Geert, senior, for a new Cypripedium; to Mr. Edward Pynaert, for Tradescantia albo vittata; to Messrs. Desbois & Co., for Dracæna Australis fol. var.; to Mr. Jules Heye-Leysen, for Cypripedium Petri, C. Tonsum, C. œnanthum superbum, C. albo-purpureum, C. tassellatum porphyreum, and C. selligerum majus; to Messrs. Vervaet and Co., for Odontoglossum fachetum; to Messrs. Dervaes, for Rhus cotinus peudula; to Messrs. Desbois and Co., for Pavonia intermedia, and Abutilon chrysostephanus; to Mr. Aug. Van Geert, for Gymnotheca Raddiana crenata, Piper ornatum, and Arenga Kasarinei; and to Mr. Louis Van Houtte, for double varieties of tuberous Begonias.

The Election and the Chrysanthemum Shows.—If the prorogation of the present Parliament from now, till over the 5th of December, means that the General Election originally fixed to take place about the middle of November is to come off a month later, or at least, early in December, then, all Chrysanthemum-growers and exhibitors will have cause to rejoice. True, the turmoil and strife of an election contest will still be proceeding during the Chrysanthemum month, but strife of this sort is conducted now with much less of strong feeling and bitterness than formerly existed, hence, the stage of the contest in November, assuming that the actual fight is postponed till December, will not be an acute one, and shows will not be interfered with. Had the actual election been fixed, as was generally anticipated, on or about the middle of November, it is most obvious that the shows generally would have largely suffered, not only because many who take part in them would be actively engaged elsewhere, but also because public interest would be greatly excited in another and an adverse direction. There seems at present no hope that the Chrysanthemum show season will expand beyond the month of November, or even that it may be possible so to regulate those which exist, as to spread them over a longer area of time. All want to catch the best flower season, and without doubt in the south, that best season is found in the first and second weeks of the month. Sometimes it happens, owing to the specially forcing nature of the autumn, that shows might with advantage be held a little earlier, but very seldom later, except farther north. We do not want to see them earlier, because it should be, as far as possible, the object of the Chrysanthemum specialists to make their favourite flower one less valuable for autumn decoration than for winter use. If we could show as fine a display of these truly popular flowers at Christmas as we can now in November, we should indeed have achieved a great triumph over the season of winter.

Tuberous Begonias as Bedding Plants.—When it was first suggested that these marvellously free blooming and showy plants might prove useful for bedding purposes, the idea was derided in many quarters, but there can be no room for doubt now, after another season's trial, that the plants have proved their claim to high rank as late summer and autumn blooming plants. Dry weather or wet, seems to be all the same to them, for, given good cultivation in the early stage, and a reasonable amount of attention after planting, they seem to grow with the freedom of a zonal Pelargonium, and yield shades of colour that even the popular "zonals" might envy. Grandly as the zonal Pelargoniums have

flowered this season, and still gay and effective as many of them still are, notwithstanding the heavy rains, they are not to be compared for brilliancy at the present time with the Begonias; wherever they have been tried, there has been no mistake about the results. In the nursery of Messrs. John Laing & Co., who have done so much to set this flower on its pinnacle of fame, there has been, and still is, such a display of these flowers as incontestably proves their sterling worth, and with 60,000 seedlings in bloom to select them there should be no lack of novelties just yet. It is doubtful, however, if the run on named sorts in the future will be so great as in the past, for the seed sold by the leading growers is so good and gives such good varieties for bedding purposes that many now depend on seedlings for their stocks, and that they have no reason to be disappointed we have had many opportunities of observing. At Swanmore Park, Bishop's Waltham, Mr. Molyneaux has employed them to great advantage, and may well be pleased with the results. A box of blooms which we have received from him are of a particularly good type, large in size, of good substance and form, and singularly bright in the various shades of colour.

Maurandya Barclayana.—In answer to an enquiry for information respecting the history of a plant known in gardens as the Barclayana Vine, the editor of the American *Gardeners' Monthly* remarks, that he does not know why it is that flower lovers have dropped the name of the genus for that of the species in this case, and adds:—"It looks like a determined effort on the part of flower lovers to ignore the honour to a lady which this pretty Mexican genus was intended to establish. The author of the name, Ortega, says it is for 'Donna Catherina Pancratia Maurandy, wife of Don Augustin Juan, Professor in the Royal Botanic Garden of Carthagena,—a learned lady, a sharer, if not indeed a leader in her husband's botanical labours.' But all our text books give the honour to 'Dr. Maurandy, Professor of Botany in Carthagena.' It is remarkable that after the botanists should have dropped the lady, ladies themselves, whom we supposed started 'Barclayana Vine,' should have also given to a man the honour intended for the Professor's wife."

A Cheap Tree Digger.—Perhaps I may serve the nursery craft and others by describing a home-made one-horse digger, which has proved a very serviceable tool for my purposes. Taking a worn-out side-hill plough, the swinging mould board and some other appurtenances were removed, leaving but the thin iron frame under the beam. This frame was left to support a steel sword, or cutter, which was made to be about 2 ft. long, and which went from the beam in front of the frame, and extended 18 in. below it. Any blacksmith can affix such a sword to such a plough at a cost of a dollar or two. One horse is equal to making a cut in ordinary soil from 15 to 20 in. deep. After a cut on both sides of a row, most kinds of small trees and shrubs will readily pull without breaking the roots. In some cases it is well to go a second time in the cut, driving the cutter down to its length, and inclining the point under the trees. The advantage of this tool over the larger and patented kinds is in its trifling cost, and also in the ease with which it is operated by a single horse in any soil. Of course the large double machine is much better for large trees and extensive nurseries. But for many kinds of digging, this smaller cutter will serve the purpose equally well, and at less expense in operating.—*W. C. Strong, Gardeners' Monthly.*

Cork dust for drainage.—Mr. R. C. Appleton, The Bar House, Beverley, writing to the *The Garden*, says:—The two most important conditions as regards success with pot plants, are, permeability of the soil and efficient drainage. Ordinary crock drainage occupies time to put it in position, lessens the space for soil, and adds materially to the weight. It cannot be said, therefore, that crocks make the best drainage, but cork when situated so that speedy evaporation cannot easily occur, is eminently suitable. During these last two years, I have drained all my pots with cork, but I riddle out the dust and use only the nodules. My potting is for the most part among alpines, and so far as I know, nothing concerns success or failure in the case of these plants when grown in pots more than drainage. One may easily interfere with the growth of an alpine, if, when giving a shift, crocks or coal ashes fall away from some of the best roots, but, in the case of cork dust, a few roots interspersed among the nodules seem to hold them in position; consequently, root disturbance is, to say the least of it, minimised. In my experience, too, I find that there is another and great advantage in the use of cork nodules, and that is, worms do not often disturb drainage of this description. Coal ashes are also good, in this respect, but cork, I think, is better, and I know of no fungus which attacks cork in such a position; moreover, I do not think it possible, especially after the separation of the dust, by firm potting to so compress the nodules that porosity becomes impaired. Cork waste, I may add, may be obtained in almost every town free from cost, a point of no small importance in its favour.

LACHENALIAS.

The ease with which these beautiful spring-flowering Cape bulbs may be grown ought to be a sufficiently good recommendation to induce amateurs and even cottagers to take up their culture. In consequence of the stages in a house once under my charge being too far from the glass, I grew them for years in a pit where the temperature frequently fell below freezing point, and I have seen pots of them that had been exposed to 10° of frost. I allude now to the varieties tricolor, pendula, and quadricolor, for I have no recollection of having seen any others except in botanical gardens, and I have reason to believe that the culture of those enumerated is confined generally to large establishments, where they are found useful for furnishing, as they stand well in rooms. In a cut state the spikes are admirably adapted for mixing with other flowers, and relieve the monotony of those more formally shaped.

The bulbs should be procured at once and potted in soil similar to that used for Hyacinths and other bulbous roots. Some recommend peat and sand, but as I have not tried these ingredients I am not prepared to recommend them; indeed, I have had such good results from the use of various sorts of loam with an admixture of leaf-mould, sand, and sometimes manure, that I should not think of using such an expensive article as peat is in the majority of districts. The pots to be used may vary in size from 4 ins. to 7 ins., according to the grower's fancy or requirements, and the bulbs must be inserted 1 in. apart and 2 ins. below the rim of the pot, to which, in the first instance, they should have been filled. This will allow an inch of the compost to be placed over the bulbs, and the remaining space for watering, very little of which is required till 1 or 2 in. of growth has been made. If moderately moist soil has been used at potting time, we have witheld water till growth has appeared above the soil. Over watering at this early stage is productive of weakly growth, and frequently brings about the total decay of the bulbs. For this reason, after they are potted, always give them the protection of a light in a frame or pit.

During the winter they should have a light position, and be kept well up to the glass or the leaves will become elongated and the flower spikes, instead of standing erect, will fall over if not supported. The end of March is about their usual flowering season, but they vary a week or two like other things, in proportion to the amount of sunshine they have received. By keeping them a little warm from December onwards, we have, however, had them in flower in the middle of February. For this batch the strongest bulbs and the earliest potted have been selected, and the weaker ones allowed to come on under the coldest treatment possible. After flowering the bulbs will need a rest, of which they will give indications by the foliage turning yellow, when the supply of water must be reduced, and when all the leaves are faded, be entirely withheld, and the pots turned on their sides either in a pit or out of doors, or the bulbs may be shaken out of the soil and be preserved in pans covered with sand. Those rested in pots we generally pot in the first week in August, so as to make sure of them before they form roots, which of course would be damaged by the operation of separating them from the dry hard soil.

Lachenalias are eminently fitted for growing in baskets, and their beauty and effectiveness are enhanced, if at the time they are planted a flower pot about 4 ins. in diameter is inserted in the centre of the basket and taken out when the plants are in flower, and replaced by a similar sized pot containing Pteris serrulata, or some other graceful upright growing greenhouse Fern, or ornamental foliaged plant. The temporary pot should be plunged level with the surface of the soil, so that the one containing the plant may be effectually hid, and it may for appearance sake be filled with soil, and even planted with the smaller bulbs. The baskets should be lined with moss, that which grows under trees, and which can be taken up in flakes and placed with the green side outwards being the most suitable. —*W. P. R.* [Besides the three kinds mentioned by our correspondent there are others which are even better worth growing. L. Nelsoni which the late Rev. John Nelson obtained by crossing L. aurea and L. luteola, is the finest of the genus, a strong vigorous grower, and of a beautiful rich yellow colour. Two other garden varieties raised by him, one from the same cross as the last named, red and green in the bud, yellow when fully developed, and the second from a cross between aurea and rosea, yellow when open, but claret coloured in the bud state, are also of the highest excellence. L. fragrans is red and white, and sweetly scented; L. contaminata is rose coloured, and Heliotrope scented; and L. pustulata is a very pretty and distinct white-flowered kind.—Ed.]

HYACINTHS IN GLASSES.

A popular writer on domestic floriculture has truly said, that "of all the delightful recreations that can dispense their kindly charms through the domestic circle, there is none scarcely so pregnant with the highest and purest enjoyment as the cultivation of a few Hyacinths in water. There are many reasons why this practice should be much more generally followed than it is, for there is so much pleasurable excitement about it, that the task of tending them, to one touched by a genuine and genial love for flowers, never falls to the low level of irksomeness." Those who have hitherto derived so much pleasure from the cultivation of Hyacinths in water, do not require to be reminded that the time is near at hand for them to fill their glasses and start their bulbs into renewed life, but to many others who are unacquainted with the simple details of this system of cultivation, a few seasonable hints may not come amiss. The first thing to do is to procure the glasses and the bulbs, and the latter should be obtained at once, as although it is not advisable to put them in water until the middle or end of next month, the main supply of bulbs having arrived from Holland, it is always advisable to buy them early on the principle that "first come is best served."

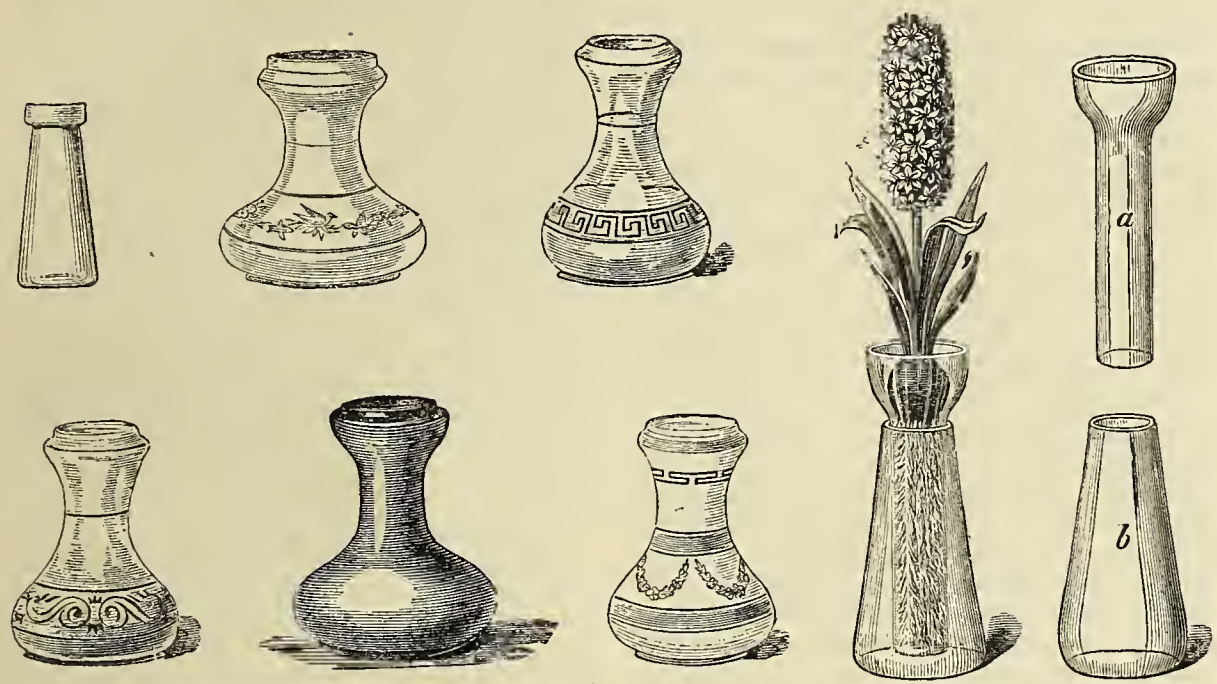
When selecting the sorts to be grown the tyro should remember two things, 1, that all varieties do not do equally well in water, and 2, that it is not necessarily the largest bulbs that yield the finest spikes. Weight and plumpness rather than mere size should guide the purchaser in his selection of the bulbs. As to the sorts which have been proved to give the best results we may mention the following dozen single varieties, as being thoroughly good:—Grand Vainqueur, white; Von Schiller, pink; Grand Lilas, azure-blue; Charles Dickens, porcelain-blue; Lord Wellington, pale rose; Mimosa, dark blue; Norma, pink; Queen of the Netherlands, white; Von Humboldt, purple; Ida, yellow; Argus, blue; and Robert Steiger, crimson. If more than a dozen are required, a selection may be made from the following:—Gigantea, delicate rose; Orondates, porcelain-blue; Grandeur a Merveille, pale blush; Madame Hodgson, pink; Mammoth, white; Argus, blue; Cosmos, rose-pink; Macaulay, rose; Baron von Tuyll, dark blue; Queen of Hyacinths, rosy scarlet; Seraphine, blush; and Alba superbissima, pure white. We have not named any double-flowered varieties, because in other than very skilful hands they do not come to the same state of perfection as the single ones.

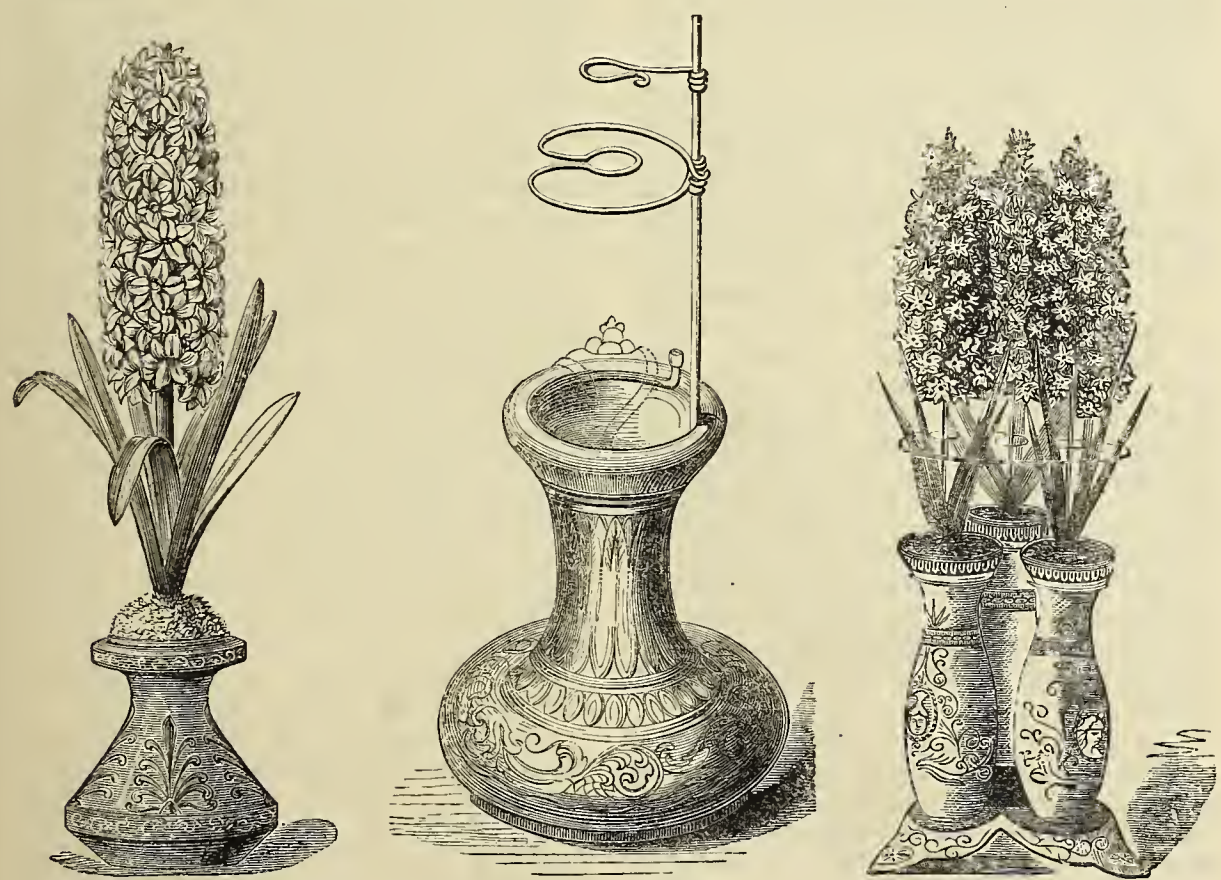
Having obtained the bulbs and put them away in a dry cool place till wanted, the next thing is to secure the glasses, which may be cheap or expensive, plain or ornamental, according to the fancy or the means of the purchasers. The old-fashioned tall chimney-pot shaped glasses shown in the left-hand corner of the first row of illustrations opposite, are now seldom seen. They were always ugly and ungainly in appearance and awkward to manage, owing to the difficulty of fixing to them the supports required by the spikes to prevent them from tumbling over. Thanks to the late Mr. G. P. Tye, of Birmingham, who was the first to introduce improved and more elegantly shaped glasses, and which in turn have been reproduced in artistic patterns by other makers, there is now in the market a very wide choice of elegant forms, both plain and ornamental, of which we add a few illustrations.

Other elegant forms are shown in the lower group of illustrations. These are not only available for growing Hyacinths in, but when filled with cut flowers at any other time form elegant ornaments for any room.

Bulbs and glasses having been obtained, and the right time at hand for putting them into use, fill the glasses with clear fresh rain-water to within about ⅛ in. of the base of the bulb, and if readily obtainable put in each glass a few small pieces of charcoal before putting the bulb in position. The charcoal will help to keep the water sweet so that it will not need to be changed very often. When the glasses are filled and the bulbs are in position, put them in a cool dark cupboard or other position where a tolerably equable temperature is maintained, that the roots may make a good growth before the leaves make their appearance, for on this depends much of the after success. Watch the glasses carefully and add fresh water as required to keep it up to the same height as at first, and when the roots have grown to about 6 ins. long it will be time to put the plants into the light, first on a sideboard for a few days to inure them to the light gradually. Then place them close to a window or on a greenhouse shelf close to the glass, and supply them with water as before. If put in a window the plants should be frequently turned round that all sides may have the same advantages, and so prevent them from being drawn into a one-sided position.

Where charcoal and clear rain-water is used, changing the water and cleaning the glasses will not often be required; but under opposite conditions, it is desirable that this should be occasionally done, and it must be done carefully to prevent any of the brittle roots from being broken. To many this is a tedious process, and to obviate it to a very great extent an Erfurt firm have introduced a tube into the ordinary form of glass, as shown in the illustration immediately above, for the use of which we are indebted to Messrs. Cannell & Sons, Swanley, who first brought it under our notice.





SELECT HARDY PERENNIALS.

(Continued from p. 22.)

Iris.—A short name, but a noble and mighty genus among hardy plants, a genus which for diversity of colour, combined with a lengthened flowering period, has no equal among perennials. It is indeed difficult to determine at what period they commence to flower, or when they cease to do so. The principal species which renders it thus difficult, is I. stylosa, which though generally referred to as winter flowering, I have had flowers of at all times of the year, from November to June. It is an evergreen species from Algiers, and one of the most lovely plants of my acquaintance. When all around is dormant and at rest, the days dark, dreary, and cold, and the earth in a snowy mantle wrapt, even then comes the fragrant lavender coloured blossoms of this charming plant, to gladden the mind, and brighten the surrounding gloom. It forms a compact tuft, somewhat similar to the Libertias, and grows about 15 ins. high; the leaves are strap shaped, and from these the flowers issue, unexpected it may be, but not unwelcome, coming at this time; it is quite unique, and deserving of every care. It is quite easily grown, and increased, though those who prefer fine specimens will do well to allow them to remain undisturbed for years. But to return, for I had not intended to particularise on this family at the present time, only to call attention to any seasonable work, which might be accomplished.

It is hardly necessary to make any comment on the extreme usefulness of the Iris family as a whole, for no lover of beauty, can in my opinion, behold these Irises in bloom without appreciating them, for like the Cattleya and Lælia in the Orchid-house, they are characterised by the extreme delicate satiny appearance, beautified in the highest degree by varying hues and shades, marvellously blended so as to almost defy the painter's art to reproduce them, in short they are unparalleled for grace and elegance, and all this loveliness, this exquisite grace and form of some of the hardiest of hardy plants, plants too, which do not object to smoky or thickly populated districts, and which may be easily grown in ordinary vegetable soil. Having said so much of the family collectively, I will now confine my concluding remarks respecting them more generally to the Germanica section, namely:—

Iris germanica.—This is the section of which the typical form may often be seen in cottage gardens and shrubberies in huge ungainly clumps, which, from sheer neglect, seldom flower in anything like a satisfactory manner. It is not this particular kind, or with this particular mode of treatment, that the genus will be made famous, for, though of free and easy growth, they are not adapted for planting under Lilacs, or similar things, whose masses of fibrous roots rob them of the moisture they so much need. Nothing can equal their floral beauty from May to July, and those who would lay up in store a supply of these charming flowers for the coming year, should do so by commencing planting at once. The recent abundant rains are much in favour of the operation, and by planting them now, you are insuring strong vigorous plants for next season's flowering. The planting is a simple work, and I need only add one word of caution to the unitiated, which is this, do not plant the rhizomes (which are the large thick tuber-like procumbent stems composing the root-stock) too deeply, not sufficiently deep to bury any portion of the green top. Let the ground be dug deeply, and fairly well enriched with manure, and cow-manure is the best if the ground be stony, previous to planting, taking care to place them firmly in position. As to the best varieties it is difficult to decide, for their name is legion, and the majority are good alike. The best plan will be to leave the selection to your nurseryman, whom, I doubt not, will treat you both fairly and liberally. Of the rest of this family I will say more anon.

Lathyrus latifolius.—This is the perennial or "Everlasting Pea," which has probably received its popular name from its being of perennial existence. It is well known, especially among cottagers, and may often be seen flowering in the wildest profusion where it has remained unmolested for years; and its large bright red flowers are very useful for cutting, being very serviceable. Very desirable, also, but alas, far from common is the pure white variety, which one sees so seldom now. In general appearance this is identical with the foregoing, but having pure white flowers. Of the coloured-flowered varieties, L. grandiflorus is the best, the flowers being extra fine, and of a fine crimson-scarlet hue. One and all of these perennial Peas are adapted for common garden soil, and may be supported by a single stake, or several twiggy ones. For the summit of a large rockery they are also suited, allowing them to lie upon the ground and to ramble at will among the large stones; thus placed it is very pleasing and natural. The first and last named come pretty true from seed, but the white, while produced in plenty, invariably lacks the purity of the original plant. In spring these may easily be propagated by being taken off with a heel, and inserted in sandy soil in a warm frame; they will emit roots in ten days.

Leucanthemum maximum.—This is a "Marguerite" of large proportions, and of good substance, distinct

from all else of the "Marguerite" type in its shining coriaceous leaves, and pure white flowers, with yellow disc. It is also much more vigorous and robust in general habit, growing about 2 ft. 6 ins. high, and forming a fine self-supporting bush, which is smothered during late summer and autumn with flowers nearly 3 inches across. As a hardy perennial it is first class, and for cutting invaluable. More than this need not be said of so good a plant, except that it is increased most rapidly either by cuttings or division of the root-stock.

Linum flavum.—Here we have an invaluable rock or border plant, growing about 1 ft. high, hence adapted for a front row or position where it may be seen to advantage. In it we find a neat bush, symmetrically formed, which is literally smothered, for about two months, with its canary-yellow flowers. It is quite hardy, and easily cultivated, and moreover, is most freely reproduced from seeds.

Lobelias.—Quite a distinct race from the bedding section of Lobelias, which are greenhouse or half-hardy annuals, are these handsome flowering perennials, which grow from 2 ft. to 3 ft. high. At the former height we have L. syphilitica, with spikes of blue flowers, and which delights in damp situations. The cream of the group, however, is to be found in fulgens, splendens, cardinalis, and Queen Victoria, any or all of which are admirably adapted for associating among bedding plants; and very pleasing effects may be produced by a mixed arrangement of Salvia patens and the dazzling crimson or scarlet spikes of these Lobelias. Give them a generous soil, and they commence flowering in July, and continue till frosts arrive; all are quite hardy, and do well in boggy or damp situations. Not the least attractive feature is their bronzy foliage, which contrasts so well with many plants; and very conspicuous they are among autumn-flowering perennials. They seed freely, and may be increased in this way, and also by division.—*J.* *(To be continued.)*

Scottish Gardening.

Notes on Vegetables.—This remarkably dry season, which has tried the resources of many cultivators in various parts of the kingdom, will not pass without leaving its lessons behind. While some in low-lying parts, and having heavy land under their charge, have been delighted with the season, the extreme absence of rain having suited their peculiar soil, others have complaints from the opposite cause, viz., shallow, dry, light soil, which can scarcely have too much moisture during the growing season; and the past season has been one of the driest on record. In this fine agricultural district, with high-class farming, Wheat, Oats, Barley, and most green crops are over the average; but we notice on some upland spots, where the soil is cultivated with a minimum amount of tillage, that all crops are poor in the extreme. The rule which applies to agriculture applies also to horticulture. Where manure is scantily applied, and the ground is shallow, or not trenched, the crops are inferior, and much difficulty has been experienced in combating the drought. Dry land and a parched atmosphere are trials which have to be met with fortitude.

It has always been noticeable that where cultivators break up the ground deeply they are rewarded with success. Mulching is always very serviceable, but it will not accomplish everything. If moisture is not really in the land plants cannot draw nourishment from the soil, and what are mere apologies for watering does more harm than good; the moistening of surface soil while the roots are struggling down in the ground, like ashes for dryness, is very conducive to premature seeding. We would, therefore, advise all who wish to have their gardens invulnerable against both drought and extreme wet, to trench deeply. The sun does not burn up deep land, and wet does not lodge in it when the bottom is broken up. It is also purified by the action of air; and the free healthy growth of plants on such deep soil does not require strong powers of distinction to decide what is the wisest course for cultivators to pursue. This certainly has been the most trying season of our experience, and yet the general appearance of most of the crops is such as suggests extra luxuriance.

The starting of young plants almost defied us, many not having vegetated in the parched soil. By covering seeds with kindly soil in well-watered drills was the only means by which we could make headway, some kinds succumbed to the drought after they had grown through the soil. A peculiarly dry winter (such as we always like), followed by absence of rain, and drying winds during spring and summer, are experiences which one seldom meets with. "All's well that ends well," however, and when one has every square yard of soil covered with useful crops there is much cause for thankfulness. As there is much difference in the habits and qualities of vegetables in different localities, we offer a few remarks on such as have found most favour with us this season. Most seasons we grow a few new kinds for trial, but rarely have we had to discard the old for the new, and at present we have little to present in the way of novelties.

Among French Beans Ne Plus Ultra and Osborn's Forcing have been by far the best for growing under glass, and they are difficult to beat; but outside a sowing of Newington Wonder and Negro Long-podded offered to be very serviceable. They were sown simultaneously, the former coming in early, and the latter being hardy is expected to last longer. Frost was severe enough to check them, and we fear that for autumn supply we may have to depend on sowings (the first of which is in flower) made under glass.

Broccoli.—We have this season adhered to kinds of Broccoli which have done well with us in the past. While new sorts are having a trial, the main supplies are, for autumn, Walcheren and Veitch's Protecting. Cauliflowers being easily had in quantity to the end of the year, in ordinary seasons, a quantity lifted fit for use in November will last in good condition for a month at least. For winter Snow's and Osborn's are the kinds which long have found most favour. Gordon's Niddrie and Knight's Protecting are among the best for spring use, and for latest supply (till June) Lauder's Goshen and Cattell's are two of the most useful. The time of planting has something to do with late supplies.

Brussels Sprouts are very erratic some seasons. The lot which we raised last autumn, and planted early in spring, are of great height, and fit for use, but more open than we have been accustomed to. We trust more for good sprouts to sowings in March than to such early sowings as enable us to plant out in March. Firm Sprouts of moderate size are such as are most valued by those who know good Brussels Sprouts when cooked. Dalkeith Improved, Aigburth, and Scotch saved are what we have most of, and are growing in three successions; but we are puzzled to find out the difference in their characteristics.

Borecole are extra good; Veitch's Improved, and some of our own saving are what we have best at present. It appears to us that good kinds of Kale were easier to purchase a quarter of a century ago than now. Chou de Burghley does not seem to have fair play from the cooks; for spring use we found it good, and with the small Broccoli in the heart was a peculiar novelty.

Of Cabbage, a kind we selected two years ago is our best. Early Dwarf York, Little Pixie, McEwans, and Etamps are all good and very useful as they heart without taking up much room; we plant a foot apart each way in drills which, after the hoe is put through them, need no earthing up, and every other plant may be cut out in early spring for use, leaving a full crop. It is a practice we have long believed in to give an extra dressing of manure for Cabbage, and put it well under the top spit so that the roots of the plants do not reach it till spring, they then grow apace and are tender when used. A good watering to the roots with clear lime water keeps grubs in check, and a puddling to the roots with soil, cow-manure and some soot generally keeps all right.

Carrots have few additions in the way of novelties, and where they can be grown clear of the grubs, which renders Carrot growing almost impracticable in some parts, we think that none are more satisfactory than James' Scarlet. French Horn, and Early Nantes are the best for forcing and for growing late to give supplies of young Carrots during winter under protection—a quantity which we are turning in now promise to be of much service.

Cauliflowers have given us more trouble this season than usual by drought and vermin, a kind of green-fly having attacked the leaves of the brassica family. Soot, lime, and soap-suds does not destroy it, but we hope the drenching rains falling while we write will destroy the pest. The kinds of Cauliflower which we have grown this season are Snowball, an early kind which has been more inclined to bolt than the others; Early London, still a good one; Walcheren, Dwarf Mammoth, Veitch's Autumn Giant, though not the best flavoured, is a most useful kind, and can be had from August well into the winter in good condition.

Celery offered to give some trouble during the dry times, but when planted a good soaking of water was given (no surface dribbling) then a coating of grass mowings was spread thickly over the roots. The growth has been steady and the plants are now firm and robust. Major Clarke's Solid Red we consider the most reliable for general use, and Turner's Incomparable Dwarf, as a white, is decidedly the best when one can get the old sort true. Some are very anxious to get large Celery but solid crisp produce of medium size we always find the most serviceable.

Leeks have not multiplied into kinds very rapidly. The Ayton Castle kind seems to be the parent of many named sorts, and which are only selections from this fine kind. The Lyon seems to be largely grown this year, and is said to be the largest extant. The fine blanched examples which we noticed in the excellent first prize collection of vegetables at the Edinburgh Show lately, seemed to be Aytou Castle, and the finest Leeks we ever remember seeing in September. Early sowing and growing on with the same care as Celery, ensures great size, but an abundance of solid manure to grow them in is very essential to success.

The Lettuces which have found most favour with us for some years are Bath Cos, Hick's Hardy Cos, and All the Year Round among Cabbage kinds. Did we grow only one Lettuce, Brown Cos would be the chosen kind. It is hardy, of excellent flavour, and not liable to "bolt." To keep Lettuce successfully through the winter, they should be in an airy position, growing on deep soil, and elevated if possible, as damp does a deal more mischief than frost. We prefer growing them on a steep ridge in preference to any other plan.

Onions are a most useful crop with us this season; but in the early stages of growth maggots seemed to take possession of the whole stock. Dustings of lime and soot defied them, however, and light sprinklings of Thomson's vine manure, after a few showers which fell, sent them off into rapid growth, and they are a fine crop. We have tried most of the Onions named in catalogues, and find none really inferior; but the most satisfactory kinds for keeping, size, and handsome appearance, are Bedfordshire Champion and James' Keeping. The Banbury selections are all good. We never saw finer Onions anywhere than those grown at Banbury. Oxfordshire all over is one of the best counties in England for the production of fine Onions. At Banbury we had once the task of judging 105 lots for four prizes, and every exhibit was of the highest excellence. A great many Onions are selected from the good old kinds, White Spanish and James' Keeping.

Parsnips are few, and none have (in our opinion) excelled for general use the hollow-crowned. Unless the ground for Parsnips is deep, moderately rich, but no rank manure in it, good Parsnips cannot be had. Small starved roots are stringy and inferior.

Potatos are difficult to criticise, but Mona's Pride, the old Ashleaf, and Veitch's Improved Ashleaf are among the best early kidneys, and may be succeeded by Myatt's Kidney. The best round kinds which we have seen this season are Schoolmaster and Dalmahoy. Peas we have already commented upon, but may now add that Veitch's Perfection holds its own as the best late sort.

Of Radishes for forcing we find Short Top and French Breakfast the best.

Tomatos have done well. The earliest have been giving fine supplies from Hackwood Park Prolific and Acme—two of the best. They are grown in pots at the back of a succession Pine-house. One large pot is placed (with the plant in it) on the surface of another larger pot, which is filled with rich soil, and when the whole is matted with roots, vine and plant manure is given, and frequent waterings of liquid manure are applied. At Dunkeld we noticed extra fine crops at the backs of narrow houses, and the favourite was a fine strain of the old red—the freest bearer of all kinds. The roots were confined in brick troughs, and well watered with liquid manure.

Turnips have been very regular in their successions this year. The earliest in pits were Milan and Munich (both great acquisitions to this useful kind of vegetable)

coming in weeks before any other sort which we have tried. Good successions, sown in small lots weekly, have come in at the right time all through the season. The latest lot are growing in a garden by a vacant farm-house under our charge. The ground was only hoed and raked clean, being very firm and rich, and we hope to have a fine lot of small Turnips to stand the winter. Drills were drawn and well watered, the seed sown and dusted on one half of the space with Thomson's vine manure, the other half being left without the manure for the sake of experiment. The dusted portion came up much quicker and very strong, while the other came up patchy and rather stunted. We have often seen cultivators dust guano over Turnips and treat them otherwise as above with excellent results. White Dutch, Snowball, Strapleaf, and American Stone have had preference this season. Chirk Castle Black Stone, though of unpleasant looking exterior, is most useful for its hardiness and is by no means inferior in quality; it deserves a place, and will be found valuable in cold localities. No one can decide for another the best vegetables for their locality; soils and other circumstances differ so much that experience alone can be taken as the best guide. There are kinds of vegetables, however, which do well in most places, but to get them always true is no easy matter.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Insects.—Now is the time to wage war with these and give them their quietus for the winter; the most troublesome being scale and thrips, the first-named generally attacking Camellias, Acacias, and Tacsonias, and the latter Azaleas, but both may easily be got rid of by the use of Nicotine Soap. The readiest way of applying this, or any other insecticide, is to lay the plants down on their sides and syringe it on, but as there is much waste when it is so used the plants should be placed over a tub, or other vessel, that the liquid as it runs or falls from them may be caught and saved, when it can be used again and again. In syringing it is necessary to be careful and wet every part as the mixture will only kill where it touches, but by forcing it on in a fine spray, both before and behind the foliage, none of the scale or thrip will escape. After the insecticide has been on an hour or so, and has done its work, it is better and safer for the welfare of the plants to wash it off, that their leaves may be entirely free from any deposit. Camellias and other subjects that have large foliage, and may be handled readily, pay well for sponging, as not only does it add to their health very considerably by giving them more freedom in breathing, but it renders them bright and cheerful-looking all through the winter.

Bulbs.—Hyacinths and Tulips are now arriving in great numbers, and those who want them in bloom early should lose no time in making their purchases and getting the bulbs potted, as it is impossible for them to flower well unless they first form plenty of roots. The way both Hyacinths and Tulips look best is three in a pot, the 7-in. size being the most suitable for the first named, and 5-in. for the Tulips, as then they make a fine show, and are valuable for windows or indoor decoration to place in vases or stands.

Starting the Bulbs.—As soon as the bulbs are potted they should be watered and allowed to stand a few hours to drain and dry, the next thing being to cover each with an inverted pot, and then bury them under 6 ins. or so of coal-ashes or cocoa-nut fibre till they get a good start, after which they may be taken out and stood in any cold frame.

Lachenalias and Ixias.—These are not half so much grown as their merits deserve, as not only are they very easy of cultivation, but they are among the most showy of small bulbous plants, and the Ixias afford a great variety of colour and form, some of them being remarkable for the richness of the shades. The way to treat them is to pot six or seven roots in a 5-in. pot and place them in a cold pit or frame, keeping the soil just moist till they come into bloom.

THE FLOWER GARDEN.

Heavy rains and damp nights are telling seriously against the flowers, which will now require frequent picking over to keep the beds neat and in good trim, and if there are any dead or decaying leaves on the plants they should be removed, that the air may have full play among the rest of the foliage. Propagating: Although it is getting full late for striking most cuttings, there are some that do best now, and these are such things as Heliotrope, Ageratums, Verbenas, and Calceolarias, all except the last named requiring a little warmth, such as is afforded by a gentle hot-bed, while the Calceolarias only need the shelter of any cold frame, where, if protected, they will stand for the winter, as damp suits them and they seldom fog off. The way to prepare for them is to mix up some sharp sandy soil and put it in a frame, and after it is levelled and patted down, the cuttings should be made and dibbled in in rows, about 3 ins. apart, and as soon as this is done all that is necessary is to give a good watering and keep them shaded from the sun, and shut up close till they strike.

Pentstemons and Antirrhinums may be treated precisely in the same manner, and it is always advisable to put in cuttings of these, as though the plants will live out in mild seasons, they frequently get killed or crippled from frost.

Hardy Annuals.—If these are not already pricked out to grow on ready for lifting to put in their places in beds or borders as soon as there is room for them, no time should be lost in getting it done, or they will be small and weak from being drawn up together, and transplant badly when they are moved.

Canterbury Bells, Sweet Williams, Wallflowers, and Stocks.—The same remarks apply to these, which all require growing on in good soil, so as to get them strong and in a condition that they may be taken up with large balls and transferred, without check, to the positions where they are to flower.

Roses.—It is full soon to plant these yet, but the ties may safely be removed from the buds, and the briars or stocks trimmed that the strength may be thrown into them, and make them plump up instead of going blind, as they sometimes do when the stocks are allowed to run wild till late in the autumn.

Putting in Cuttings.—Those who grow dwarf Roses will find that most of the sorts do best on their own roots, and it is a good time now for putting in cuttings, which, if made from the medium-sized firm ripe wood, strike freely under glass or placed in some sheltered position out in the open. The situation, however, where they do best is on a half-spent hot-bed, where they can be dibbled-in firmly in sharp sandy soil, and be covered with a close-fitting frame or hand-light, as they callus and form roots before winter sets in.

Making the Cuttings.—The way to make the cuttings is so take them off with a heel, or cut them close under a joint, leaving them about 6 ins. long, with a bud at the top, after which they should be inserted nearly down to the point.

THE FRUIT GARDEN.

Pears and Apples.—Both of these have been wonderfully benefited by the late heavy rains, of which they stood much in need, as the fruit was getting starved and remained small, but the soaking at the roots has made it swell rapidly since, and it now promises to be a fair size if we get a favourable autumn.

Gathering the Crop.—Where many are puzzled who grow Apples and Pears is in knowing when to gather, and to decide on that matter rightly it is necessary to be acquainted with the sorts, as some require to hang much longer than others, the late-keepers being the very last to finish, and these should be left as long as they will hang on the tree, for if they are plucked before they are ready they are sure to shrivel and spoil. As soon as fruit is ripe it leaves its hold, and therefore as soon as any particular kind is seen to be falling, or shows that it is forward enough by coming off freely when just moved in an upward direction, it is safe to pick; but this should be done with the greatest care, as when handled roughly the Pears or Apples bruise, and to save this happening it is necessary to line the basket in which they are put with soft hay, and to move them about as if they were eggs.

Renovating and Improving Exhausted or Sickly Trees.—It generally happens, even in gardens of only small extent, that there are some sickly or unsatisfactory trees, and where this is the case they should be taken in hand at once with a view to renovate them and get them healthy, which may generally be done by digging round them, and opening out a trench so as to work away the earth, and lay the roots bare.

Renewing the Soil.—The next thing is to give these some fresh soil, the best and most suitable for them being turfy loam cut from an old pasture or waste place by the side of a road, and if this is chopped up roughly and given to the trees without any manure or other admixture whatever, it will work wonders for them as soon as they get hold of it and make a fresh growth.

Preparing for Planting.—As yet it is too early to begin planting if trees have to be got from a distance, but directly the leaves are off the sooner the work is done the better, and that there may be no delay when the time comes, everything should be in readiness for popping them in. The chief thing to be prepared with is loam, for though trees may in some parts succeed and do well in the natural ground, in the generality of places they need a little new soil to start them.

Raspberries, Gooseberries and Currants.—These are often left to stand till they get old, but there is nothing like having young vigorous bushes or canes for bearing a crop, as not only are they more prolific, but the fruit is finer and better. To grow Raspberries well, the land for them must be heavily manured and trenched or deeply dug, and the canes planted 4 ft. apart, but Currants and Gooseberries will do with less preparation, and may with advantage be arranged in rows along the sides of the walks, as there they occupy less room and are handy to get at to gather the fruit.

THE VEGETABLE GARDEN.

Mushrooms.—These are considered by many difficult to grow, but in reality their management is very simple, the chief things necessary being a certain quantity of horse-manure, and a close-tiled shed or cellar in which to make up the bed. Before doing this, however, the manure must be prepared by being sweated, so as to let out the more fiery gases and sweeten it a bit, which may be easily done by putting it together somewhere under cover, so as to bring it into a state of fermentation, and as soon as it gets hot it should be turned, and the outsides brought into the middle, when after a day or two it will require moving in the same way, and as soon as it gets warm again it will be ready for use.

Making the Bed.—The bed may be made of any shape or size, the best form perhaps being a low ridge, on account of affording more surface on a limited floor area, but the Mushrooms do just as well on the flat, and when beds are so made a foot deep of manure is ample. As soon as the manure is placed in position, the next thing is to make it perfectly firm by beating it down, and directly the heat rises and remains steady at about 80° the bed will be ready for spawning.

Spawning the Bed.—The way to do this is to dibble or work holes in it at about 8 inches apart, into which a small piece of spawn should be inserted and covered over with the dung, when to induce the spawn to run freely it is a good plan to lay over the manure a little dry hay, which will absorb any loss of damp and keep the temperature regular.

Soiling the Bed.—After leaving the bed with the hay over it for about a week, it will be time to take it off again and put on some soil, which ought to be moderately fine and free from stones, but it must not be laid on deep, an inch at the most will be quite enough, and when it is raked level and smooth it should be patted down hard with the back of a spade. To prevent the surface drying and to keep all snug and warm, it is advisable to litter down again with hay, which may be left on till the Mushrooms show, and this they ought to do after spawning in six or eight weeks.

Cabbages.—Of all vegetables these are of the greatest service in spring, and to have a supply and succession then two or three plantings should be made now or several sorts grown, the better plan being to keep to some nice small sweet kind like Ellam's, which is quite large enough, and may be planted nearer than most others together. To have these or any other variety really good, the land for them must be heavily manured and deeply dug, as Cabbages, like all the Brassicas, are very gross feeders.

Celery.—This has now had a thorough soaking, and as we are getting on late in the season it is not likely to become dry again, which being so, the earliest or any that is nearly full grown, or large enough for blanching may be earthed up, but before this is done the plants should be tied round with a piece of mat to keep the soil from the hearts.

VIOLETS FOR WINTER.

THE time has arrived when we take up a part of our stock of Violets, which had been planted in the open ground during April, to be re-planted in frames on raised heaps or beds of stable litter and leaves, but not new enough to cause violent heating. The beds are raised to a good height, and are placed in the warmest —that is to say, the most sheltered and sunny position we can find for the purpose. On the raised beds we place a frame, giving the glass a good pitch to throw off wet quickly, and to catch the sun's rays as much as possible. The litter and compost in the box is arranged to a similar pitch and from 16 to 18 ins. from the glass. On the heating materials we place a thin layer of decomposed manure, and the bed is ready to receive the plants. These are lifted with a spade with good balls of earth, and placed carefully on a hand-barrow, for when wheel-barrows are used the jarring caused by the wheel going over stones and rough places causes too much of the soil to fall off from the roots.

They are as carefully lifted from the hand-barrow and planted in lines, the distance apart being guided by the size of the plants. As each line of plants is completed, the ground is filled up between the balls with some good soil generally similar to that which they have been growing in during the summer. When the frame is filled the plants receive a good watering through a rose watering-can to settle the soil about their roots, and if the weather is very wet the lights are put on and tilted at the back. We never find it necessary to shade at this time of the year, and always take care that the work is carefully performed so as to render it unnecessary. Treated in this way, the produce from such frames will compare very favourably with those planted in similar situations some weeks back, and which are now well established.—*C. Warden.*

EXHIBITING CHRYSANTHEMUMS.

I should be very much obliged if you would give me the following information respecting exhibiting Chrysanthemum blooms. If 144 blooms were exhibited how should they be packed for travelling; should they be placed in their cups or tubes as seen at shows, or put up after their arrival? How should the travelling boxes be made? Can you give the name of someone who makes them? Which is the best plan and most handy to move about, shallow boxes taking four or two boards, each board taking twelve blooms, is that the usual way? It has appeared to me rather cumbersome to get a hundred blooms about, and to have a box taking four boards would be 8 ft. in length. Details as to the usual plan, would be esteemed a great favour. —*S. J., St. Leonard's-on-Sea.*

We sent your enquiry to an experienced and very successful exhibitor, who kindly replies:—Cut blooms of Chrysanthemums for exhibition should be placed in their cups and arranged on the stands quite ready for the exhibition table before leaving home, the stands being conveyed to the place of exhibition in boxes fitted either to carry twenty-four or forty-eight blooms. The standard size of show boards or stands adopted by the National Chrysanthemum Society, and most others, for twelve blooms, is, 24 ins. long and 18 ins. wide, with holes for the water tubes 6 ins. apart from centre to centre, to stand 6 ins. high at the back, and 3 ins. in the front. A larger size may be used, if desirable, for Japanese blooms, but the dimensions quoted will generally be found suitable for all kinds of cut Chrysanthemum blooms. Two of these may be used for twenty-four blooms, and whether in a class for thirty-six or forty-eight, it will be found best to keep to the twelve bloom stands, this being the most convenient size to fit into boxes for transit.

If a considerable number, as mentioned by your correspondent, is to be exhibited, we prefer boxes to carry twelve stands or forty-eight blooms each, and this is the method adopted by most exhibitors; if a less number than forty-eight be exhibited, boxes to carry twenty-four blooms (two boards holding twelve) may be used. A box to carry forty-eight blooms should be made of good ¾ in. boards, to stand 3 ft. 1½ ins. high, 2 ft. 1¾ ins. wide, and 19½ ins. in depth from front to back, outside measurements. This will give a clear inside space, 36 ins. high, 24¼ ins. wide, and 18 ins. deep. In this may be arranged with perfect safety four twelve-bloom boards, tier above tier. On either side, double strips ½ in. square should be screwed to the box, to form a ledge for each board to slide in and rest upon, and the upper one to prevent any upward movement when travelling. The first board should rest on ledges 6 ins. from the bottom of the box, the second, 9 ins. higher, the next, 9 ins. above the last, and the last, 5 ins. below the top of the box. This is our arrangement for carrying forty-eight blooms, the two bottom stands with the wider space for Japanese, the two upper for incurved flowers. A space of 9 ins. will not be found too much for the former, which require to be raised rather higher above the boards than incurved blooms; the tubes of the stand above (2 ins. long), must be taken into consideration.

The boxes may also be made 23½ ins. wide (inside), other dimensions the same as above, with a groove ploughed out a full ¼ in. deep each side, for the boards to slide into, and thus do away with the strips fixed on to the inside of the box. A stout pair of handles must be screwed on the box, one on the centre of each side, 12 ins. from the top, as a ready means of moving them about, and a small lock fitted to the door to keep all snug and secure. Messrs. Cannell and Sons, of Swanley, and Mr. N. Davies, of Camberwell, supply boxes and all other necessary appliances for exhibiting Chrysanthemum blooms, but the boxes I have attempted to describe are our own make.

TULIPS OF THE FLORISTS' CLASS.

THERE is a kind of Tulip lore among Tulip cultivators that it is very difficult indeed for an outsider to fully understand. They make use of terms that are, perhaps, on the whole less technical than they are convenient and expressive; and while they are well understood by growers, yet those having but little acquaintance with the flowers might get lost in paragraphs about Tulips dealing with such words as "breaking," "breeders," "character," &c. Let me try to make some of these as plain as possible in the hope that what is set forth will operate to interest some of the readers of THE GARDENING WORLD in this gorgeous flower. Tulips are divided into three main classes, though there are properly four classes of flowers. They are (1) *Bizarres*, (2) *Byblœmens*, (3) *Roses*, and (4) *Breeders*, the last being any one or all of the three main divisions in an unbroken state.

1. A BIZARRE TULIP has a yellow ground to the petals, and is either flaked down the middle of the petal with some shade of colour between brown and maroon, in which state it is a flamed flower, or it has a margin of colour round the upper portion and sides of the petals in the character of a fine or heavy pencilling, in which case it is a feathered flower. The beam or flame-flakes of colour up the centre constitutes a flamed flower; the pencillings on the edges of the petals constitute the feather. A correct flamed flower is never destitute of the feather, but a feathered flower is destitute of any flame or beam in the centre of the petals. Flowers sometimes break off into strains, thus there may be a finely flamed Sir Joseph Paxton, and a finely feathered strain also; and this holds good of not a few varieties. The absence of the flame in the last case constitutes it distinct for exhibition purposes.

2. A BYBLŒMEN TULIP has a white ground colour, and the petals are either flamed or feathered with some shade of rosy purple, gold, and black-purple.

3. A ROSE TULIP, like the Byblœmen, has a white ground colour, and is either flamed or feathered with rosy carmine, scarlet, or some shade in which the red colour is apparent.

4. A BREEDER TULIP is the self, a round seedling form, in which the flower blooms for one, two, three, or more years before it breaks into character; but more on this heading presently. The Dutch growers of a century and more ago divided their Tulips into five classes, viz, Prince Baguets, Baguets Rigauts, Incomparable Verports, Byblœmens, and Bizards; the first four had white bottoms or grounds, and the Bizards had yellow grounds. Maddock, in his treatise on the Tulip, confessed that he had not been able to discover the original or literal signification of these terms, nor did he understand they were any other than trivial terms of distinction used by Dutch florists. The term "rectified" is another name for a broken Tulip—that is, a flower that breaks from the breeder stage to that of its permanent character.

THE RAISING OF SEEDLING TULIPS is followed only by those who grow a fine collection of Tulips, and possess valuable sorts available as seed parents. There is also a necessity for cross fertilization if it is desired to virginate flowers possessing certain characteristics the raiser wishes to have in combination in his flowers; if so be such combinations can be obtained. The heads of seeds, when ripe, may be cut and tied in net bags, and if suspended separately in a dry situation for some time the better. When thoroughly dry the seeds are rubbed out, or they are allowed to remain in the heads until the latter end of January or the beginning of February, which is the best plan, when it may be sown in deep pans or boxes, some drainage being placed at the bottom. Over this a little litter, such as moss, &c., is placed and then filled up nearly level with good rich soil; on this the seed is sown and covered lightly with a sandy soil. Germinating Tulip seeds can be selected by noticing a kind of pale or grey flame starting from the base of the seed and reaching some distance up it. The seeds throw up one tubular leaf during the first season's growth, and from the base of the seed is sent forth a kind of fleshy root, at the end of which a bulb is formed. When the seedlings are fairly up, they need to be shaded from the mid-day sun, and they require to be watered with care, for the longer the seedlings can be kept growing the stronger are the bulbs for another year. Some growers sow their seed at planting time, the first or second week in November.

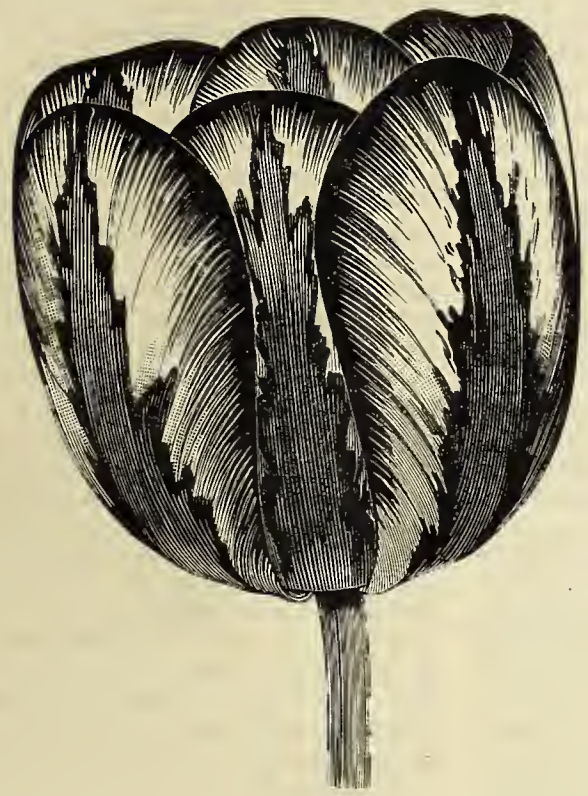
There is a curious kind of physiology about these seedling Tulips, the first year a bulb is formed at the base of the seed like a small Pea; the second year this puts forth a kind of fleshy root called by Tulip raisers a "dropper," and at the end of this a small bulb is formed at a lower level in the soil than that in which the seeds were placed; the third year the same process is repeated, in all probability terminating in a couple of bulbs, and when this is the case the larger of the two is retained and the smaller thrown away. Up to the fifth year the seedlings will throw down a dropper that eventually bulbs. The seedlings should not be disturbed during the first two years of the seedling state. Then when the foliage has ripened off and died away the soil should be turned out of the seed pot or box, and carefully examined, and the bulbs replanted in light, rich, fertile soil, and then replanted each year.

FIRST FLOWERING OF SEEDLING TULIPS.—The raiser of seedling Tulips may calculate upon seeing them bloom after five years from the time of sowing. The Rev. F. D. Horner once told me he had bloomed them the fourth year, but they were the weakest, or those that did not pipe so long, *i.e.*, send forth such a long dropper. As an invariable, in fact, as an exceedingly general rule they are breeders when they first bloom. There are exceptions to this rule, but they are singular departures from the operation of an almost universal law. A notable case is that of Mr. Jackson, a lovely feathered Byblœmen which was never in the breeder stage, but broke into form the first time of blooming.

There is no known principle in vegetable philosophy to govern the breaking of flowers, and a grower cannot tell from the appearance of a flower how it will break. Seeds taken from Bizarre Tulips will produce a very large proportion of Bizarre breeders, the same with seeds from Rose and Byblœmen Tulips, and a grower can readily class them in the breeder character. But whether a Bizarre breeder will break into a good or an indifferent bloom; whether or not a feathered or a flamed flower, no one knoweth. Mr. Samuel Barlow once told me that breaking flower from the breeder state may be helped by growing the bulbs for a year under changed conditions of soil and atmosphere, and then bringing them back and growing them in their original situation. A check in growth will also facilitate the breaking of breeders. In 1875 Mr. Barlow had a misfortune with his beds, and three-fourths of his breeder Tulips did not flower; the bulbs were small when lifted, and many of them rootless. The following year the number of breaks among them was something extraordinary, as nearly a third of the number of the sorely furnished bulbs rectified or broke Mr. Barlow holds the opinion that the cause of the rectification is connected with the growth of the season in which the flower blooms for the last time as a breeder; but nothing in the appearance of the flower will tell the grower that it will bloom the next year as a feathered or a flamed type.

There are many CURIOUS FACTS CONNECTED WITH THE CULTURE OF THE TULIP constantly coming to light.

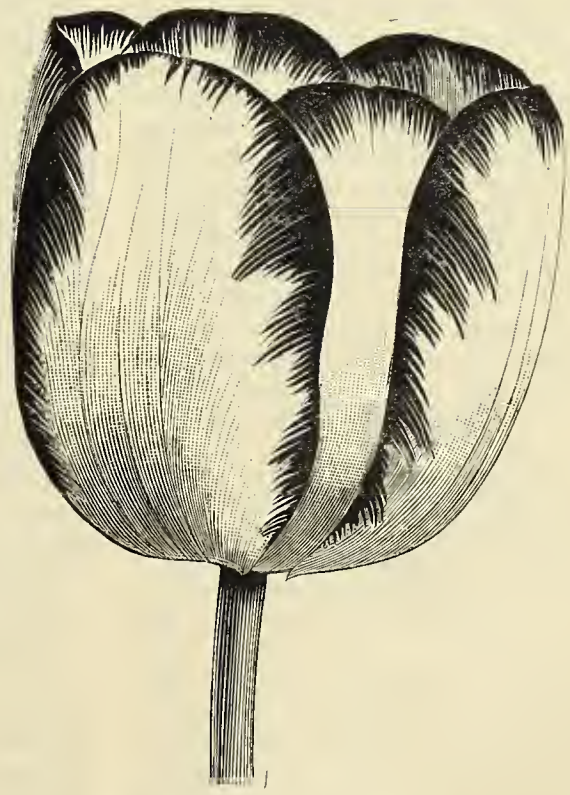
Thus, seed taken from a Rose Tulip which has been carefully crossed with another Rose Tulip will give a majority of Rose breeders, but there will probably be some twenty per cent. of Byblœmen breeders among them, and a few Bizarres. The parents, when two Roses are crossed, should both be bright in colour, or a larger proportion of Byblœmens will follow. It is the same with Byblœmens, parents should be as near black as possible, or of a bluish purple colour. Parents of a reddish purple colour will throw reddish purple breeders, which seldom break into good and distinct flowers, whether Roses or Byblœmens. In answer to a question Mr. Barlow said he had never crossed a Bizarre either with a Rose or a Byblœmen, but from chance seed he had seen some curious flowers of a nondescript character, the effect of such chance crossing. But the grower of a good collection need never attempt such crosses, as he has to wait from five to eight years to get blooming bulbs from seed ; and the results would not repay the labour, time, and patience necessary to get them.



Flamed Tulip, unknown.

Flamed Tulip, Nimbus.

Heavy Feathered Tulip, Rachel.



Light Feathered Tulip, Little Annie.

Seedlings from feathered or flamed flowers will produce both feathered and flamed flowers. It is not uncommon for bulbs to flower one year flamed and another year feathered—the same bulbs. Sometimes it happens that a fine strain of a variety that had bloomed, say in a feathered state for years, will, without any note of warning, bloom flamed. Mr. Barlow relates how Martin's 101 bloomed for eight or ten years in succession perfectly feathered ; then came a year when every bloom was finely flamed. The following year, or within two or three years, nearly all the flowers had lost their beam, and it would never be a matter of surprise if the following year they went back to a feathered character. George Hayward, another Bizarre, will sometimes act in the same manner. The flamed flowers which turn to feathered blooms are not so numerous as those which changed from the feathered to the flamed character.

"Self Tulips."—There is a group of Florists' Tulips termed "Selfs." They are divided into two classes, white and yellow, the white represents the ground colour of the Rose and Byblœmen types, the yellow self represents the ground colour of the Bizarre type. But self colours are very seldom raised, yet they are raised occasionally. Mr. Willison of Whitby, a noted raiser and cultivator of Tulips, produced several varieties notably White Perfection, and a very good yellow also, the name of which cannot be remembered. In the old Tulip shows prizes were offered for the best self white, and the best self yellow, but such is not the case now.

David Jackson, of Middleton, some ten years or so ago, raised some seedling selfs, and some very good ones too from Aglaia, flamed rose, the female parent well crossed, and he had more than a dozen seedling self yellows in the progeny. The white ground of Aglaia is very yellow at opening and needs a week's bleaching to get it pure. There is evidently in it a taint of Bizarre parentage or ancestry. —*R. D.*

THE TWEED VINEYARD.

"Thomson" and "Clovenfords" are names so familiar to readers of horticultural literature in connection with the marvellous crops of Grapes which are annually grown to such perfection in the Tweed Vineyard by the Messrs. William Thomson & Sons, that it may appear somewhat superfluous on my part to even attempt to commit to paper the few mental notes which were made on the occasion of a recent visit to this far-famed Grape-growing establishment. Passing through the numerous vineries in this wonderful establishment I could not help acknowledging the correctness and appropriateness of the words addressed to me a day or two before leaving Longford for the Edinburgh show by my esteemed friend, Mr. Crump, of Madresfield Court Gardens. "Go," said Mr. Crump, "and see the Grapes at Clovenfords, it's a sight to be remembered!" And truly such Grapes are a grand sight, to say nothing about the good collection of Orchids which may be seen at the same time, and well worth a journey from Wiltshire to inspect. No horticultural tour in the north that does not include the Clovenfords Grapes can be considered otherwise than incomplete.

Before proceeding further with my narrative, it may not be uninteresting to the readers of The Gardening World to state that when Mr. Thomson pitched his camp, some seventeen years ago, in the not very fertile valley of Clovenfords, at the base of what appeared to the writer to be a continuation of the Cheviot Hills, and close to the branch line of the North British Railway from Galashiels to Peebles, there was nothing in the way of a dwelling-house—to say nothing of a glass-house—within a mile of the spot whereon now is located a "little town" of glass-houses, three large well-built houses of proportionate dimensions, the respective residences of Mr. Thomson and his two sons, together with several smaller ones for the accommodation of his able foreman and others employed in the vineyard, as well as several offices, store-houses, &c., including a railway station, the erection of which, I believe, followed the rapid development in the produce of the Messrs. Thomson's vineyard. Thus it will be seen what a wonderful metamorphosis has taken place in this hitherto obscure locality during the last seventeen years. It is now a name well known, as already stated, throughout the horticultural world and to the railway officials at most cities and large provincial towns in Great Britain and Ireland; whither large consignments of Grapes are despatched two or three times a week during eight or nine months of the year.

The glasshouses, some twenty or thirty in number, are, for the most part, span-roofed, about 200 ft. long, 20 ft. to 25 ft. wide, and having an angle of about 50°. They are light but substantially built structures, well ventilated, and liberally provided with hot-water pipes. The principal vineries communicate with a large corridor 150 ft. long, 25 ft. wide, and 16 ft. high. This is also planted with vines, which, like all those in the individual houses, are bearing immense crops of excellent fruit. I understand that all the outer walls of all the vineries in this block of houses are built on piers, so that the roots of the vines in one and all of the houses have free access to the borders underneath and between each house, with the natural result that the collective borders become a complete network of roots. The soil in which the vines are growing, though fibrous and sweet, is somewhat poor in texture; therefore, liberal and frequent top-dressings with some powerful fertiliser must necessarily, as is the case, be had recourse to, together with an abundance of water at the roots to swell, ripen, and finish the enormous crops which one and all of the vines at Clovenfords are carrying at the present time, and as has been their wont for several years past.

Late black Grapes consist of such sorts as Lady Downe's Seedling, Gros Colmar, a few Black Alicantes, and Gros Maroc; the latter variety, if I may hazard an opinion, being destined to be grown extensively at Clovenfords, as it is a late Grape which, if worked on a Black Hamburgh or Muscat stock, has a grand future awaiting it. There are also two or three houses of Muscats and of the Duke of Buccleuch. The first of the many large houses of excellent Grapes which it was my privilege to see on the afternoon of the 8th inst. was one containing the heaviest and finest crop of Lady Downes that I had ever before witnessed, and the like of which probably I may not see again elsewhere. It contained some three or four thousand bunches, symmetrical of outline, and consisting of large well-coloured berries, and averaging 2½ lbs. each, every bunch in point of size, form, and perfect finish, being such that any exhibitor might reasonably expect to secure first honours with at any of the metropolitan fruit shows. Taking up a central position at the end of this, or any of the numerous other houses which are full of Lady Downes and Gros Colmar, and glancing along both sides of the span-roof, from which bunches hang within a few inches of each other from base to summit, the entire length (200 ft.) of the house, where, owing to the great length of the structure, the profusion of healthy foliage, and the great number of uniformly even and handsomely shaped bunches, the width seems to gradually diminish until the view becomes perfectly bewildering, and one fails to understand how it is that vines are made to annually produce and finish such marvellously heavy crops of the highest order of merit.

These remarks are equally applicable to the contents of the other vineries, especially so to the Muscats, which, notwithstanding the heaviness of the crop, are everything that could be desired; the bunches, consisting of large, well-ripened berries, averaging about 3 lbs. each, but many of them would possibly turn the scales at 3 lbs. The Duke of Buccleuch—whatever its shortcomings may be in other hands—is, as grown by the raiser (Mr. Thomson) at Clovenfords, a grand-looking grape; the bunches and berries being alike large, and of a beautiful amber colour and pleasant flavour. Making due allowance for Mr. Thomson's skill in grape growing, a great deal of his success in getting his vines to annually produce and ripen such prodigous crops of grapes, of the quality indicated above, must be attributed to the liberal use of his manurial preparation for vines, the sale of which is rapidly increasing, and for the storage of which, the Messrs. Thomson have a large and suitable house adjoining the station at Clovenfords, whence large quantities are annually despatched to various parts of the United Kingdom. In reference to this Vine Manure, I may remark in passing, that it is a material that should not be used in infinitesimal quantities, but, on the contrary, a good surface-dressing of it should be given to the borders sometime before starting the vines, working it below the surface with a five-tined fork.

Orchids, as stated at the beginning of these notes, are also grown largely and well at Clovenfords, the plants being in pots varying in size from 4-inches to 10-inches in diameter, and they are in fine condition as regards health and growth. While writing of Orchids, I may be allowed to say that I saw several excellent paintings of some of the choicest varieties of Cattleyas, &c., by Mrs. John Thomson, who is an accomplished landscape and animal painter, and whose drawing-room contains, besides the orchids, several large and cleverly executed paintings of well-chosen and beautiful landscapes. In again referring to the grapes, I need scarcely say that the amount of labour involved in the thinning of the 70,000 or 80,000 bunches is considerable, and in order to render the operation as easy as possible as well as to economise time, Mr. Thomson (who was from home at the time of my visit) had a step stage capable of accommodating several men with sitting room on either side, and this, being on wheels, is moved on wooden rails as required.

In concluding these few hastily-written notes on what is to be seen at Clovenfords, I may be allowed to record my appreciation of the courtesy and hospitality extended to me by Mr. John Thomson and his amiable wife on the occasion of my "flying visit" to Clovenfords—the "sight of sights" for gardeners!—*H. W. Ward, Longford Castle.*

HOLLYHOCKS AND THE DISEASE.

In common with many other cultivators of this grand old florists' flower, I am glad to see signs of its being once more brought to the front in the schedules of the principal horticultural societies, and I trust that every encouragement may be given to its cultivation, by offering liberal prizes and certificates for good new sorts by the Royal Horticultural Society. Many of the superb varieties seen about fifteen or twenty years ago, are now quite lost and out of cultivation, owing to the ravages of the fungus (Puccinea Malvacearum), which, since that time has decimated many a fine collection. The question arises to my mind, at what time was this fungoid disease first brought to notice? I ask this, because the fungus has been inherent to the Hollyhock as long as I have known it, considerably over twenty years ago. If I remember rightly, it was about the year 1876 or 1877, when visiting a nursery establishment, the question of Hollyhock disease was introduced; the manager having mentioned to me, that a large lot had been received that day from a well-known grower, but entirely covered with disease. As I fancied I had never seen this disease, I naturally expressed a desire to be shown the plants, which were truly in a bad state with it. But it happened only to be an old acquaintance with me, some of my plants at home being almost covered with it.

Having some very fine varieties, I did not care to follow the general advice given by growers, to at once destroy any infected plants, I thought I would try an experiment first. The old plants were allowed to remain for blooming next season, and a set of young ones were planted in another situation. Next year the fungus appeared in full force, but every leaf was carefully cut off and burnt, and as much as possible scraped off the stems; some of them were actually stripped of foliage, still, and here is the point, the flowers were quite as fine as ever I have seen them, and from those same old plants, I carried off two first prizes for cut blooms, many of them measuring 5 to 6 in. through, below the guard. On the common Mallow is cast the blame for spreading the disease, but how does it appear when no Mallows are in the neighbourhood, and no plants are bought in? As an instance, a batch of seedlings, which had not a speck on them last year, were, after blooming, planted out on a bed in a rather dry position, and this year, the fungus is quite plentiful on them. Many of this year's spring sown seedlings are in the same condition, although the two lots are not near each other.

It is my practice to bloom the seedlings in a poor piece of ground, as by so doing the greater part of them, if sown after the new year, will bloom the same season; the good ones are then picked out for better cultivation. Many growers are in the habit or putting their cuttings into heat to strike, this, I never do. Cuttings are taken at all times of the year, and struck out-of-doors at the foot of a wall in the full sun, only shading them for a few days, to prevent their flagging too much. Seeds only are sown, and the plants brought forward in heat to plant out in May. From my experience and observations, I am led to believe that the fungus shows itself in greater activity in dry seasons, and that this, together with coddling the young plants, is the cause of much of the weakness and ill effects of which the fungus alone has been given the blame. I know that with me, it is only periodically to be noticed, as last year there was not a vestige of it on the place, and from all I have seen of it, I should be very unwilling to destroy a collection of good sorts, as it is rarely indeed that many of the older varieties can be surpassed.—*R. Stevens, Paston, Northumberland.* [The Hollyhock fungus was first detected in Chili, whence it spread to Australia, and subsequently to France and Britain. That eminent mycologist, the Rev. M. J. Berkeley, was unaware of its existence in this country, until the summer of 1873.—Ed.]

PRESENTATION AND DINNER TO Mr. G. T. MILES.

On the 14th inst., Mr. G. T. Miles the much respected gardener to Lord Carrington at Wycombe Abbey, was presented by the committee of management of the West Wycombe Horticultural Society with a handsome cabinet in the Chippendale style, and of local manufacture, in recognition of services rendered as judge in connection with the annual show during the last fourteen years. The presentation took place in the Board School, West Wycombe, and was made by Lady Dashwood, who said:—"I have been requested by the committee of the West Wycombe Horticultural Society, Mr. Miles, to present you this testimonial as a slight proof of gratitude for the valuable services you have rendered that society for many years—it gives me great pleasure to do so. When first this society was talked of, many said it would fail; on the contrary, it has increased in success and value from year to year, its fame not only extends in this county, but it has reached London; I hope the next meeting will be as successful and harmonious as the one this year. I have heard judges are often found fault with, and naturally so, but in this case, for fourteen years there has not been

a dissentient voice. This defiance of nature's more general laws Mr. Miles, you alone can explain, who alone are the cause."

Mr. Miles thanked them all for their kindness, and to Lady Dashwood offered his special and most respectful thanks for her great kindness in honouring them by her presence and for presenting him with that handsome gift. To the Society, which had so spontaneously provided the means with which to purchase that handsome present, he was deeply indebted; so also were not only himself but his good wife to those gentlemen who had made such an excellent choice. He understood from the inscription on the gift that it was the outcome of a desire on their part to recognise and reward him for the services he had rendered them. He was sure he was exceedingly obliged and grateful to them for this proof of their kindness, but there was another consideration which enhanced its value to him more than anything else—that was that it would be a lasting memento to him that he had gained their esteem and good wishes. He was very pleased to know that their Society had been so prosperous; he hoped that it would continue its useful career, and that it would be equally as successful in the future as it had been in the past. In finally thanking them for that very handsome present, he had only to add that his noble and esteemed employer—who he was very sorry to say was leaving them so shortly—had not only given him authority but had expressly desired that he should offer to lend his help and assistance to all societies similar to their own, which had for their object the improvement of the cultivation of cottagers' and artisans' gardens. He hoped by God's providence they might be spared for many years to meet on the occasion of their annual show, when he should be only too pleased to give his services to the Society.

In the evening a complimentary dinner was given to Mr. Miles by the Society, when about sixty gentlemen sat down, the Rev. H. T. Young being in the chair. In proposing the health of the guest of the evening, the chairman remarked that they all knew Mr. Miles well, and knew also how good he had been in coming to attend their horticultural exhibitions, and giving them the benefit of his knowledge, experience, and efficiency in judging what were the best flowers, plants, and vegetables. Mr. Miles had performed this task, he believed, with the utmost fairness and integrity—not a breath of suspicion had been uttered in reference to any decision he had come to. The Society fully acquiesced in what the Committee proposed, showing that they appreciated Mr. Miles' labours. In future years, whether Mr. Miles would be able to come and act as judge or not—it was to be sincerely hoped that he might—he felt satisfied they would get no gentleman who would do the work so honestly, truly, and well as Mr. Miles.

The toast was received with enthusiasm and accorded musical honours; and Mr. Miles, in responding, said to receive so handsome a present as he had that afternoon was highly flattering, and to be invited to a sumptuous repast like that went to prove to him that the old maxim, "that you should do unto others as you would be done by," was the proper rule. He had always tried to carry this out to the best of his ability and power, and to treat those with whom he came in contact in the most civil and conciliatory way he could. He had met with the greatest respect and esteem from all parties, and for this and the great kindness that had been shown him he was very thankful.

LANCASHIRE MARKET GARDENS.

I HAVE been invited on several occasions to visit the gardens in the Irlam district, but was prevented from doing so until a few days ago. This village of Irlam is an extensive one, some eight miles from Manchester, and was part of the famous district of Chat Moss. It is on the main turnpike road from Manchester to Liverpool, and originally belonged to the Abbot Cokersand, and was called in the reign of King John Irwelham. It afterwards became the property of one, George Lathome, and subsequently passed to the Stanleys, Pages, and others. There is still standing a fine old hall built in the days of Elizabeth, and in which may be seen a very large beam, said to be largest in the kingdom. This boggy land is very deep, and has been reclaimed and brought into profitable cultivation, first by deep draining and adding to the soil manure from Manchester, which is brought in waggons or lorrys, and also in barges on the Irwell river which runs through one part of the village; it is now a beautiful tilth of rich black soil. On getting out of the train at Irlam station we gain the turnpike road, and had not proceeded many yards ere we crossed a railway on which were trucks of manure being drawn by horses from the river on to some land. This railway was first laid in 1828, at the joint expense of Mr. Baines and Messrs, Evans, & Co., expressly to bring manure and marl on to every part of their estates; and we noticed on either hand grand corn crops, as well as of roots, which are now growing fast after the heavy rains.

Having a heavy day's work before us we refreshed the inner man, and then proceeded on our ramble, first enquiring for a well-known market gardener, named Unsworth. As we made our way through the fields the ground vibrating under every step we took, we passed through wide stretches of Celery, Rhubarb, and a splendid breadth of Broccoli, a very level or even piece, each plant being apparently true. When we came upon Potatos we found them suffering from the effects of frost which occured in the early part of August, and which did much damage here. After crossing one or two deep ditches we reached the home of our friend, who was with his son busy earthing up some acres of Celery, which was growing fast just then. The season has not been favourable for it, and the growers are a month behind other years. Here also we noticed two acres of Lettuces—White Cos—some very pretty hearts, others were twisting with the strong wind so prevalent of late. Beds of white German Asters were flowering freely; Gladiolus were also blooming clean and healthy. Dahlias were cut down by the early frost here, and are breaking out lateral shoots, but will be too late to do any good; this at once accounted for the paucity of flowers at the late exhibition. Raspberries are a speciality of Mr. Unsworth, and quantities of vinegar are made which is found to be very refreshing diluted with water when at work in the grounds in hot weather. We also saw some good crops of Cabbages, but no Coleworts, these useful greens don't seem to be relished in Lancashire, although we see quantities of stale Drumhead or other Cabbages hawked about the streets and bought up with avidity.

Having examined these gardens we proceeded on our way, and still good growing crops met us on every hand as far as the eye could reach. Presently we see in the distance the sun's rays refracted from a cluster of glasshouses, and making our way thither we find it to be the gardens of Messrs. D. C. Upton & Sons, florists, &c. We pass through acres of Celery, patches of Rhubarb, &c., till we reach the gardens attached to the house, and in the distance can see some men busy in the hayfield, and ere we can find anyone we are in the midst of long rows, 200 ft. or more long, of white Sweet Peas; White Queen German Asters; and a gorgeous bed of Tritoma uvaria, 3 to 4 yards wide, and over 200 ft. long—a glowing mass of bloom. While making for the house, which is built high above the ground line, with steps to reach either front or back doors, we discover that we have been seen, and Mr. Upton, jun., having left the hay, courteously takes us through the grounds, apologising for not having anything to show us! He explains that this branch is principally under his management, and introduces us to a lean-to house adjoining the dwelling house, with two or three vines over-head.

"We grow these not so much for the Grapes as for eyes for next spring work, and we call it our Camellia house; these plants have not been long planted out." As we pass along we note baskets of fine Tomatos ready for sending off to market, and are then introduced to another house. "This has been cleared of Pelargoniums twice, and you see we have now Primulas pushing along, and tuberous Begonias, of which we have several thousands, and about 200 zonal Pelargoniums at one end for autumn bloom." Up the bars on the south or sunnyside are Tomatos growing, and carrying heavy crops. Our attention was arrested by one variety in particular, of which the Messrs. Upton hold the stock, a variety of the old red, much improved; we measured one, it was 11 ins. round, and are able to pronounce it as good in flavour as the old kind; the weight on the plants must be great. More will be heard of this Tomato by and bye.

In another house we found Lapagerias, rosea superba and alba, covering the roof with hundreds of blooms; underneath are Gardenias, and thousands of young Palms, while on the boggy floor were seedling Ferns of Adiantum cuneatum, A. capillus-veneris, Polystichum angulare proliferum, and others; the spores are scattered broadcast on the natural bog, and are coming up by millions. "Why have you your sides of these houses of wood," we ask, "they will not be very durable, will they?" "Well, it is this, we dare not build with bricks, for the weight would sink them into the spongy bog, so we build on piles with wood, and heat with pipes, and they are not so expensive." "But what does the fuel cost you? you are far from pits." "Well, the boiler we have, heats 800 feet of 4 in. pipe for one shilling per week." Something new to us this, it is explained to us, and we see the fuel they burn.

Next we are introduced into the Rose houses, three or four of them, with Marechal Niel and Gloire de Dijon rambling over the roofs, with wood-like stout walking sticks; these have been planted about eighteen months, and with the exception of one plant are doing well. Underneath are plants of Niphetos, Isabella Sprunt, Catherine Mermet, and Adam, with Palms and another batch of 10,000 unnamed Begonias going to seed; these houses will presently be filled with Chrysanthemums. In the next house were quantities of pots of Adiantums, much in demand for button-hole and hand bouquets; we next noticed a large barn, and here are thousands of Palms again just potted off, and busy fingers making up bouquets of Asters, Chrysanthums, Madame Laffey Roses, &c., which will be sent off to Shude Hill Market in Manchester. We are next introduced into the Cucumber houses or rather pits, and had to bend down to make our way through them; vast quantities were still hanging, special kinds being carefully saved for seeds; in one of these we found Pancratium fragrans, Vallota purpurea, and a large batch of Coccus Weddeliana. From here we are taken into the cellars underneath the house, where Mushrooms and Rhubarb are grown during the winter. Gladiolus here have not been taken up for two years, and were blooming well. About a quarter of an acre of Myosotis sylvatica was shown us, and our guide said, "We cannot get half enough of this, it stands us in good stead from June to January."

In a garden of this kind one does not expect to see neatness; all the produce is sent to market, and here, "far from the madding crowd," is a busy hive of industry one would little expect to find. We were told of a remarkable incident worth recording; the proprietors keep a good yard dog, and some of the younger members of the family keep pigeons and fowls. Carlo, however, would never allow either of these to feed out of his trough; one day a young pigeon fell down close to Carlo's trough, and could not get up again; the dog seems instinctively to have grasped the situation, and allowed the bird to go into his kennel to roost, and they became great friends. The dog carefully watched over his companion, and as night approached, he would put his nose down to the bird and gently remind him it was roosting time, and the bird would answer to his wish by hopping into the kennel, neither would Carlo eat, unless the bird accompanied him. Alas, one day Carlo was disconsolate, he had missed his companion, the bird could not be found for some time, at last, the poor bird was discovered, he had got too far away, and had been drowned in the water tank.—*N. J. D.* *(To be continued.)*

PLANTS FOR FORCING.

(Continued from p. 37.)

LILIUM CANDIDUM is a subject eminently adapted for forcing, but somehow or other it is only within recent years that its merits for this purpose have been recognised, and as it is one of the oldest occupants of our herbaceous borders—having been introduced from the Levant so far back as 1596—there ought to be no difficulty in obtaining large supplies of it from trade growers at a very cheap rate. As it is probably the earliest amongst its class to commence root action, no time should be lost in potting up what are intended for forcing, placing from three to five bulbs in an 8-in. pot and standing the same outside on a bed of ashes till December, from which time onwards they may be introduced into gentle heat and forced on gradually. We may here remark that frost must be excluded from the roots after they are potted, and with this object in view they should be plunged in ashes or leaves in a cold frame towards the end of October.

Lily of the Valley.—A great favourite, in universal demand, concerning which it may be truly said that success or failure is easily obtained. Many so called practical gardeners frequently fail to grow or force this plant to their satisfaction, and why? Merely because one or two cardinal points (in regard to success) are either misunderstood or neglected. The way "not to do it" is to dig up clumps or crowns from outside beds or borders, stand them in a cold frame for a week or two, then place them in a Mushroom-house for a like period, afterwards introduce into a plant-stove or some such structure where a temperature of from 60° to 75° is maintained. This method of treatment is not at all rare, and what is the result in most instances? Simply a few flowers in advance of the leaves, or, may be, the latter are wanting altogether. Speaking from experience, we ourselves say if the best results are desired, by all means obtain imported roots, either clumps or crowns; of their superiority over home-grown stuff for early forcing there cannot be any doubt. Consignments from the continent usually arrive in this country about the middle of October, and should be obtained as soon as possible if flowers from them are desired as early as Christmas. Two parts of turfy loam, one of leaf-mould, and one of sand will be found a suitable compost for them to grow in, and 6 in. pots, fairly well drained, will be quite large enough for clumps. Single crowns, if very early flowers are desired, are in the opinion of many preferable to clumps, and from twelve to eighteen crowns should be planted in a pot of 4 ins. or 6 ins. in size.

As soon as potted they should be plunged in ashes or cocoa-nut fibre refuse, either outside or in a cold frame for a few weeks, having previously been well watered to settle the soil about the roots. Afterwards they may be introduced into a temperature of from 50° to 60°, but light must still be excluded from the crowns. A Mushroom-house is a very good place to put them in, and they may be covered with half-decayed leaves to a depth of 6 or 8 ins. Presuming they are required to flower at Christmas, they should be brought into a stove or forcing-house, where a close moist atmosphere and a temperature of from 70° to 75° is maintained, and if they can be given a little bottom heat so much the better; an inverted pot should be placed over the crowns for a brief period, by this means leaves and flowers come away simultaneously. It is also important to bear in mind not to allow them to suffer from the want of water from the time of potting to their coming into flower, not forgetting that it is in the later stages of growth that most is required. To keep up a long succession, they should be grown in batches, and introduced into heat at intervals of two or three weeks throughout the winter and early spring. We have here been led into greater details than we at first intended, but from our knowledge of the fact of many persons meeting with failure, or at best only partial success with this subject, we trust our remarks may prove advantageous to those whom it concerns.

Solomon's Seal (Polygonatum multiflorum).—This plant is well worth the attention of all cultivators of early-forced flowers. The latter, which are white tipped with green, and produced on short branching peduncles, are very pretty and much appreciated when intermixed with other flowering plants early in the season. As it is a British plant, being wild in many places, and also frequently met with in herbaceous borders, there ought not to be much difficulty by those who do not already possess it in obtaining a good supply at a reasonable cost. November will be quite early enough to take up roots from open borders for potting. Smaller than 8 in. pots should not be used, and from eight to twelve crowns may be planted in each. Allow them to remain in a cold frame for a few weeks, and their subsequent treatment should in all respects be similar to that accorded to Lily of the Valley.

Hoteia (Spiræa) japonica.—This is, unquestionably, one of the very best and most accommodating plants we have for forcing, and a decided favourite with growers for the market; its popularity for furnishing and decorative purposes being such as few other subjects can lay claim to. Of this plant it may also be said, that imported roots are by far the best for early work, giving, as compared with home-grown roots, a maximum of flowers with a minimum of trouble. The sooner they are potted after they come to hand the less trouble will be experienced in getting them into flower early; such a compost as we have previously recommended will be found to be very suitable in this case. The clumps being put into 5 or 6-inch pots, well drained, should be plunged in a cold frame, or outside in cocoa-nut fibre refuse, for a few weeks, preparatory to introducing them in batches as required into a moist-growing temperature of from 60° to 70°. When it is seen that root action has fairly commenced, syringing overhead and copious supplies of water at the roots should be the order of the day, indeed, when they are in full growth and in a high temperature, they may almost be treated as semi-aquatic. Just as the flowers begin to open, the plants should be moved into a somewhat cooler structure to prolong their duration of flowering.

Dielytra spectabilis.—We need hardly say, that this is one of the most graceful and effective plants we can grow for early spring flowering, its handsome spikes, from one to two feet long, bearing a profusion of its beautiful soft pink-coloured flowers, rendering it very attractive and admirably suited for room decoration. It delights in rich light soil, with a little sand and leaf mould added thereto. The end of October will be early enough for potting, and the plants should be well protected from frost till they are brought into heat, which ought not to be much earlier than the middle of December. If they can be given a cold frame and plunged in leaves, then they may be regarded as being comparatively safe from frost, care, however, must be taken not to cover over the crowns, to any appreciable extent otherwise weak and spindly spikes will be the result.—*J. H.*

(To be continued).

FRUITS, FLOWERS & VEGETABLES.

Exotic Plants in the Isle of Wight.—Seeing the note in your last issue (p. 36) on Hydrangea, reminds me of a grand display of them which I saw in the College gardens at Ryde a short time back. They were planted in lines forming a broad margin to the shrubbery borders from 2 to 3 ft. high, and were one mass of flowers. It is not easy to imagine what a fine effect the broad lines of these plants have when in full flower as there seen. It would appear that considerable care had been taken in preparing the stations for the different lines, as in some places they produced blue and in other delicate pink flowers. It is very rarely on the mainland that we see such a display of these plants as can be seen in the Isle of Wight. In the grounds I also noticed fine bushes of Acacia dealbata, which prior to the winters of 1880 and 1881 had reached about the dimensions of large trees, as also had the Blue Gum, Eucalyptus globulus. Magnolia grandiflora grows on the open lawns like forest trees, and open their deliciously perfumed flowers most freely, and the beautiful kinds of Myrtles grow and flower and emit their sweet perfume in almost any position. In one of the gardens near by we noticed some beds of Camellias in perfect health, and the old single Donkelaarii bearing large fruits. In the same garden were growing side by side with the Azalea mollis good plants in perfect health of the Indian section, and which I was given to understand had been standing out of doors several years.—*C. Warden.*

Judging Fruit at Exhibitions.—It has always appeared to me unfortunate that a fair and just decision cannot be arrived at in judging Melons at exhibitions without having to cut the fruits, which all know does not enhance their appearance, especially if the exhibition extends over more than one day, and we happen to get damp or rainy weather during the time. Accepting the rule of tasting in the case of Melons as being an objectionable necessity, I should like to ask the opinion of others if they would be prepared to welcome the application of the same rule to Peaches and Nectarines, as was adopted by the judges at the autumn show held at Bath. Under this system of judging, it is quite possible for poor half-developed fruit, in the case of Nectarines, to be placed before handsome well-coloured specimens.—*C. W. C.*

Roses for Winter Flowering.—In reply to Mr. A. Swanson's enquiry (p. 42) I should say it would be too late now to give his plants a rest if he wishes them to flower during the winter. The best way to treat them would be to cut out all the small wood, leaving only the strongest and best ripened shoots, which may be shortened back a little, and after this has been done the beds should be forked over, and a dressing of manure be given; this may either be forked in or used as a mulching for the surface. To succeed well with Tea Roses during the winter, it is essential that the house should be well heated with hot water. At the same time plenty of air should be given on all favourable occasions, but cold draughts must be carefully avoided. Although plants grown on without having a rest may flower well through the winter, yet plants that are ripened off early in the autumn, and then given a fresh start about this time or a little later, will generally succeed better.—*H.*

The Royal George Peach.—We send you herewith, half-a-dozen ripe fruits of the Royal George Peach, which have grown and ripened on the young trees in the nursery rows, without the slightest shelter or protection. Is it not an unusual occurrence? The fruit is small, but would no doubt have been larger if we had watered the trees; possibly, however, if that had been done, it might have kept them growing, and so prevented them from ripening. They grew on young trees just as Plums and Apples occasionally fruit in the rows, where the trees stand to be drawn from.—*Thomas Frost & Son, Bower & Ling Nurseries, Maidstone, Sept. 23rd.* [So far as we know, it is a very unusual occurrence, for small trees to ripen their fruits so well under such circumstances.—Ed.]

Nicotiana affinis.—When looking through your issue of September, 5th (p. 11), it gave me much pleasure to read "T. W's" letter on Nicotiana affinis, for it is a plant certainly not half so well known as it deserves to be. But unlike some of its congeners, it is not well adapted for sub-tropical bedding, as far as my experience goes, but no one who comes in contact with it, in the quiet shades of evening, can fail to be struck with its delicious fragrance; in short, having once grown it, one would be loth to part with so sweet a flower. I cannot speak of its value as a pot plant, but shall not fail to give it a good trial in the coming year. It is of great value for cutting, its beautiful white blooms, intermixed with scarlet zonal Pelargoniums, and graceful fronds of Ferns, having a very pleasing effect, to say nothing of its delightful odour.—*G. B. Baskett.*

Mignonette, "Machet."—In the Gardening World of September 12th, "H" contributes a paper on "Mignonette for early spring sowing," but he does not mention, and probably has not seen a new variety of continental origin, and sent out in the spring of this year. It came with the name of "Machet," and in my opinion it is a valuable and distinct variety. I send you a plant, so that you may see what it is, but we have been having, and still have, very wet windy weather, so that it is not in good condition. Up to this time, it has been a long way ahead of all the other Mignonettes, and the admiration of all who saw it. Its sturdy short-jointed habit and floriferousness, and its excellent condition and the size of the spikes, will bring it prominently into notice as a valuable variety for pot work and general use. It is so compact in habit, that it will be welcomed by all. In this variety, and "Golden Queen" and "Miles's Spiral," we have three pretty distinct and excellent kinds, and all thoroughly fragrant.—*William Dean, Florist, Walsall.* [The specimens received bear out all that our correspondent claims in its favour. Its fragrance is very rich.—Ed.]

Disbudding and Feeding Chrysanthemums.—Chrysanthemums will now require a good deal of attention in disbudding. Those plants which are grown for decorative purposes on what is called the bush system will hardly be showing the bloom buds, but those grown on the long single stem system will now require to have their blooms thinned, and the grower should always bear in mind that the terminal or centre bud will produce the best flower. A great many other buds will be found clustering around the centre one, and these should all be taken off carefully, leaving the centre one only on each shoot. A small pen-knife is the best instrument to use for the purpose, care being taken not to damage the remaining bud or the stem. The plants should also now be carefully attended to with stimulants, and there are many sorts of manure which can be used successfully, but generally speaking each cultivator has a particular fancy of his own. There is nothing better than the drainings from the farm-yard diluted until it becomes about the colour of brandy; guano, dissolved and used weak, forms another good stimulant; sheep-droppings, placed in a bag and soaked in a tank for some time, answers well; and a

weak application of Clay's fertilizer is much appreciated by some cultivators. All of the manures named are good, but the great thing is to apply them weak and often, as if used in too strong doses the surface roots are liable to be damaged, which causes a check to the growth, and consequently the buds do not swell to their proper size. An application of soot-water once a week will also be found advantageous, as it imparts a deep green colour to the foliage. Care should be taken to keep the plants securely tied to the stakes, as the tops are very brittle and easily snap off with the rain and wind, which causes much disappointment. Birds alighting on the points is another source of annoyance in causing breakages, but which can be prevented by keeping the shoots closely tied up.—*E. Molyneux, The Gardens, Swanmore Park, Bishop's Waltham.*

Mutisia decurrens.—I beg to thank Mr. O'Brien (p. 42) for his prompt reply anent the propagating of this lovely climber, which is evidently another of those beautiful plants that invariably do well when let alone, but which die when meddled with or coddled. Many, I have no doubt, will be glad to learn, that after all the management of this plant is comparatively easy, and also its propagation; and not a few will be thankful to Mr. O'Brien for thus letting us into the secret. I wonder what kind of a sensation a well-flowered example of this plant would create, at one of our London shows, if grown in a pot and trained on a trellis?—*J.*

A fasciated Hollyhock.—I send you a rough sketch of the top portion of the stem of a Hollyhock which is quite flat, measuring 9 ins. across at the top, and 13 ins. across some two feet lower, and densely packed with buds and flowers of a rich dark maroon colour. It has the most extraordinary appearance of any Hollyhock I have ever seen.—*J. K. D., Adiscombe, Croydon.* [Fasciation in the stems of Hollyhocks is by no means an uncommon occurrence, but we have never seen one of such large dimensions as this.—Ed.]

Pentstemons.—It used to be said that to see the Pentstemon (and sundry other things) in its glory "you must go north," and especially visit the Pinkhill and other Edinburgh nurseries. Pinkhill in particular was always mentioned, because it was there that the flower was first substantially improved. When Mr. Laing pitched his camp at Forest Hill he too had a lingering regard for the Pentstemon, and raised many good flowers. As to the origin of the many fine varieties now grown there is not much that can be definitely stated, but there can be little doubt, we think, but that P. gentianiodes was one of the original parents; although about fifty years ago, besides the sort named, there were also others in cultivation, such as coccinea and alba. The first variety which came out with a white throat was named Buckii. This was followed by Kingii, Lemoinei, and a number of good continental varieties. P. Cobæa also became popular, and to this species the garden varieties also doubtless owe the broad open tube which is now considered a leading "point" when the quality of a flower is under consideration. Mr. John Downie, who did so much for this flower in years gone by at Pinkhill, seems to be still keeping on with his old love, and at Beechhill grows the Pentstemon with all his old enthusiasm. A large gathering of cut blooms before us show perhaps more than anything that the improvement effected of late years has been in the habit of the plants rather than in the quality of the flowers, the habit of growth being more compact and dwarf, and the flower spikes altogether more dense and compact than they used to be. On the score of shape and brightness, in the red and crimson shades especially, the latest seedlings leave nothing to be desired.

White Magnum Bonum and Coe's Golden Drop Plums.—The Plum crop generally this season has been a much more than usually abundant one, but if we may judge from specimens before us, the crop in the gardens at Swanmore Park, Bishops Waltham, approaches the marvellous in regard to quantity and quality. Of that splendid preserving plum, the White Magnum Bonum, we have on our table a shoot measuring 10 inches in length, which bears fourteen large full-sized fruits; and on a shoot of Coe's Golden Drop, 22 inches long, there are no less than thirty of its pale yellow fruits. The last-named sort is a healthy vigorous grower and a free bearer in most seasons, but such crops as this are surely exceptional. Mr. Molyneaux, who so ably conducts the gardening operations at Swanmore Park, attributes much of his success with the plums to keeping the trees clean and free from green and black fly, which in such a season as the present, must have been a matter of some difficulty. Whatever may be the secret of success, it is clearly not altogether the season.

Notes on Violas.—I send you blooms of a few Violas which are still masses of colour here, but must now succumb to the knife, for stock must be looked after. In Countess of Hopetoun, we have our premier white, short robust habit, and an immense bloomer, both early and late. You will see it has no bar or blotch whatever in the flower, and it is truly a grand variety. Mrs. Gray, also a white, more snowy white than the Countess, has a tendency to flush, especially in hot weather when it is frequently marked with lilac, but it is a very fine bedder, but of taller growth than the Countess, and a very early and continuous bloomer, and most fragrant, quite as so much as a violet. True Blue is in my opinion by far our best bedding blue, but at this late season of the year the blue colour is not so prominent as earlier. It is a very early bloomer and still in full bloom here; of short stiff habit, and therefore suitable for any purpose. Elegans is an old variety, but stands out prominently for its delicate pretty colour a soft lilac, and is a splendid bedder and telling in a mass. All our yellows are cut down, excepting a few plants of Lutea profusa, deep golden yellow, with a small varied blotch, stronger in constitution than many of the yellows, and a very early and profuse bloomer. Queen of Lilacs, a blue lilac is a wonderful bloomer and a sturdy grower, grand in masses, and hot weather does not affect it. Archie Grant is of the Holyrood type, with much of the Pansy in its habit, and all of this type are not very early bloomers for spring work, but Archie is a grand fellow for summer work, and of a rich blue-violet colour. I name Countess of Kintore, Ardwell Gem, Duchess of Albany, Golden Queen of Spring, Queen of Purples as everybodys' sorts. This summer has severely tested Violas, and a large number have succumbed to the heat and drought, yellows especially, but those I have named have good constitutions, and should be universally grown.—*William Dean. Florist, Walsall.*

THE PHŒNIX PARK, DUBLIN.

This beautiful Park is in close proximity to the city, the approach being by Park Gate Street entrance. It contains about 1,752 acres, of which 1,300 are open to the public. Within the Park boundaries is the residence of the Lord Lieutenant, the Viceregal Lodge, to which 160 acres of gardens and pleasure grounds are attached; the Chief Secretary and under Secretary's lodges, and the lodges of the Park Rangers, and their assistants; the Hibernian schools for soldier's children; the military magazine, and infirmary; the Zoological garden, the constabulary barracks, the ordnance survey depot, and the people's garden. There are finely kept roads and avenues running through the Park, and on entering it the first thing that arrests attention is the Wellington Monument, a gigantic pillar in the form of an obelisk, 250 ft. high, erected at a cost of £20,000. On the sides of the pedestal are four panels, one of which contains an inscription, and the other three battle scenes, and higher up the dates are given on which the great captain won his victories. A portion of the Park called "the fifteen acres," was celebrated in former times as the place where duels were fought, but is now used for grand military reviews.

On the right of the monument is the people's garden, and a bronze statue of the late Earl of Carlisle, who for many years was Viceroy of Ireland. The people of Dublin have good reason to be proud of their Park, for, independent of its extent and picturesque beauty, it is the only Park or square to which the public have the right of access at all times, where they can range at will over its richly wooded slopes, hills, vales, and glens, or rest on the sunny banks overlooking the Liffey with the venerable Hawthorns around them, while the mountain ranges lying to the south, with the richly cultivated intervening country, and the City lying to the east, presents one of the most magnificent views on which the eye of the most fastidious could repose.

The people's garden is about 16 acres in extent and enclosed; the grounds are beautifully undulated, well wooded, and splendidly planted. There are two lakes, the upper and the lower, upon which the graceful swans and other water birds enjoy their freedom. The bedding is well done. A telling feature is, a partly circular ribbon border, which is very showy. The back row is planted with Salvia patens, with succeeding rows in front of Scarlet Pelargoniums, Yellow Calceolarias, Variegated Silver Pelargoniums, and blue Violas, Scarlet Tropæolum, Blue Lobelia, and a dwarf golden leaved Pelargonium; this is an extremely pretty arrangement. A bed of succulents is also very effective. The carpet bedding is well done, the various designs being good, and a nice discretion shown in the blending of the colours. Single Dahlias, Nicotiana, Stocks, Gladiolus, summer-flowering Chrysanthemums, Fuchsia, Sunray and others, each have a bed to themselves, and planted in masses are very effective. Tuberous Begonias do well here. Some splendid varieties fill a large bed, and are one mass of flowers. Other mixed beds of Violas and silver and bronze-leaved Pelargoniums are likewise very attractive, the combination of colours being very soft and pleasing. The rockeries have been very much extended, and are planted with a good collection of plants best adapted for such work, and conspicuously in some of the beds dotted here and there are miniature standard plants of Acacia lophantha, and Dracæna australis, which stand well and relieve the flatness that would otherwise exist.

I may mention that here the Single Dahlias and Gladiolus are not lifted in the autumn, but are simply covered with bog mould, and the ground then planted with Wallflowers, which flower early in the season; they have stood thus three years. Aralia japonica, Various Bamboos, New Zealand Flax, and Chamærops Fortunei have stood out here for years unprotected. A grand collection of Willows that overhang the lake are also worthy of mention. The Arundos just now is also very fine, as also are Tritomas, and clumps of the Pampas Grass stand conspicuously before the eye. The principal trees in the park are Oaks, Beech, and Elms, of which there are numerous fine specimens. There are 16 miles of roads and the same of walks; and plenty of seats are provided so that visitors can ramble about without much fatigue.

The entire charge of this Park and Garden is entrusted to Mr. Dick, who has been superintendent here for eight years, and the various improvements that have been made, and the practical manner in which everything is carried out, speaks volumes in praise of his management.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Re-potting.—All plants that require re-potting should now have attention; if done at once they will have a chance of getting well rooted before the winter is upon us. The early-flowering varieties of Pelargoniums that were propagated in June should now be ready for potting on into their flowering pots, and old plants that were cut back early will also require a shift now. To prevent the plants starting into too vigorous growth they should be potted firmly, and although it is best to have the plants indoors by this time yet they should be as much exposed as possible, so that short sturdy growth may be secured. Any late struck cuttings that require potting off may be placed where there is a little heat for a few days, but they should only remain long enough to give them a fresh start, after which they should be kept as cool and as much exposed as possible while the weather remains favourable.

Herbaceous Calceolarias should now be ready for potting off into 60-size pots, after potting they should be kept close and shaded from the bright rays of the sun for a few days until they make a fresh start. A pit will be the best position for the plants during winter, and after the plants have made a fresh start plenty of ventilation should be given on all favourable occasions, and later on only sufficient protection to keep off severe frosts.

Intermediate Stocks should also be ready for potting into small 60-size pots; these will do well through the winter in a pit or frame with a southern aspect, the lights should only be kept on in rainy or frosty weather. If mildew should make its appearance the plants should be dusted over with sulphur. We may add that Stocks, like all other fine-rooted plants, require great care in watering to keep them healthy during the winter.

THE KITCHEN GARDEN.

Ordinary Work.—Advantage should be taken these fine days, to use the Dutch hoe freely between rows of Onions, Lettuce, Spinach, and other crops, not only with a view to destroying small weeds, but also for the purpose of aerating the soil, which will accelerate growth in the plants. Any blanks that may happen to be in the rows of the autumn-sown Onions, should be made good with young plants thinned out of the same rows, and these should not be buried deeper in the soil than they were before. Thin out plants of Lamb's Lettuce to about 4 in. apart in the rows, and, if necessary, extend the crop by transplanting some of the thinnings. See to the earthing-up of Celery, and late plantings of Broccoli, Savoys, Cauliflowers, and Leeks.

French Beans and Scarlet Runners.—Good gatherings of these should be made, before they get nipped by the frost, and be spread out on a shelf in a cool room. In this way, Beans may be had nice and fresh for three weeks or a month after the plant has been killed by frost.

Frame Ground.—On the approach of frost, it will be necessary to lift all the full and half-grown Lettuce plants, and lay them in by the heels at a little distance apart for present use. Make a sowing of Wood's Frame Radish forthwith, and as soon as the plants appear through the soil, ventilate freely. Remove the sashes daily during fine weather, from all hardy crops growing under them, and see that a regular supply of Mustard and Cress is kept up, by making small sowings of each at short intervals.—*H. W. Ward, Longford Castle, Wilts.*

ORCHID NOTES AND GLEANINGS.

Disa grandiflora.—This grand Orchid is grown to perfection at Purdyburn, Belfast (R. H. Batt Esq.). There are in that establishment two magnificent specimens now in full beauty, one with seventy-nine spikes, the other with fifty-nine, and a very fine variety it is too. Mr. Young is very successful in growing this plant, and some few years ago he sent to Mr. Steven's Rooms two splendid specimens, finer considerably than those now in bloom, which are pieces taken from those sent to the auction rooms. They are grown perfectly cool, and generally repotted in October in a good rough compost of peat, fibry loam, charcoal, and crocks, with good drainage, and a liberal supply of water. They stand upon inverted pots in pans of water which keeps all pests away, and always affords a certain amount of atmospheric moisture. As seen here they are objects of great beauty, and should be seen more frequently in our collections. Another good feature in the houses here is a grand example of the Ouvirandra fenestralis. This plant has been, like the Disa, grown well here to my knowledge for a dozen years. It is grown in a tub in subdued light at one end of a stove under the stage; the plant is over 3 ft. across, and is perfect.—*A. Outram.*

Oncidium Jonesianum.—As we have been somewhat successful in establishing this beautiful Orchid, we thought a note would not be out of place describing the treatment under which we find it does best. When the first plants came over into this country in May, 1883, we bought some and tried various modes of growing them; some were fastened on a bare piece of virgin cork with the growths upright, but now the same and the new growths are pointing downwards, and the flower spikes forming are growing towards the light, and the thick fleshy roots are clinging firmly to the cork. They do not appear to like any other material about them, for one piece placed on cork at the same time with a little moss has not made a single root, although it has made two small growths and bloomed last year. I have not succeeded in establishing one in a pot. In June of the present year we had about a dozen more, some of these were fastened on cork, in what seems to be its natural way of growing leaves downwards, a few were tried with moss again, but where any roots are at all produced they have gone directly away from the moss, which will be removed at once. Those on the bare blocks are not only growing freely but have a quantity of good roots clinging firmly to the block. They require a warm temperature, to be hung near the glass, and to be dipped frequently in water; all through the hot weather ours were watered twice a day, for although any moist material is not necessary about the roots they are benefited by copious supplies of water, which quickly drains off again. If orchid growers who have been successful in growing it in any other way will give their experience, their remarks will be read with interest by those who have been less fortunate, as well as by *G. W. C.*

Saccolabium Heathii.—This lovely new Orchid, which is now flowering with Messrs. Heath & Son, at the Royal Exotic Nurseries, Cheltenham, appears to be one of the prettiest introductions of the year. In habit the plant resembles S. Blumei majus, and it bears two fine spikes each 1½ ft. in length, densely set with white flowers; a most charming object, unlike anything else in the genus. In the same Nurseries, which are noted for the good culture of Odontoglossum Roezlii, there are many varieties of it in flower. There is also a good display of other fine Orchids, and a run down to Cheltenham to inspect them would be a pleasantly-spent day to an Orchidist.—*J.*

Lælia Wyattiana.—A flower of this very handsome variety comes to us from Mr. J. Cypher, Queen's Road Nursery, Cheltenham. In form it is like a medium-sized L. purpurata, the nearest to it being that distinguished as Schroderiana; but there is also something about it which, however impossible it may be, immediately calls to mind L. grandis. L. Wyattiana has flowers with white petals, faintly tinged with rose; and broad clear white sepals; the lip is bright rose on the front half, and yellow, veined with purple in the throat. It is a very pretty variety, named in honour of G. Nevile Wyatt, Esq., of Lake House, Cheltenham, a very successful cultivator of Orchids.—*J.*

Dendrobium Pierardi.—As a commercial plant, this is perhaps not thought a great deal of, but I can speak to its decorative value, for my specimen this year has been exceedingly pretty. I have it in a basket hanging in the intermediate house, and it has had twenty growths in flower, averaging about forty flowers on each growth, and lasting a month in perfection. I think this and many other old-fashioned Orchids, which, on account of their being very cheap, and giving very little trouble, might be grown in the same way by any one having an intermediate house or stove. They will well repay them by their beauty and usefulness when in flower.—*F. King, Kenton Grange.*

FLORICULTURE.

New Auriculas.—These are now on the increase, and growers are afforded an opportunity of obtaining some of the varieties seen in good form on the exhibition table during the past few years. Last year Mr. C. Turner announced two of Mr. J. Douglas's raising, Conservative, white edge, and Sylvia, a white edge also, though often being nearly a grey. Both are good useful varieties, well worthy a place in any collection. This year, two more of Mr. Douglas's raising were announced: Dr. Kidd, a good white-edged variety, with handsome mealed foliage, and a vigorous grower, large well-formed pips and bold truss; and Mrs. Moore, a grey or faint green edge, the early trusses coming with green-edged blossoms. It is a vigorous-growing variety and makes an excellent show flower. Our friend, Mr. Ben Simonite, of Sheffield, announced F. D. Horner (Simonite), a bright green-edged flower, good tube and paste, black body colour, and a good grower; this is a most useful addition to our green edges, and will be heartily welcomed by exhibitors. The Rev. F. D. Horner's blue self, Sapphire, is also offered by Ben Simonite; like all the blue selfs, it is a little weak in the tube, but it has a good paste, and the pip is round and quite smooth on the edges.

Those who knew the late Mr. Thomas Mellor, of Ashton-under-Lyne, were aware that he had devoted his attention to seedling Auriculas, his Cymbeline, a pucy rose-coloured self, though not first class, is yet a distinct and useful flower, and well worthy a place in a collection. On Mr. Mellor's death, his new flowers passed into the hands of Mr. William Brockbank, and his gardener, Albert Mottershead, is now offering the following new varieties raised by Mellor, as follows:—William Brockbank (grey edge), flowers large and well-formed, rich golden tube, paste solid and pure, intensely black ground, well defined grey edge. This was awarded a First Class Certificate of Merit at the National Auricula Society's Show, at South Kensington, in April last. Reliance (white edge), is a very fine variety, golden tube, good paste, black ground, and good white edge. It will perhaps be remembered that this was in the Rev. Mr. Horner's first prize lot of twelve plants, at South Kensington, in April last. Negro (self) is a promising and useful variety, rich yellow tube, good paste, pip round and smooth on the edges, colour dark maroon. Mr. Heap (self) is a very fine blue variety, golden tube, good paste, pip round and smooth, with a symmetrical truss.

A Selection for Beginners.—If any young beginner is desirous of making a start with the culture of Auriculas, now is a good time to get together a collection. The following can be procured in good plants at reasonable prices. *Green-edged:* Anna (Trail), Alderman Wisbey (Headly), Colonel Taylor (Leigh), Lovely Ann (Oliver), Lycurgus (Smith), Prince of Greens (Trail), and Talisman (Simonite). *White-edged:* Acme (Read), Beauty (Trail), Frank Simonite (Simonite), Glory (Taylor), John Simonite (Walker), Smiling Beauty (Heap), and True Briton (Hepworth). *Grey-edged:* Alexander Meiklejohn (Kay), Alderman C. E. Brown (Headly), Confidence (Campbell), Dr. Horner (Read), George Lightbody (Headly), Lancashire Hero (Lancashire), and Silvia (Douglas). *Selfs:* C. J. Perry (Turner), Formosa (Smith), Lord of Lorne (Campbell), Pizarro (Campbell), Sapphire (Horner), and Topsy (Kay).

Here is enough of good Auriculas for any beginner to select from. They can be had out of pots for the matter of that, and when they are received they should be potted into small pots in a good compost of rich yellow fibry loam, leaf mould, sand, and a little thoroughly rotted manure, and if a little fine charcoal can be added, so much the better. The pots should be well drained, and a little moss placed over the drainage. If the soil used is moist enough, but not sufficiently so to stick, no water will be wanted for many a week; for that time the pots can be placed in a cold frame and shaded from the sun.—*R. D.*

QUESTIONS AND ANSWERS.

Peach and Nectarine.—I want to plant one Peach tree and one Nectarine, and should be glad to know which varieties you would recommend, and when they should be planted.—*Argus.* [Our choice would be the Grosse Mignonne Peach and the Lord Napier Nectarine. The latter ripens about three weeks earlier than the former, which comes in at the beginning of September. Plant them as early next month as you can get them.]

Apple Stocks.—I have recently taken a great interest in the cultivation of the Apple, and have turned my attention to the stocks on which they are grafted, such as the Paradise and the Crab. I should like to know if any others are employed in Apple grafting, and whether the stocks now employed are similar to those used 50 or 100 years ago. Could any of your learned contributors give me any hints as to how I might detect, with tolerable certainty, the stocks on which such trees are grafted?—*Pomum.*

Figs under Peach Trees.—Is it possible to grow Figs in Pots successfully under Peach trees, supposing the House to be a Span-roof, the Peach trees planted on one side, covering the whole of the roof, and the Figs plunged on the other side, but under the Peach trees? What time should they be Potted to Fruit early?—*K. W.* [If the Peach trees are not trained too thickly and do not reach the top of the house, Figs may be grown in the position indicated, but not successfully, for they require a maximum of sun-light and heat to do them well. They should be potted at once in good turfy loam with a fair proportion of old lime rubble, and then be plunged out of doors in a bed of leaves. The best way of applying manurial stimulants, is to frequently top-dress them with manure when growning.—Ed.]

Names of Fruits.—*B. B.*—1, Court of Wick; 2, Lord Suffield; 3, Golden Reinette; 4, Emperor Alexander; 5, Early Julien; 6, Fearn's Pippin.

Names of Plants.—*W. Green.*—1, Scabiosa arvensis; 2, Chicorium Intybus; 3, Leontodon hispidum; 4, Æthusa Cynapium; 5, Senecio Jacobæa; 6, Centaurea nigra.—*W. E., Glos.*—1, Begonia Marshalli; 2, Begonia Marga; 3, Adiantum formosum; 4, Ampelopsis tricuspidata; 5, Cotoneaster Simmondsii; 6, Aucuba japonica.—*E. S. K.*—Lycaste Schilleriana.

Carnation.—*H. O.*—A misprint for "plants."

Sea Sand.—*Rusticus.*—It has been extensively used by Messrs. Cannell & Sons and other growers, for propagating, with completely successful results. If, as you say, you can obtain plenty of it, try a few experiments with it yourself, it will not be an expensive or tedious business.

Young Vines.—*J. Long.*—You do not say whether you want the Vines for permanent planting or for fruiting in pots. In either case, the best plan to adopt now is to let them remain where they are to thoroughly ripen off. Then during winter prune them hard back to a good eye or bud, and in February, if you have command of heat, introduce them into it, and as soon as the eyes commence to grow, fresh pot them, shaking most of the old soil from about the roots. If wanted for fruiting in pots, you must then grow them on liberally, fresh potting them into larger pots until you get them into the 12 inch size. If for planting, grow them on steadily after the first potting, and plant them out in May.

TRADE CATALOGUES RECEIVED.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—A.B.C. Bulb Guide, in two parts: Bulbs of all kinds, and a Selection of Hardy Perennials for autumn planting; and a List of the most distinct Daffodils and Lilies.

H. Cannell & Sons, Swanley, Kent.—Bulbs and Plants for winter flowering.

Goldsmith & Co., 118, York Road, Westminster Bridge Road, S.E.—Dutch and other Bulbs.

Communications Received.—C. H.—B. B.—W. K.—A. Beech.—D. B.—A. O.—J. D.—E. M.—T. F. & S.—B. H.—O. Z.—J. F.—D. W.—Clergyman.—R. O.—Under Gardener.—Miss C.—J. D.—J. S.—C. B.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, OCTOBER 3, 1885.

The Zonal Pelargonium to the Fore Again.—The dry weather which prevailed during a large portion of the last summer had a deteriorating effect on not a few bedding plants. Such things as Alternantheras, for instance, that require hot sun overhead and moisture at the roots, were wanting in much of their accustomed brilliancy; while the subjects employed in embroidered beds—for this style of summer flower gardening is much followed yet—lacked a good deal of their accustomed brilliancy, and where they were at all effective, it was mainly because the beds had been well watered during the summer. In fact, persistent watering was a main condition of anything like successful flower gardening during the past summer, and this—especially in the case of large gardens—entailed a great deal of extra labour at a time when the watering-can had to be going for the greater part of the day.

On the other hand, go where we would, the flower gardens in which the various sections of bedding Pelargoniums were employed looked singularly bright and effective. The plain-leaved varieties made generally a moderate growth, but compensated for it by a marvellous freedom of bloom; while all the variegated types were bright in their leaf-markings and singularly effective, and we heard many an one say, "We shall go back to the Zonal Pelargoniums again, for they are the most reliable subjects after all." Some of the gold and bronze varieties were particularly good; one of the oldest, Beauty of Calderdale, was in its very best form in some parts of the country, and we think we can say of this variety, that it is one of the best hot-weather zonals grown.

Some years ago it was difficult to select a group of dwarf compact-growing Zonal Pelargoniums adapted for bedding purposes, and at the same time affording a pleasing variety of colours. This difficulty scarcely exists in these days. Mr. Pearson and others—but especially the former—has raised and sent out varieties having the close, compact, free-branching habit of growth and profuseness of bloom that make up perfect bedding types; and the development in the colour of the flowers has been so great that there is no lack of pleasing shades, from the purest white to the deepest purple and maroon-crimson.

With not a few gardeners and many amateurs expense is a matter of some moment; and especially so in these days when, from various causes, incomes have become lessened in amount. If a flower gardener makes his leading subjects to consist mainly of the various types of bedding Pelargoniums, he can fill up with such inexpensive things as Violas, Verbenas, Lobelias, &c., with Stocks, Asters, Marigolds, and other annuals which he can raise from seeds.

The variegated Zonal Pelargoniums are deserving of a much more extended notice than they are receiving just now, and that not only for their undoubted service in the flower garden, but also as exhibition plants. How seldom one sees good specimens of these at flower shows now; and yet, when they are well grown, when freely developed and finely coloured—for a free development is not at all inconsistent with rich colouring—these plants are very effective indeed as specimens.

Our conclusion is, that another period of popularity is in store for the Zonal Pelargonium. We have endeavoured to set forth a few of the reasons that justify our belief.

GARDENING MISCELLANY.

Exhibitions for Next Week.—On Wednesday, Thursday, and Friday next the Grand National Potato Exhibition will be held at the Crystal Palace; and in conjunction therewith, on the first two days, there will be an Exhibition of Hardy Fruits, organised by the Crystal Palace Company. The combined attractions should bring a good gathering of growers together at this popular place.

The Proposed Dahlia Show at York.—Having given prominence in our columns to a suggestion thrown out on the occasion of the Dahlia Show at the Crystal Palace, that an exhibition of Dahlias should also take place in York about the end of August, we are happy in being able to announce that consequent upon the appearance of our remarks, negotiations were at once set on foot by Mr. Boston, with Mr. John Wilson, Secretary of the York Floral Fête, the result being that Mr. Wilson, acting on behalf of the Committee, has agreed to take the matter up, provided certain conditions are observed, which conditions, we understand, have been assented to by Mr. W. Boston on behalf of the promoters. The conditions are that a sum of about £250 shall be offered in prizes; that the schedule shall contain classes for other cut flowers in season besides Dahlias; that a prize subscription list shall be started, and with that a guarantee fund amounting to say £400. Provided this last be forthcoming, the committee of the York Floral Fête are prepared to go on with the show, and in the hands of Mr. Wilson it is certain be carried to a successful issue.

On the 8th inst. the annual dinner of the York Floral Fête will take place in that city. There is no doubt that advantage will be taken of this important meeting to advance the interests of the Dahlia Exhibition. The proposal to hold a fruit show in connection with it is one of a highly commendable character, and will serve the purpose of enlisting in support of the exhibition a large number of fruit cultivators. Hollyhock, Gladioli, and Aster cultivators, as well as those of other flowers, will find a new battle ground, and so a sympathetic interest in the proposal will be largely extended.

In order to avoid any apparent hostility between the Dahlia Show at the Crystal Palace and the one to take place at York, Mr. Wilson has adopted a suggestion thrown out by Mr. Thomas Moore, that it shall be known as the National Dahlia Show, Northern Section. The result will be to increase the prestige and importance of the southern show, and like the National Carnation and Picotee Society and others, it now becomes an active organisation with two distinct and willing branches. May it long continue so is our earnest wish.

The Hereford Fungus Foray.—The members of the Woolthorp Naturalists' Field Club will meet at Hereford next Thursday for their annual foray among the funguses, which will take place on Risbury Camp and the park and lawns of Hampton Court, Leominster. In the evening Dr. Bull will introduce as a subject for discussion "The Effect of Fungus Growth in Destroying tree Life." Dr. Bull will also give the solution of a New Zealand botanical mystery, and Mr. William Phillips, of Shrewsbury, will contribute "Some Notes on British Puffballs."

Mr. James Ford has been engaged through Messrs. John Laing & Co. as gardener to Captain Elliot, Farnborough Park, Hants.

The Hollyhock Disease.—With reference to Mr. Steven's remarks on this subject, at p. 58, Mr. Worthington G. Smith writes:—"I do not think it is probable that anyone saw the Hollyhock Puccinia in Britain twenty years ago, and for two reasons. 1. It was well known for many years in Australia and the Southern Hemisphere, and was expected and looked for in the north every year. It travelled over Southern Europe to France, and was reported there before we saw it here. When it reached France it was looked out for here, and was detected a month after the Paris report appeared. 2. The fungus is so destructive and fatal, that had it appeared so long ago as twenty years, it would not only have attracted general notice, but the Hollyhocks would have been swept off by it sooner than they were."

The National Chrysanthemum Society's Medals.—By the courtesy of Mr. William Holmes, the indefatigable secretary of this popular society, we have been favoured with an inspection of the new silver and bronze medals which the society offers for competition at the exhibitions of those societies which are affiliated with it, and which, as we remarked in a recent issue, are greatly-coveted honours. The same die is used in both cases, and a most artistic design it is. Encircling one side are the words "National Chrysanthemum Society" in relief, with space in the centre for engraving the winner's name and any other particulars it may be thought desirable to record; and on the reverse is a group of Chrysanthemum flowers in bold relief, an exquisite representation of all the types of these flowers that are grown. Design and execution alike are a credit to the society and its medallist, Mr. John Pinches.

Potatos in Germany.—An interesting paper was lately read at a meeting of the Saxon Economical Society in Dresden, giving an account of the introduction of the Potato into Germany and the gradual spread of its cultivation. In 1585 it was first brought into Germany from Italy. The first seed Potatos in Saxony were a present in 1591 from the Landgrave of Hesse to the Elector of Saxony. In 1647 they were grown as exotics in gardens at Leipzig. Swedish soldiers brought them into Western Germany about the conclusion of the Thirty Years' War. In 1717 they were re-introduced into Saxony from Brabant, and within twenty-five years they began to be regularly cultivated, their use being much developed in the famine period of 1770-71. In the year 1882 over 9,000,000 acres were given up to the cultivation of Potatos in Germany, the produce amounting to 23,000,000 tons.

An Early Frost.—A very untoward garden season has been materially shortened by a series of white frosts, the effect of which on Sunday and Monday mornings last, in many places, made a clean sweep of all growth on Potatos, Runner, and Dwarf Beans, Marrows, and similar exposed vegetable crops, and also killed completely tender garden flowers, especially Dahlias, Balsams, Marigolds, Tropæolums, and many other things, which, as a rule, help to make our gardens gay up to the end of October. To many Potato growers this early frost comes as a grave disappointment, because late planted kinds, and those which had made second growth from small tubers, were in process of creating a fair crop of marketable tubers, could the growth have remained intact for some three weeks longer; that hope is now absolutely destroyed, and the crops, such as they are, will get no larger. Marrows, especially in a season when all kinds of green crops are scarce, would have proved yet later a source of considerable profit. Those are now quite destroyed, and the Beans will neither permit to the growers more profit, more labour to the numerous women employed in gathering them, or good to the myriads of our town population who consume them. All these things present losses of no mean order, and all arise from a reduced temperature a month earlier than usual. How short a season we enjoy in this country is evidenced when it is found that spring months, so late as April and May, are full of dangers from sudden falls in the temperature, the parting curses of a dying winter; the which seem but to hatch others that quicken into life early to create death so early in the autumn as September 27th. Some few years since a very late frost on May

28th, played havoc with some early Pea crop, destroying bloom wholesale, and in not a few cases killing the plants as well. If not in the same year, at least very near to it, we saw just such an early frost as visited us on Sunday morning last, so early as September 27th. Really we can seldom build upon more than one third of the year as being quite free from frost, thus making our summer short, and too often far from being merry.

Pergularia odoratissima.—Mr. W. J. Ireland, writing from Headfort, Kells, remarks that this fragrant climber is now flowering abundantly, planted out in a narrow border of peat and loam, with plenty of drainage, and although not showy is deserving of a place in every house that is kept a little warmer than the ordinary greenhouse. In habit it is very similar to the Stephanotis, and like that "queen of the hot-house flowers" should be grown near the glass, and occasionally receive a dose of weak liquid manure. Insect pests are very troublesome to it, and must not be allowed to make headway, or if mealy-bug gets into the clusters of flowers it is difficult to dislodge it, so that it is necessary to keep it thoroughly clean.

"PALMETTE VERRIER."

What is a "Palmette verrier" was the question put to us a few days ago by some bothy men who had come across this term in a gardening paper, and there being no explanation of the term in the article in which it appeared, the following extract from Robinson's *Parks, Promenades and Gardens of Paris* gives the information asked for.—"The Palmette verrier is named after the fruit gardener at Ecole Regionale de la Saulsaie, with whom it was first observed. To form the tree we have in the first instance to plant an ordinary young plant of a desired kind, and of course that should be of the primest kind, both as to quality and constitution, as so much care is about to exercised to make it a handsome and long-lived ornament to the garden, and valuable aid to the fruit room. In forming this, as all other trees, the usual and most economical custom is to choose plants about a year old from the time of grafting, or what we usually call 'maidens,' and which when planted are cut down to within 1 ft. of the surface of the soil. Three well-placed buds are allowed to remain and form three shoots, the two side ones going to form the lowest and longest branches of this handsome form of tree.

"It is quite easy to buy trees a little more advanced to make the same form more quickly, but they will be more expensive the further they are advanced beyond what is called the 'maiden' stage. The young trees should be allowed to remain a year or so in their positions before being cut, so that they may have rooted well. At the first pruning the young tree is cut down to 1 ft. or so of the ground, and just above three suitable eyes, one at each side to form the two lowermost branches, the other a little above them and in front to continue the erect axis. Of course all the eyes except those that are to send forth the first three shoots must be suppressed in spring. During the first year of the young trees possessing three shoots care must be taken (as at all times) to secure a perfect equilibrium between them. If one grows stronger than the others it must be loosened from its position on the wall and lowered, this will divert the sap so as to strengthen the rest. Nothing is more easily conducted than the sap when we pay a little attention to it, if not it soon rushes towards the higher points and spoils the symmetry of the tree. At the second pruning the centre shoot is cut back nearly to its full length, but the two side ones are shortened by about a third of the length; if one side happens to be stronger than the other the stronger one is cut a little shorter.

"During the second year no more branches must be allowed to grow, simply because the trainer desires to throw all the strength he can into the lower branches, which are to be the longest. Sometimes, however, the strength of the lower branches will permit the second stage of the branches to be made during the second year of training. At the third pruning, the central stem is cut 6 ins. or so above the previous one, which is indicated by a slight ring, and a third of the new growth of the side branches cut off; at the fourth pruning, longer lengths of the branches are left, and at the end of the following growing season, the specimen will have grown sufficiently to allow the lower branches to be turned up towards the top of the wall, and begin to look shapely. Thus, by this time the two corner branches will reach out at right angles from the tree, and be turned upwards, thus, resembling a section of a broad flat bottomed boat. Each year, or as fast as it can be done, two branches are trained similarly to these, and thus a perfect tree is made to cover the space of wall allotted to it. Above all things, is is necessary to keep the flow of sap equal, not only for the sake of symmetry, but also to insure perfect health and fertility, for if one part be allowed to grow grossly at the expense of another, an awkward state of things will soon take place."

We hope the foregoing remarks will satisfy the enquirer. We are, above all things, desirous of making The Gardening World a useful aid to the gardeners of the future, now occupying the bothies at our large places, and shall always be pleased to receive and answer queries to the best of our ability.

SELECT HARDY PERENNIALS.

(Continued from p. 54.)

Lupinus polyphyllus.—This is an old-fashioned perennial, and one generally well known, seeing that it is of somewhat frequent occurrence in gardens. It is best suited for the back part of the herbaceous border. It grows 3 ft. or more high, producing long compact spikes of blue flowers, and is a good shrubbery border plant, and very useful in the wild garden. There is also a white variety, and both are quite hardy and reproduced abundantly from seeds.

Lupinus polyphyllus.

Lupinus Nootkatensis.—This is very distinct from the preceding, and a capital plant for the second row in the border or for the rockery. It is of close compact growth, smaller in all its parts than those of the polyphyllus type, and grows about 15 ins. high, with spikes of light blue flowers. This is a good plant, and deserves encouragement.

Lupinus arboreus.—Here we have, as the specific name implies, a shrubby member of the genus, and, I believe, the only one. When fully grown, this is generally 4 ft. high, sometimes more. It is a distinct evergreen shrub, and as such very serviceable. It flowers for a considerable time throughout the summer, when flowering plants in shrubberies are not abundant, and therefore is all the more welcome. The silken down of its leaves, combined with a glaucous hue in its foliage, is not the least attractive feature respecting it. Then we have an abundance of bright yellow flowers in terminal racemes which are very showy, and all these qualities combined give us at once an invaluable plant for warm sheltered positions, or for the shrubbery. It may be increased by cuttings or by seeds; cuttings taken any time from July to the middle of October will generally root freely. These should be about 4 ins. long and stripped off with a heel attached, and inserted under handlights in a shady position. Seeds of any of the Lupines may be sown as soon as ripe. There are also some very pretty and effective annual and biennial kinds in greater variety of colour than is to be found among those of perennial duration, and all assist in making a garden cheerful and gay.

Lychnis.—In this genus we have a group as extensive as it is varied, and one which contains its full compliment of choice Alpines as well as valuable flowering perennials, which for the most part are all inhabitants of our gardens, and none more so than the old scarlet Lychnis, a familiar acquaintance no doubt with many who must well remember the fiery scarlet capitate heads of this plant, a colour which for brilliancy is not surpassed by the Zonal Pelargonium of the present day. This is Lychnis chalcedonica, and then comes its double form, a most valuable perennial, producing fine heads of vermilion-scarlet flowers. These grow barely 3 ft. high, and both are good for cutting. The latter is among the most attractive of hardy perennials; the first named may be propagated freely by seeds, the latter not so, and the only sure way is by careful division, which may be done any time from now till April, excepting in the dead months of winter.

Lychnis diurna rubra flore-plena.—This is the double Rose Campion, concerning which I think there is a little confusion, as it is often found in plant lists under the name of dioica. Be this as it may it is one of the best perennials and a handsome border plant, one whose sterling merit entitles it to very extensive cultivation. It forms a dense cushion of vigorous leaves close to the ground, and from these issue numerous flowering stems; from April onward through the summer myriads of flowers are produced, the best display being, however, to the end of June. Its large double crimson-rose-coloured flowers are very effective, and only need to be once seen to be appreciated. It is of free robust growth, about 2 ft. high, and a plant that will grow in any ordinary kitchen garden soil.

Lychnis Haageana.—Even dwarfer than the preceding, this seldom rises higher than 15 ins., and in general aspect is widely different from all the rest. This species and its numerous forms are all easily and freely raised from seeds, they are remarkable for the brilliancy of their flowers, which are of every conceivable shade of colour, from scarlet to pure white, and nearly 2 ins. across. Nothing in its day makes a prettier bed than a mixture of these in bright array, and blending unceremoniously together, they are certainly very pleasing and effective. With good effect a few seeds may be scattered over the rockery hither and thither, which, when they spring up and flower will be very welcome; their culture is very easy, and all are quite hardy. In this case, the flowers are produced in terminal and axillary clusters, the latter, not unfrequently flowering close to the ground.

Lychnis viscaria rubro plena.—I can give the reader no better or more accurate idea of the extreme beauty and usefulness of this plant than by comparing it to a fine intermediate double Stock, in so far as its quality is concerned, though this would not be accurate in respect of its free-flowering. As a dwarf rock or border plant, it is not too much to say that it is one of the very best of hardy plants; this is not saying a trifle, when we consider the great number of very fine perennials there are in cultivation at the present time. It is very distinct from all else, and grows about a foot high, the leaves are narrow and arranged in close compact tufts, from which spring the somewhat slender flower stems, furnished with large double flowers of a fiery rose, and arranged in close compact spikes. It is free-blooming and perfectly hardy in all localities, and a plant whose merits cannot be too highly praised. It is increased best by division, and also by cuttings stripped off from the main body of the plant, and inserted in sandy soil under handlights.

Lychnis vespertina plena.—The last of this group to which I will now allude is Lychnis vespertina plena, also known as dioca albo plena, though best remembered perhaps by the popular name of "the Double White Campion." This has no equal among hardy plants for floriferousness, and it is not only a gem, but one which is anything but common. Though only a variety of the white Campion so common in cornfields and on waste lands, yet it is scarcely known. It forms when established a pyramidal bush, composed of flowering stems about 3 ft. high and as much through, and flowers in the wildest profusion from June to October. I have had quantities of its flowers over 2 in. across. These are very double, pure white, and highly fragrant; what more than this could we desire? I am strongly of opinion that when its value is fully realised it will be much more in demand than now, it may almost be regarded as a perpetual bloomer, for some plants, which I lifted some two or three years since, continued flowering till Christmas time, and a plant even now, Sept. 26th, in the open ground is full of flower buds which would expand if protected.—*J.*

(To be continued).

LIFTING THE ROOTS OF PEACH TREES.

Perhaps it is not generally known among our amateur readers what beneficial results follow the careful lifting of the roots of Peach and Nectarine trees when they are not in a very satisfactory state. Trees grown either indoors or out, and which bear leaves of a sickly colour; which do not either set nor swell their fruits kindly; or which make gross exuberant wood that never ripens and only falls a prey to canker and other diseases, should be taken in hand at once. Where either of the above symptoms are present, if the trees have been planted in prepared borders, in all probability, on examination, it will be found that the main roots have passed through the drainage beneath and have entered the inert soil, and the longer they have been in this state the worse condition they will be in, or it may be that the soil in the border surrounding the roots may not be of a suitable nature, in which case similar results will follow.

In commencing the operation of lifting the roots, it is best to commence by opening a good-sized trench far enough away from the stem of the tree – 5 ft. or 6 ft. is not a bit too far for a large tree—and the trench should be opened out to its full depth to commence with. If a prepared border, go down to the drainage, and if unprepared, 2 ft. to 3 ft. is not a bit too deep, and in the operation all the roots are cut clean through with the spade. Then commence to break down the soil from among the roots with a five-tined fork, removing all the loose soil with a shovel from the bottom of the trench. The work is continued in this way until we get to within a few inches of the bole of the tree. If there are many roots it will be necessary to either tie them carefully on one side, or have a boy to hold them aside as the work of forking between them proceeds. If the tree is to remain in its present position, it may now be undermined to find out if there are any roots that go straight down, as it is best to make a good job of it when once taken in hand.

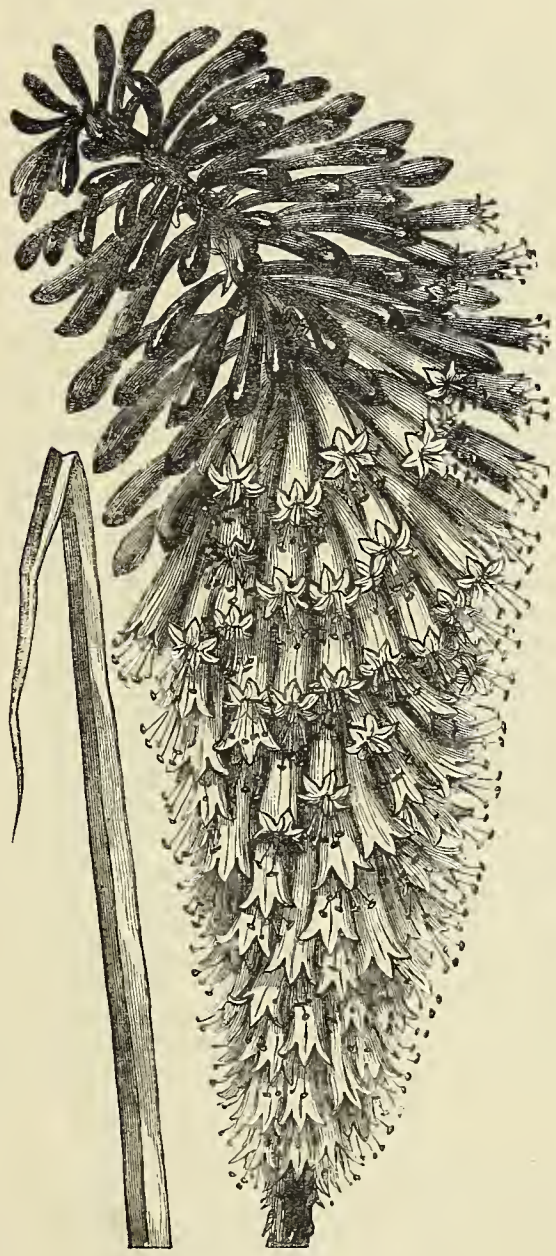
When this has been completed, it will be necessary to look carefully to the drainage, and if the same has got filled up with earth it should be taken right out, the loose soil removed and the rubble placed back, laying the largest pieces at the bottom, and the smaller pieces over them, and over the whole place some turf grass side downwards, or some litter to keep the finer particles of soil from passing among them again. The border need not be very deep, one from 18 in. to 2 ft. we prefer. After the drainage is complete, we return some of the soil over it, and commence to relay the roots, covering each layer with a few shovels of maiden loam, with a little mortar rubble mixed with it, shaking the soil well amongst the roots. This alternate layer of roots and soil is continued until the whole are replaced, keeping the majority near the surface of the border.

The only pruning or shortening back that is done is, cutting the ends with a sharp knife where they had been cut with the spade, and shortening back a few of the long thong-like roots that are destitute of fibres. The soil should be made moderately firm as it is placed over the roots. The loose soil remaining, should be made to form a basin a yard across about the bole of the tree, and in this should be poured a good quantity of water, in fact, filling it to the brim and allowing it to soak away gradually, which it will do and carry the fine particles of soil down among the roots, and settle the whole in a manner impossible to do otherwise.

This work should be performed as soon after the fruit is gathered in the late house, and out of doors as circumstances will permit, and in bright weather the trees should be syringed frequently to keep them fresh, but little water will be required at the roots for a time if a thorough soaking has been given at first. Treated in this way I have known trees to be thoroughly restored, and in the next season to flower, set well, make good wood, and ripen a fair crop of fruit far better than they did the season they were taken in hand. Some might think it almost hopeless to expect a crop of fruit from trees treated to such a severe ordeal, but some trees we took in hand here some three years ago, bore a thoroughly good crop the next season, and have gone on improving ever since. We have noted another tree or two which will be taken in hand in the course of a few days, in a similar manner to those above described.—*C. Warden.*

THE VICAR'S GARDEN.

A most powerful argument in favour of the more extensive cultivation of hardy herbaceous plants, may be found in noting the striking contrast in the display between those gardens in which the ordinary bedding plants are mainly depended upon, and those in which the hardy plants are the most prominent feature. A stroll through the Vicar's Garden any time lately after the drenching rains of the past few weeks, would be enough to convince the most sceptical on the point. The beds of Pelargoniums, Calceolarias, &c., present a most forlorn appearance, while the Sunflowers, Rudbeckias, Liliums, Galtonias, Phloxes, Eryngiums, Anemone japonica, Golden rod and Tritomas proudly hold aloft their heads of flowers in defiance of wind and rain, forming a picture which an artist would delight to paint, and which the most skilful floral decorator would hardly excel. Where under the bedding system a paucity of



Tritoma Uvaria.

flowers would be the complaint, here an almost superabundance of them is found, and that an endless variety for many of those enumerated in past notices are still in bloom.

For a front row plant to cover the ground where some of the early bulbous plants stood, a somewhat free use has been made of Tagetes signata pumila, and it gives the front of the borders a very gay appearance, forming besides a good set off to the more massive Rudbeckias, Coreopsis, Helianthus, &c. Judicious use is made of single and Pompon Dahlias, which add much to the general effect that at the present time would not be so good without them; summer-flowering Chrysanthemums are introduced here and there, Madame Desgrange being a long way the best, a plant that ought to be considered indispensable in every garden. To insure an effective display throughout the season a fair knowledge of the plants and their requirements is indispensable, for a careless arrangement can only be productive of the most indescribable jumble. Careful forethought as to the height, colour, and habit of the plants is a prime necessity in order to bring about satisfactory results.

The cultivation of hardy herbaceous plants entails a considerable amount of labour, if well done, and unless they are the garden will have a more or less weedy appearance. All dead flowers and leaves should be constantly removed, and a sharp look out be kept to see that the stronger growers are not allowed to smother their weaker neighbours. To a lover of flowers for their own sake, the cultivation of these must always offer immense attractions above the ordinary bedding plants, from early spring till winter a very kaleidoscope of floral beauty may be kept up by those who have the means at their disposal.

Since our last notice the principal fresh things that have come into flower are Statice latifolia, a plant which should find a place in every garden, as its flowers last a long time, and are most useful in a bouquet; Galtonia (Hyacinthus) candicans, excellent for dotting about the borders, its tall spikes of lily white flowers borne aloft among dwarfer things, producing an unique effect; Tigridia pavonia (T. pavonia alba has not flowered this season), and Eucomis punctata, this has been planted out without the least protection, and has flowered well during the last four seasons; it is a very distinct and beautiful thing, and delightfully fragrant. Here also now are fine spikes of Lilium Fortunei flore pleno, which are very effective and last longer in bloom than the single form. Eryngium amethystinum and E. maritimum, showy, blue, thistle-like plants. Large plants of Tritoma Uvaria with their fine spikes of brilliant red flowers among other plants and shrubs are very telling, and seen at long distances. Zauschneria californica is in fine form; and among Sunflowers, Helianthus multiflorus maximus is the giant, being quite 10 ft. in height and very good.—*W. B. G.*

CROXBY HOUSE GARDENS.

We referred to these gardens, planted originally by the late Mr. Charles Lee, and now in the hands of Messrs. W. and E. Wells, market gardeners, some two or three months since (see p. 756, vol. i.), mentioning that the orchard trees there growing and fruiting so finely rendered a later visit desirable. Perhaps a little too late, we looked in upon Mr. Thompson very recently, and found that not a few of the finest Apples and many of the earliest Pears had been gathered, for the seasons wait for no man. Hence, when fruits are ready they must be gathered and sold or be spoilt. But of one kind of Pear, that very fine early variety Souvenir du Congrès, there were some thirty bushels lying in a fruit loft, the greater part very fine samples indeed, and almost all taken from free-growing standards some eight to ten years planted, of which in the orchard there are large numbers; indeed, almost throughout a standard tree of some kind alternates with a pyramid on free stock or on the quince.

In addition to this thirty bushels of the Souvenir du Congrès in the lofts, there yet remained on trees some twenty bushels more, generally a fine sample, but as one side of the orchard is evidently on gravel, whilst on the opposite side the soil is more holding, the growth of the trees, and superior quality of the fruit in the latter case was very apparent. Souvenir du Congrès has a stiff erect habit of growth, but the fruit very nearly resembles that of Williams's Bon Chrêtien, whilst it has the merit of being later in ripening, and makes a good successional market variety. On the point of quality, perhaps, it is not superior to the renowned "Williams'," but certainly it is a better keeper, and that is something. On the other hand, it can hardly be held that Souvenir du Congrès is so good an average cropper; indeed, we learn that the large number of trees which have so finely fruited this season are practically fruiting at all respectably for the first time. But then Mr. Thompson holds, with regard to standard trees, that once the ice is broken, as it were, fruiting will continue with fair regularity. Of course it is notorious that standards are always much longer in producing their first crops of fruit than are dwarf trees, especially those on dwarfing stocks; but whilst this fact sometimes leads to the sneer that planting standards is for posterity, we must not forget that our progenitors in their planting did not forget our requirements, and it would be selfish were we to forget the needs of our children.

But of Pears the *piece de resistance* of this orchard is without doubt Louise Bonne of Jersey, of which there are, especially on quince-rooted pyramids, marvellous crops of beautiful fruit. When we mention pyramid

trees we do not mean the ordinary stiff hard-pruned specimens seen at Chiswick and in many gardens. The trees, whilst naturally retaining the pyramid form, are yet free-growing, receiving only such pruning, and that is not much, as may be needful to ensure proper thinness and respectable proportions. Always a handsome Pear, Louise Bonne is here not only very handsome but richly coloured, and many of the trees—certainly we could have picked out dozens—that thus laden with fruit were perfect pictures. Where this Pear is found on free stocks, although its growth is not at all over vigorous, yet it fails to give anything like so good a crop as the quince stock produces, neither is the sample so fine. Overwhelmingly the argument, as shown in the crops relatively, is in favour of dwarfing stocks, and curiously enough, also, Mr. Thompson, in reply to a query to that effect, mentions that the shallow-rooted quince-worked trees have withstood the drought far better than have the deep free-rooters.

Some kinds too, curiously enough, seemed to have suffered from drought even more than others, as for instance the Citron des Carmes, of which there are several standards. The crop of this kind was light, but the growth seems to have been much stunted by drought, though other trees close by have borne out well. Evidently on the Quince Louis Bonne is a grand market Pear, and well worthy of large and good culture. That handsome kind, Doyenné du Comice, makes free growth as pyramids, and carries fine fruit, but the crop this season is not large. It is interesting to note that this and that fine Pear, Durandeau, are also doing well as pyramids, though carrying fine fruit this season are yet both cropping light, whilst, as a rule, they crop freely. Thus we see about, in what is known as a good Pear year, many kinds sparse in cropping, now fruiting fairly well, whilst some others which fruit generally are this season light These are, after all, amongst our most valuable kinds, because they give crops when most needed. There is here the original tree of Durandeau, a pyramid, imported by the firm of Messrs. Lee & Co. from France, and planted in the Hounslow garden.

Beurré Diel is represented by several very fine pyramids, which, if on the Quince, show very robust growth, and are handsome trees. These are carrying good crops of clean fruit This kind is but a moderate fruiter as a rule, but when good, makes a valuable market Pear. Beurré de la Assomption, on the other hand, blooms profusely constantly, but seldom sets a fruit. One tree has very stiff erect growth, and of a stout solid kind, but it seems valueless as a pyramid. This is on the Quince, as also is Soldat Esperen, which on medium-sized pyramids produces fair crops, and this season a good one. The fine Pitmaston Duchesse d'Angoulême, produces handsome pyramid trees, but fruits rarely ; it is evidently a wall Pear, and that only. One other Pear for notice is Adèle de St. Denis, a pretty tapering russetty kind, medium sized, and of a rich melting flesh ; ripens in December. This fruits well on the Quince. Although these Pears are all growing in a walled in enclosure, yet they are all treated just as if planted in an ordinary market Orchard.

A few Apples are noteworthy, that grand kind, Frogmore Prolific, especially giving a splendid sample from trees on the English paradise. This is one of the best Apples for market growers to take in hand, and plant as dwarfs in large quantities. It is a fact, that like Stirling Castle, and one or two other kinds, it seems never to miss a season. There is here on standards a very fine Lord Derby-shaped Apple, called both Russian Transparent and Harvey's Defiance ; its clear glossy skin has no doubt favoured the former appellation. Without doubt it is a grand Apple, and as grown here seems worthy of wide cultivation. Wellingtons are on moderate-sized standards, fruiting heavily, some fruits here and there of wondrous size ; a better sample cannot be found generally on similar trees this season, the heads being in many cases almost borne to the ground by the weight of fruit.

A distinct and very pretty Apple is Galloway Pippin ; this fruits in clusters very much as Golden Noble does, but the fruits are flatter in form, and somewhat specked with grey ; it keeps well to Christmas, and is then excellent ; it is a heavy cropper. King of the Pippins fruits freely on standards, and the samples are good ; so are also those of Cox's Orange Pippin on the lower boughs, but on the top ones fruit is very thin. Curiously enough, "Cox's" very much suffered from drought, when "Kings" showed no distress. Warner's King is also fruiting finely ; it is worked on to Lord Burleigh on the paradise, a kind that proved valueless, and has been replaced by one of the finest of all autumn Apples.

Scottish Gardening.

Fruit-gathering.—In such a season as this, when fruit seems to be abundant almost everywhere, the task of storing the crops is not a light or insignificant part of the cultivator's work, and where the fruit has to be kept in large quantities, either for sale or home use, the labour of storing it must not be left to careless or inexperienced hands, otherwise waste and disappointment will be the reward of wanton carelessness. The heavy gales which have been so prevalent all over the country during the last few weeks have been disastrous to the fruit crops, and many orchardists who have been looking forward to a good harvest of fruit, and to realising a fair remuneration for their labour and value from their land, have to deplore much mischief done.

Much has been written on the extension system of fruit tree culture, and we have nothing to say against what has been said, but would remark that while we have an orchard of extra large trees mostly loaded with fruit, much of which has been hurled from the branches by the hundredweight, we never feel safe without an auxiliary in the form of a selection of trees of smaller size, kept dwarf, say from 6 to 12 ft., by root-pruning and very little use of the knife to the wood. These with us are mostly standards which have been lifted and re-planted, or otherwise manipulated, to cause stiff fruitful growth. The stems average 3 to 5 ft. high, and the trees are circular and most of them cropped close to their stems with vegetables, gooseberries, or some other useful plant. The crops are much heavier than they should be, but they are so every season ; therefore we let well alone. The wind, through having less play on the dwarf trees, has done comparatively little damage, the few fruits thrown down being barely enough to meet our daily demand.

We also note that a number of trees which have been dwarfed, say from 20 or 30 ft. to 9 ft., are carrying a heavier load of fruit, vastly superior to what they did when of larger dimensions. These trees about two and a half years ago and less, had all their bottom roots cut clean off, and the space filled up with fresh soil, lime, rubbish, &c., and rammed as firm as beaters and strong men could do it. The ragged heads of trees at the same time were removed, leaving the tree like a cluster of large stags' horns ; short and stiff growth, all over, with fruit buds accompanied with large healthy leaves, and abundance of much finer fruit, has been the result. The "let-alone" system has arguments in its favour, but so has the dwarf method of cultivating when not abused. By the removal of the sluggish acting bottom roots, now supplemented by an abundance of feeders, drawn upwards by the use of rich surface dressings of moist farm-yard manure mixed with good loam, we have all that we can reasonably wish for. Where canker and dead growths manifested their evil characteristics, there is now healthy wood and clusters of fruit ; and a further remark may not be objectionable, Apples which were green and specked, such as would not keep any length of time, are now well coloured, either yellow or crimson, and free from spot or blemish. I have for many years observed, that the surface rooting of trees have invariably been followed by such desirable results as indicated by these, especially in cool and northern districts. Amateurs and others should not hurriedly discard old rubbishy trees, as a little patience and perseverance may give substantial rewards, and they might at no distant day, when seasons are fruitful as at present, have on their renovated dwarf sturdy trees crops of fine fruit, which must be the case before the art of harvesting fruit can be of tangible value.

In the extensive fruit districts of England (Kent, Worcester, Hereford, and Devonshire) harvesting and marketing is generally well understood by the peasantry. In the three latter counties windfalls and inferior Apples are made into cider, and the same class of Pears are manufactured into perry, and what are ripe or injured so that they will not keep are sorted and sent to market ; but where there are good sound fruit which can be kept late they are placed in dry positions, airy at first to clear out moisture, and then the stores are kept close and dark. It would surprise some private growers did they see the simple methods of storing Apples (Pears are not generally suitable for such a method of storing). Long ridges are sometimes seen placed on floors, as one often places the Potatos, and a quantity of dry straw is laid over them ; the less handling after the fruit is in position for the season the better it will keep. When the period of ripening is at hand the fruit is carefully picked over, keeping faulty ones separate from the good marketable fruit, and sizes are selected, the finest of course arranged so that purchasers may have what they require by paying the best prices. Good kinds such as Blenheim Orange, Ribston, Margil, and others, are sold at the highest prices, and in our opinion are vastly superior to the best Americans we have ever seen.

The barrel system of transit has taught us many lessons as to how to pack and keep fruit, we have known supplies taken almost daily during whole winters from barrels just as they arrived across the Atlantic. The waste was of a nominal character, the fruit generally showy and suitable for dessert, of pleasant flavour, but insignificent compared with well-ripened first-class English fruit, or those taken from walls in Scotland. We never saw finer Ribstons than those grown and sometimes exhibited by the late Mr. Lees of Tyningham. His system of keeping Apples was very successful, as shown by his exhibits at the Edinburgh spring shows. In the fruit room we noticed narrow shelves, not wide apart, on which were layers of the finest fruit. The room was close and dark when we saw it, and were we to do our best at storing and keeping, the system to which we refer would have the preference.

At the present time we have a new fruit-room. The shelves are placed round the sides of the structure, not far apart, so that a man's arm may reach the furthermost fruit. Having always great quantities (from a few special kinds of Apples) to store, we place them in layers, raising them narrow towards the top. From an overladen orchard of six acres fruit-gathering would be unappreciable, were it not for the pleasure of supplying the villagers and some half-dozen adjacent schools four or five times during the winter with goodly consignments of useful fruit, ridding us of three-fourths of the whole stock, Pears are also distributed by the cwt. to appreciative "bairns." We have seen many fruit-rooms in various parts of England and Scotland, and where the best kept Apples and Pears were to be seen was in structures thatched in the usual old-fashioned way, an even temperature evidently being the desirable agent which was credited with the sound and late-keeping quality of the fruit. Pears are generally laid out in single layers on dry shelves, and sheets of paper placed over the fruit, drying air and light being thus excluded. We have also noticed the fine quality of Pears which were wrapt in tissue-paper and placed evenly along the shelves of fruit-rooms. We are also cognizant of the high prices which such fruit realise when sold from February onwards to May. We never cared to pack Pears very thickly. Even hard late-keeping ones appeared to do best when laid singly on the shelves.

By some writers in years gone by, much stress was laid on a free circulation of air through the fruit rooms, which now, by most practitioners would be denounced as damaging and ruinous to the fruit, and certainly we have seen lots of shrivelled and useless fruit from undue airing, which only caused evaporation to go on, carrying off the virtue of the fruit, and leaving it dry, leathery, and indigestible ; it is not generally recognised as a fact, that, fruit ripened on the trees well exposed to the sun and air, keep by far the best. Cordons are much valued for maturing Apples, and though not well done generally in this country, yet they are sometimes seen under excellent management exposing clusters of finely coloured fruit of unusually large size, and we know an advanced orchardist who asserts that they return good value for the extra labour expended on them ; we are referring to the rope-like trees one sometimes meets with along borders and by sides of paths. The French are said to excel in cordon management of every kind of fruit trees, and from France (the enthusiast to whom we have just referred) has his cordons on vacant spaces of buildings, walls, &c. Cordons (single, double, and treble) of Apricots, Plums, Cherries, Apples, and Pears, will always give ample value and much pleasure in their management, when skill and attention is applied to them ; for special kinds which are to be late and well kept, cordon cultivation cannot be surpassed. *M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Climbers.—All rampant growing plants such as Tacsonias, Passion-flowers, Cobæa scandens, and others of that class that have been allowed to run for the purpose of affording shade, as well as embellishing the roofs of greenhouses, should now be thinned out considerably, so as to let in plenty of light on the plants beneath, as, otherwise, not only those of a soft-wooded nature become drawn, but those in bloom will fade.

Watering.—As most climbers will soon be going to rest very little water will be required after this, the only exception being the Lapagerias, which, while in flower, need liberal supplies, but after the blossoms fall they, like the others, are benefited by being kept moderately dry at the roots, as the soil then becomes and remains in a healthy condition.

Camellias.—Opinions vary as to the proper time for potting these, some contending that spring is the right season, while others aver that the operation should be carried out in the autumn ; and there can be no doubt that in cases where plants are pinched for want of room that they had better be shifted now, for instead of remaining in a semi-starved state they will be able to push and develope their blooms with strength, and make a fine growth when they start. Drainage: In the treatment of Camellias drainage is a very important matter, and it is, therefore, necessary to have a good layer of crocks in the pots, and over them a thin layer of moss to keep the interstices open, so that water when given may pass freely through.

Potting Soil.—The orthodox mixture for most greenhouse subjects is equal parts of peat and loam, and where good fibry peat can be obtained at moderate cost it is well to use it, but, where it is scarce and dear, leaf-mould may be substituted or the loam used alone. This is best fresh cut, and should be fibry and rough, and rather inclined to a light sandy texture, and if it is chopped up and used somewhat rough the plants will flourish in it for years.

Potting.—As Camellias usually stand a long time in the same pots it is useless giving small shifts, and that there may be as much new soil as possible, the old should be carefully picked away from the balls so far as can be done without injuring the roots. Watering: After potting the next thing is to give a good watering through a rose, and then let the plants stand without any more till they become dry and require a soaking again.

Primulas.—Although cold frames have been the best places for these up to the present, it is high time now that the plants were removed into houses, the best situations for them being light airy shelves near the glass, where they will send up stout sturdy flower stems, and remain without drawing.

Liquid Manure.—This, if used clear, is of great benefit to Primulas, but weak and often is the thing, and when applying it, or water, care must be taken not to pour either into the hearts, or the plants will rot off at the collar.

Calceolarias.—The shrubby varieties of these are excellent for pots, and those who do not happen to have grown any will find it a good plan to take up some from the beds or borders, which if lifted with fair-sized balls will not flag if watered immediately they are potted and then stood in a shady position till they get a new hold, after which they will winter well in a frame.

Lilies.—Such as L. auratum and L. speciosum will now be going out of bloom, and to get their bulbs to complete their growths and ripen properly they should be stood in some sheltered sunny spot in the open, but not dried off quickly, as is frequently done, as it is necessary to keep the soil moist till the tops of the plants die away of themselves.

Hyacinths.—If these are wanted to flower early they must be potted at once, as it is impossible to get them to send out good spikes unless they are well-rooted, and to have them in that condition they require time before putting them into heat or bringing them on in the greenhouse.

Tulips.—The same remarks apply to these, and both when potted should be covered by placing other pots in an inverted position over them, and then buried under coal-ashes or soil in some sheltered spot under a wall to remain there till they start.

THE FLOWER GARDEN.

Autumn, with its long damp nights, is telling seriously against flowers, but by picking over the beds frequently and removing any dead or decaying leaves and blooms, beds may still be kept fairly gay and tidy for a week or two yet, if we get sunny days, which cheer the plants up and make those with variegated foliage look brighter than ever.

Dahlias.—While other things have suffered more or less by the heavy rains, Dahlias seem to have benefited greatly, for seldom have they been seen better than during the past week or two, where they have not been cut down by frost, and especially is this so with the single varieties that do not hold the wet in their petals. As they cannot be expected to hold on flowering much longer, those who have seedlings should go over them and mark the best, with a view to saving them for planting again and propagating from, by pursuing which course annually, a select lot may be got together. Only those of distinct colours and good form should be grown.

Herbaceous Plants.—It is a good time now to take stock of these and note any that are valuable for late or autumn blooming, and among these, few, if any, stand out more boldly and conspicuously than the Anemone japonica, which everyone ought to grow. There are three varieties of it, one lilac, another pink, and one a pure white, the latter being quite a gem with its large salver-shaped blossoms,and beautifully arranged golden anthers surrounding the prominent disc.

Propagating and Planting.—To have them fine, the ground for them must be broken up deep and manured, the better plan being to put the dung down below, where the plants will find it and feed on it, and then be able to hold their own during dry weather. Although spring is generally preferred for planting, division may be effected now with safety, and the plants planted, and if good pieces are secured with a fair amount of roots, they will soon become established, and make fine clumps in a year.

Rudbeckia Newmanni.—This is likewise a grand autumnal plant, sending up, as it does, large Sunflower-like blooms, with bright yellow petals, and a most conspicuous black disc, that renders them very striking by the contrast afforded. As the habit of the plant is shallow rooting and spreading, it does not require much depth of soil, and increases readily by divisions, which may be carried out now or almost at any season, if watered for a time after removal.

Herbaceous Phloxes.—These are magnificent border flowers, but they are only seen at their best in moist deep land, or where they can be well attended to with water and liquid manure, under which conditions they send up splendid trusses of bloom. There are two ways of increasing these Phloxes, the one by cuttings taken off in the spring, and the other by dividing the plants which break freely from the crowns, and are improved by being dug up and reduced.

THE FRUIT GARDEN.

Root-pruning and Lifting.—There is no operation to which fruit trees can be subjected that does so much good, or has a quicker tendency to bring them into a fertile state, than root-pruning, which is absolutely necessary on some soils, as in cases where the land is rich and heavy they run too much to wood, which fails to ripen or set flower-buds, and without these, it need hardly be said, the trees cannot bear. The way to correct the gross tendency referred to is to cut the main roots, which may be done by opening out a trench around the stems of each plant till they can be seen and traced, when they should be severed, leaving them at least a yard or so in length, according to the size of the trees.

Lifting the Roots.—If the roots are low in the ground, they should be raised by bringing their points to a higher level and laying them out straight instead of allowing them to point down and get into the clay or stiff earth again. Where it can be got without much difficulty, it is a good plan, when root-pruning, to give a little fresh soil, the most suitable being that fresh cut from the turfy parts of a roadside or sods from a pasture, which most trees delight in. For stone fruits, such as Peaches, Plums, and Cherries, a sharp gritty loam is the best, but for Apples and Pears that of a holding nature is more suitable, and all like the top spit.

Carrying Out the Work Early.—Whenever root-pruning is done it should never be deferred later than October, and the earlier it is carried out in that month the better, as the trees then have the leaves on, and the ground is warm, and the two favour the formation of fresh roots, which the trees soon emit and get renewed hold before winter sets in.

THE VINERY.

Artificial Heat.—Although the sun will do much towards the ripening of Grapes, if made the most of, it is suprising what assistance they derive from a little fire-heat, which, in cases where the fruit is not yet finished off, is absolutely necessary to get it to keep, as it helps to dispel the watery juices in the berries, or convert them to sugar. This being so, the pipes should be kept just warm during the night, and always on dull or wet days, but at the same time there must be air on the house, or the moisture rising from the floor or borders will condense on the bunches and damage the bloom.

Ripe Grapes.—These require similar treatment, but less warmth is needed, the thing being to keep the atmosphere dry and buoyant, as then the fruit will not rot. Should it show any symptoms of decay, the bunches ought to be looked over frequently, and the berries that are going clipped out, or they will taint and spoil the others they may touch.

Young Vines.—The point with these is to secure a thorough maturing of the rods, which can only be done by plenty of air and dry heat, managed in the manner touched on above.

THE VEGETABLE GARDEN.

Cauliflowers.—These are turning in grandly since the rain, but to keep the heads white and close the leaves should be broken down, or tied over the hearts to shut out the air and light, which soon discolours the flowers. Young plants will only stand the winter in very sheltered positions, the best situation for them, if they remain out, being close under the foot of a south wall or fence where they should now be planted in light soil about 4 ins. apart, there to remain till the time comes for planting them out in the spring.

Potting the Plants.—Although a little more trouble, perhaps, Cauliflowers pay well for potting, as when that is done they may be planted in the rows without feeling a check, and are not so likely to bolt as others that get their roots disturbed in the moving. The pots most suitable are 3 in. or 60's, and in these the plants should be potted in light rich soil, and plunged in some cold frame with their heads well up to the glass, but the sashes ought not to be on except when the weather is bad, as plenty of air is necessary to keep the plants sturdy and strong.

Cabbages.—The grub is busy with plantations of these, but before putting in fresh plants, to fill up the vacancies caused by the ravages of the pests, the ground at the spot where the plants are bitten off should be examined and the depredators killed, or the fresh ones will be nipped through or eaten up like the others.

Scarlet Runners.—These are showing their great superiority over French Beans in the enormous yield, and the continuous supply they afford, and as their flavour and quality are so good the wonder is that the Dwarfs should be grown at all, for the Runners beat them all through, and are well in bearing long after the others are over. To keep them going on as long as the frost will permit, they should be gathered up close as soon as fit, and unless wanted for seed every pod that has been overlooked picked off, as to leave them on only distresses the plants.

Tomatos.—These are late this season, but if we get a fine autumn and frost keeps off they will ripen yet. The fruit should have the fullest exposure to the sun, by removing or cutting away any of the leaves or laterals that overshadow it, as the foliage higher up or below will be quite sufficient for the plants now. Some take the fruit off when fully grown and lay it on shelves to ripen, but so long as there is no risk from frost in leaving it out, it is far better on the plants as its flavour and quality are never so good unless it is allowed to remain on and colour.

Spinach and Onions.—Beds of both Spinach and Onions will require the hoe through them to loosen the surface of the ground which has become much beaten down, and the surface sealed or closed against air by the heavy rain, but if stirred now the plants will be greatly benefitted, and seed weeds coming through cut up and destroyed.

POWERSCOURT.

This princely estate is situated about fourteen miles from Dublin, and is easy of access either by rail to Bray, which is about four or five miles from the place, or by driving from Dublin. The drive to Powerscourt is a splendid one; leaving the city behind, you pass through several small villages where the cottages of the peasantry are of a very humble character. The road, a capital one, although much of it is up hill, passes through splendid avenues of trees; and from the higher parts, the city and surrounding country are distinctly seen, and many fine views are obtained of the bay and coast. Proceeding onwards, the Scalp is reached; this is a narrow mountain pass which separates Rathmichael and Shankhill, the former, 1,103 ft., the latter, 912 ft. above the level of the sea. The view, now is exceedingly fine, a full view being obtained of the Sugar-loaf and adjacent mountains, and the high intervening country. In the valley between, lies the picturesque village of Enniskerry, where the comfortable and respectable looking cottages, and the striking natural features of the surrounding scenery combine to render it one of the most interesting villages in the country. Adjoining Enniskerry is Powerscourt.

Passing through a magnificent Grecian gateway, with its neat lodge and dazzling flower beds, we soon come to a splendid avenue of Beech trees, some of the finest specimens I have seen, and about one mile ahead is the mansion, a large baronial edifice, proudly situated on an eminence forming the top of a fine terrace, which has been increased and much improved of late. Standing upon this terrace, the scenery is grand, indeed, but very few finer views can be seen anywhere. It embraces the valley of the famous Dergh, the Sugar-loaf and adjacent mountains, the deer park, and its woods, &c., scenery which no artist could do justice to. The fine statuary and vases also claims our admiration, and the Italian Garden seen to great advantage from the terrace, is very fine; the extensive design is well planted, much good taste having been exercised in the blending of the various colours. The steps leading from the terrace are of granite and Italian mosaic work, very fine; and from them are seen some splendid specimen standard Portugal Laurels and other shrubs. Beyond the Italian garden is a lake with a fountain, which, when playing, throws the water over 100 ft. high. Dotted here and there are to be seen specimens of graceful Arundos, the silvery Pampas grass, the bold and showy Tritonias, which, combined with the lovely scenery, forms one of the prettiest natural pictures I have ever seen.

Proceeding along the pathway leading towards the lake, we note some fine conifers, among which the Cryptomerias and Wellingtonias are very fine; and a grand specimen of Cedrus atlantica 180 years old. The Arbutuses are also very fine. Picea magnifica is represented by a splendid specimen fully 30 ft. high; and there are also some notable trees of Cupressus macrocarpa. At the end of this walk there is a rustic summer-house, and in two recesses are some Indian idols from a Hindoo temple in Mysore, presented to Mervyn, Viscount Powerscourt, by Captain Johnson, Commissioner of Irrigation, Mysore, 1861. Leaving the summer-house, and turning to the right we pass numerous specimen trees and shrubs, and the fountain, the base of which is planted with water Lilies, and reach the kitchen garden, through the centre of which runs the main walk, in which there is another fountain. The borders are well planted with a choice collection of herbaceous and other plants, and over the walk are several wire arches planted with climbing Roses. The garden is well stocked with all the leading varieties of fruit and vegetables, the demands for which are large, but that Mr. McCulloch is equal to the occasion is readily seen by the fine crops. A lawn in front of a range of houses is planted with Cannas, Nicotianas, Single Dahlias, &c., and some carpet bedding likewise catches the eye; the whole being exceedingly well done.

In the centre of this range of houses stands the conservatory, the centre bed in which is planted with Camellias and Oranges, which are in splendid health. Stately specimens of Dicksonia antarctica stand about, and Brugmansia Knightii flowering freely, is very attractive also. The side stages are well filled with numerous flowering and decorative plants; some well-grown examples of Salvia Bethelli being particularly noticeable. This is a good thing for the decoration of a conservatory. Baskets suspended from the roof, and various climbers hanging gracefully down, give the house a fine finish. To the right and left are ranges of vineries and Peach-houses, and judging from what are left of those ripe, and those for late work, the crops in them have been of a very useful character. At the back of this range are the garden offices, spacious potting sheds, tool-houses, fruit-room, bothy, &c., and Mr. McCulloch's house, which is a well-built, substantial, and conveniently arranged structure, such as all gardeners ought to have. Another range, a useful one 160 ft. long, consist of four divisions. No. 1 contains a well-grown collection of Ferns suitable for cutting, and good specimens of the leading Adiantums. No. 2 is devoted to stove, foliage, and flowering plants, principally for decorative purposes; and here also are some good well-grown Orchids, among which Aërides and Vandas do well here. No. 3 is a Cucumber house, carrying a fine crop still. No. 4 is a Fig house in which are good crops of all the leading sorts. In the numerous frames we note good batches of various plants for winter flowering.

The pleasure grounds, which consist of above twenty-five acres, are well kept, and in the park are deer, and a herd of the famous breed of Kerry cows. The walks and drives are as firm as rocks and as clean as possible. The estate is the resort of many thousands of visitors during the season, the famous waterfall and the drive through the Dargle being of more than local fame. Lord Powerscourt, with his usual liberality, throws open his magnificent demesne, with all its glorious attractions, once a week to the public—a boon which I need not say is greatly appreciated. The charge of the gardens during the past five years has been entrusted to the care of Mr. Graham McCulloch, and the admirable condition in which everything is maintained says much for the practical skill which he brings to bear on his work. For an enjoyable day's outing, commend us to a visit to Powerscourt, Charleville, the seat of Lord Monck, and Kilruddery Castle, the Earl of Meath, the two latter places, which are full of interest, being also accessible in one day by taking a conveyance.—*Alfred Outram.*

BOUVARDIA HUMBOLDTII CORYMBIFLORA.

Few plants are more highly prized for affording cut flowers for bouquet and button-hole work during the autumn and winter months than are the various kinds of Bouvardias; but for pure ivory whiteness and delicious odour I think B. Humboldtii corymbiflora surpasses them all, although it cannot lay claim to being so continuous a bloomer as such varieties as Alfred Neuner, Hogarth, and Vreelandii. In favourable seasons in the South of England it will do well when planted in the open air, but certain conditions, which I will attempt to describe, must be observed, or the result will not be satisfactory. After the whole batch of plants have done flowering, which will generally be about the end of October, they can be kept in any cool structure where they can have a moderate amount of air and just enough water to prevent them from getting dust dry.

Early in February they should be pruned back to two or three eyes, given a position close to the glass in any structure where they can have a temperature ranging between 55° and 65°, with a good amount of atmospheric moisture. When the young shoots are about ½ in. long turn them out of the pots, shake away the loose soil, shorten the young roots to about half their length, and repot into pots one or two sizes smaller than they were in, using a compost made up of two parts of loam to one of leaf soil, with sand and charcoal to keep it open. If the weather should be bright the plants will require shading for a few days after being potted, but if they go on satisfactorily they will quickly establish themselves in the new soil, and form nice sturdy young shoots; and as it is very convenient to have plants of various sizes, and to be able to throw away some that have become too large each year. When the young shoots are about 2 ins. long the good batch of them should be taken off with a heel and inserted in cutting pots in the ordinary way, and kept close under a hand-light till rooted. These cuttings if potted off, grown on, and gradually placed in cooler houses as the season advances, will at the beginning of June be ready for planting in the open air, taking care to select a warm sunny position for them, with rather a light soil, which should be pressed very firmly about the roots.

A most important point in their cultivation is to give the plants plenty of room according to their size, so that they get a free circulation of air around them at all times, or it is useless to expect well-ripened wood, or fine flowers. From the time they are planted until they are lifted they will require but little attention; after being watered a few times till they have established themselves. Black-fly will sometimes attack the young shoots, but it can easily be kept under by repeated syringings with strong soapy water. In the last week in August the plants should be cut round with a spade to prepare them for lifting, which can be done about ten days afterwards. Put them in pots large enough to allow a little soil to be worked around the roots after the straggling ones have been cut away. They should now be placed under a north wall, and be syringed two or three times a day until established, then they should be placed under glass, well ventilated according to the weather, and syringed once a day while the flowers are not opening. Where the blossoms are already open damp between the plants during bright weather, and give sufficient heat to keep the temperature from falling below 50° at night.

If flowers are wanted during July and August, instead of cutting the plants down in February, merely shorten the longest shoots and cut out the very weak ones, and grow in pots in the open air, paying great attention to the watering, and syringing once a day in hot weather. Anyone trying the above methods of cultivation will, I feel sure, be rewarded with success; and to those who do not know the Bouvardia I have especially named, I can confidently recommend it as one well worthy of cultivation, and certain to be admired.—*H. Dunkin.*

THE ROSE.

The Greeks adore the Rose, and the Romans bestowed praises on this flower of the highest antiquity. Anacreon sang its primal birth. Homer praised its form of grace, and borrowed the brilliant colours to paint the glowing richness of the rising sun. Herodotus exulted over the sixty-petaled varieties which grew spontaneously in the gardens of Midas in Macedonia. Catullus vaunted its charms, and Horace admired the "richly tinted face whose bloom is soon fled." Virgil contrasts the pale sallow with the blushing hues, and extols the Roses of Pastum with their "double spring." These costly ornamental gardens, destroyed almost ten centuries ago, no longer shed the morning fragrance of Rose perfume. Nettles and brambles entangle the foot-path of the traveller, and as a poetic memory the Cyclamen and the Violet now trail among the debris of the old city. Ausonius, at the very end of Latin literature, draws from the rosaries of Pastum a picture of beauty doomed to premature decline, "and watched the luxurious Rose-beds all dewy in the young light of the rising dawn star." Roses bore away the palm from all the flowers during the sovereingty of Augustus and subsequent rulers; but Cicero did not approve of the custom of those who were given to luxurious entertainments of taking their meals reclining on Rose leaves.

Verres, a Roman Governor of Sicily, gave audiences with wreaths of Roses around his neck and upon his head, sitting upon a cushion made of the finest Malta linen, full of sweet-scented Rose-buds. Cleopatra and Nero extravagantly decorated their banqueting halls with rosy ornaments and garlands, and distinguished guests were greeted amid roseate bowers, while the merry dance went round in an atmosphere redolent with roseal odours. Every evidence exists that we must connect the Rose with the love of antiquity, for the ancients preserved its luxury, and it was the ornament of its festivals, their altars and their tombs, while their poets made the Rose the symbol of innocence and modesty, of grace and beauty. It is even probable that the Romans had Roses of similar species with some of those we now cultivate, since they practised sowing the seed, as well as propagated by cuttings, by budding and grafting. Hothouse growth was also understood and practised, says Seneca, and it was a boast to have carried to perfection this flower, so far as to surpass the cultivators of Alexandria, Memphis, and Rhodes. That the Rose never tires is shown by its reputation through all ages. A hundred generations have passed attended by revolution of empires and desolating invasions, but time has not detracted from the loveliness of beauty's queen, nor has renewed associates made the Rose less alluring.

Memory bears us up the stream of time, when we are to believe that the Roses in the famous gardens of the East were as pure and constant as now, relics of Eden's bowers, "sweet nurslings of the vernal skies, bathed in soft airs." The same resistless beauty was doubtless manifest, flaunting in the shades of early morn; the same sunshine loved them then, because they were so fair; the same closing and fading of the petals was descried under the dropping of the gloaming dews. In their original clime, where the powers of admiration were never exhausted, the Syrian and Musk Rose, replete with dewy wine, covered the sacred ground. No frost candied the grass, emblems of life continually existed, and Roses glowed in gem-like tinges, hanging in cataracts from the gray walls of the fortified villages, topped by a crown of foliage. Amid such scenes the traveller exclaimed in admiration, "Who can paint like Nature?" as one beholds this shadowy curtain of gorgeous colours on mouldering stone-work, when the sun goes down behind the amethyst-tinted hills.

In summer time, in our favoured locality, the admirer of the Rose can find refreshment, rest, and peace in this parterre, as he surveys with delight his favourite collection, whose brightness and sweetness bring tender memories, solaces, and hopes; while the reflections awakened by floricultural nomenclature afford new sources for enjoyment. This companionship of distinguished acquaintances attired in rich apparel—the counts and duchesses, princes and barons, queens and empresses, lords and marquises, ladies and sirs, madames and mademoiselles, are a royal family, grand and graceful when expanded to fullest beauty of flowers, purple, red, and white, amidst Rose-buds, blushing through their bowers of green, more lovely because more concealed.—*Gardeners' Monthly.*

The Southend-on-Sea Chrysanthemum Society will hold its first exhibition on November 10th, in the Public Hall, Southend. Twenty-six classes are provided for Chrysanthemums in pots, cut blooms, and miscellaneous plants and fruits. The hon. sec. is Mr. J. C. Johnstone, Creevelca House, Southend.

CRITTENDEN'S CLUSTER DAMSON.

"This is the finest of all Damsons," writes Dr. Hogg in the *Fruit Manual*, and no less merit than this is claimed for it by every man of Kent—indeed, by every one who knows anything of its marvellously free-bearing character. The pomological authority above named states that it was raised by Mr. James Crittenden, of East Farleigh, early in the present century; but Mr. George Bunyard, of Maidstone, than whom there is no better authority on Kentish fruit cultivation, regards it as a mere wildling, and perhaps the real truth as to its origin is to be found in the statement that Mr. Crittenden "discovered" it in a hedge, and its probable parents are the Sweet Damson crossed with the Sloe. Be that as it may, and it is a matter of little consequence, Crittenden's Cluster, Kentish Cluster, or Farleigh Prolific, for by all these names it is known, has been planted perhaps more extensively than any other variety; and if we may judge from the immense numbers budded annually in the nurseries, it will yet be more extensively planted.

Mr. Bunyard justly observes, in his *Fruit Farming for Profit*, that the quantity of fruit it produces can scarcely be credited, and so large is the growth that it is customary, in estimating a crop, to treat of them by the ton. The tree requires to be well pruned in for a few years until a head is formed; otherwise, before there is sufficient strength, the first heavy crops break the young shoots, and the tree is disfigured for life. They soon form symmetrical heads, and are most beautiful in flower, and still more so when laden with their richly bloomed fruit. Bushes or half-standards are recommended for exposed places, and standards for Orchards.

The accompanying illustration, a faithful reproduction, natural size, of one of a great many similar clusters on a tree in Mr. A. Dean's garden at Bedfont (the type of hundreds of others that have come under our notice) will serve, perhaps, to introduce it to the notice of many who have not yet become familiar with its great merits. We should add that the fruits from "worked" trees are much larger than those on their own roots; and another interesting fact is that when worked the trees lose their thorns, while on their own roots these are numerous and very strong. If any amateur has room for a Damson tree, Crittenden's Cluster is the sort to plant.

Crittenden's Cluster or Farleigh Prolific Damson.

ST. STEPHEN'S GREEN, DUBLIN.

This park is situated inthe very centre of the City of Dublin; and its area is about twenty-two acres. By the munificence of Lord Ardilaun, who provided funds for paying off the debts, and who effected all the improvements in the square to render it suitable for a public park at a cost, including the old debt, of £20,000, the park has been transferred to the Commissioners of Public Works, Ireland, and is now vested absolutely in that body as a park for the recreation, health, and enjoyment of the inhabitants of the city. It was opened in July, 1880, and was laid out by Mr. William Sheppard, who was formerly gardener to Lord Carysfort, Arklow, but who has of late years turned his attention to landscape gardening, and the way in which the work of laying out the park was done is most creditable, as a practical eye can see at a glance. There is a beautiful lake, well stocked with birds and fish, about three acres in extent; a waterfall and rockwork, the latter made by Mr. Pulham in his well-known artistic style. In the centre of the park is a statue of George II., around which are some well-designed beds forming the flower garden, and in which both carpet and ordinary bedding are well carried out. Mr. John Kearney, the superintendent, deserves great praise for the good condition the park is kept in. He has studied well the requirements of the place and the plants best suited to it.

The shrubbery borders are well planted with annuals of all the leading sorts and Gladiolus, single Dahlias, Antirrhinums, Phloxes, &c., are here and there to be seen, showing their glorious colours with good effect. Violas of various hues are very conspicuous, and appear to be extensively used; indeed, Mr. Kearney informed me that they were the most useful things he has, as they

flower longer than anything else. Planted on the island and amongst the rockeries are showy Arundos, Pampas Grasses, and the gorgeous Tritomas. When the various trees and shrubs get larger, this park will have a still more natural effect. On the north side is the statue of the Earl of Eglinton, who was Lord-Lieutenant in 1852, and near the centre, in close proximity to the bedding, are two nice fountains, which give the place on hot summer days a refreshingly cool appearance. Lord Ardilaun's most generous act, in handing over this beautiful place to the public, has enabled thousands of all classes to enjoy themselves and admire the beauties of nature without fatigue. There is a plentiful supply of seats for the weary, fountains for the thirsty, and a beautiful equestrian ride around the park for those fortunate enough to be in a position to avail themselves of it.

It is extremely gratifying to be able to state that but very little damage is done, though thousands of all sorts visit this favourite park daily, especially children. It is a pity, however, that the rule respecting admitting dogs is not strictly enforced, for several are to be seen daily running about under no control, and doing much damage to the plants.—*Alfred Outram.*

PLANTING STRAWBERRIES.

Although the month of August is the recognised season for making new plantations of Strawberries, it does not follow that that is the only time at which a new plantation may be made with success, if any one wants to do it. Where an old plantation has been allowed to run from last summer, and no runners have been removed from between the rows, these young plants will have got well established and strong by this time, and will be in the best possible condition for planting out, and if that operation is carefully carried our, lifting them with a small ball of earth adhering to each, the prospect of a small crop of fruit next season could be confidently looked forward to. But to take a crop of fruit from these partially established plants is not to be recommended, as it would seriously detract from the following year's crop, which would be much better if the flowers were removed from the plants as soon as they appear.

The ground for the reception of the young plants should, if not trenched be deeply dug, and thoroughly enriched with manure, which should be well decomposed or the plants will most likely go to leaf instead of flower. Tread the ground over after digging, and chop it over with hoes to render the surface soil fine, after which the planting may be done. Mark out the rows 2 ft. apart, and plant 18 in. apart from plant to plant in the row, and plant sufficiently deep so that the crown of the plant is just level with the surface of the ground, and make the soil quite firm about the plants.

For the first season the space between the rows may be cropped with some such plants as Lettuces or Endive.

A mulching of manure over the ground will do the plants a deal of good, and should be repeated every year so long as the plants stand, but never dig among them. After trying several varieties, Garibaldi and Sir Joseph Paxton are now grown almost exclusively. President is also a first class variety, James Veitch, Sir C. Napier, and British Queen are also excellent on some soils, and Eleanor, Elton Pine, and Frogmore late Pine are good varieties for late use or succession.—*C. W.*

CHICORY FOR WINTER SALADS.

I have often heard it remarked, that it was no mean achievement for a gardener to be able to place a bunch of Grapes on his employer's table all the year round, and no doubt there is good reason for the assertion; but I have an idea that it is equally good work to be able to produce a blanched salad for each day's dinner the whole year, and sometimes two such salads a day. We know that some good cooks make up an "Italian salad" out of a number of vegetables; but the inevitable salad that must accompany the roast meat—a joint—should be composed of blanched materials only. Tastes differ, however, sometimes, even in the matter of salad-making, for some will have Beet and other things, including Celery, cut up and served amongst the Lettuce or Endive, while others will have one thing, and this must be blanched. After spring-grown Lettuces have hearted-in, it is very easy to produce a salad twice a day during the summer and autumn months, and when Lettuces are over the Endive is easily blanched by placing a slate over the entire plant, but when frost is imminent these have to be covered with some litter or other material that will keep off the frost, and the stock has to be taken up and packed in frames or other places to prevent the plants from being frozen, or they will rot, and there will soon be an end to that source of supply.

Under such circumstances, Chicory comes in most useful to blanch for a salad. It should be sown on land that has been well broken up in the early part of June, in rows about 9 ins. apart. When the plants are up, they should be thinned out to 6 ins. apart and kept clear of weeds, and by October or November their roots will be over a foot long and resembling thin Parsnips. At this time they should be lifted and laid-in thickly in a sheltered place, in the same way as Salsafy and other fusiform roots, so that when hard weather sets in they can be covered up with leaves or litter to keep out frost, as, though it is not a tender plant by any means, if the roots get frozen together for a month or so, they will not be so easy to get at when wanted to place in heat as required to keep up a supply. To blanch Chicory for use, the most simple plan is to place the roots, after the green tops have been cut off, in a box 1 ft. or more deep, and after watering them to put them in some place where they can get a little heat from fermenting materials, such as leaves or stable-dung and leaves mixed together. If the heat is gentle and steady the crowns will produce a strong growth, and being grown in the entire absence of light, it will be very crisp and much appreciated at the table.—*T. W.*

THE TURNER MEMORIAL.

The following circular has been distributed by the Executive Committee:—"At a meeting held in the Conservatory of the Royal Horticultural Society, South Kensington, August 11, 1885, Shirely Hibberd, Esq., in the chair, a resolution moved by the chairman, and seconded by Dr, Masters, F.R.S., was unanimously adopted to the following effect:—'This meeting is of opinion that the eminent services to floriculture of the late Mr. Charles Turner, of Slough, should be commemorated by means of special prizes for florists' flowers, fruits, &c.; and hereby resolves to promote the raising of a fund, the interest of which shall be applied to carry into effect the said prizes, which shall be entitled Turner Memorial Prizes; the fund, and all its incomings and outgoings, to be administered by a body of trustees or governors to be hereafter appointed.' It was further resolved that H. M. Pollett, Esq., of Fernside, Bickley, Kent, be the honorary treasurer; and Mr. James Douglas, The Gardens, Great Gearies, Ilford, honorary secretary. The importance of the present movement will be fully felt and understood by horticulturists of all grades and tastes, for in every department and by men of all parties the name of Charles Turner has been held in honour, both because of the high character and gentle manners of the man, and his earnest work as a practical and ever-advancing florist during a successful career of over fifty years. It is no part of the business now in hand to pronounce any eulogy, the object of this circular is to make a direct appeal to the horticultural public for the means of establishing the proposed Turner Fund. The promoters feel that the cause carries with it all the persuasions needful to success, and they urge upon all sympathisers with its objects, the need of prompt attention in collecting subscriptions and forwarding them to the honorary treasurer without delay. Copies of this circular will be supplied wherever needed, and gardeners are requested to bring it under the notice of their employers, the object being to make a formal and impressive public record of appreciative and affectionate regard for the memory of the most distinguished horticulturist and florist of the nineteenth century."

The Stirling Castle Apple—This is a favourite Apple of mine, being such a free bearer either as a bush or a standard. The branches are literally weighed down with the fine large fruits. It is also a pleasing fruit in shape, being as round as an orange, and the skin smooth and of a clear yellow colour. It is a serviceable early culinary Apple, but will keep well until Christmas.—*T. W.*

FRUITS, FLOWERS & VEGETABLES.

Spring-flowering Plants Amongst Grass.—Now is the time to make plantings of Bulbs, &c., for effect next spring, and perhaps the most telling of all situations is to have them growing amongst grass, either by the sides of pleasure ground walks or under trees, &c. In order to make a good show, it is necessary to plant them in large-sized clumps or patches. Our plan is to mark with a spade the shape and size of each patch, then the top sod is taken off and put on one side, and a spade deep of the soil taken out. Then the turf is put into the bottom, chopped up and mixed with well-rotted manure; after that the soil is put in, mixing a little more manure and leaf-mould with it. The whole is then gently trodden down and the bulbs planted. The larger kinds of Daffodils are placed about 5 ins. or 6 ins. apart, and the smaller kinds, Grape Hyacinths, Crocus, &c., at about 3 ins. apart, and Snowdrops closer still. Some of our largest clumps are 8 or 9 ft. long and 4 ft. across, and mostly of irregular shapes. We are also careful to mix the colours as much as possible. After planting a little more soil is spread on the top, then grass seeds are sown, which soon germinate and cover the bare patches. We have just planted about 15,000 bulbs of various sorts by the side of a walk some 300 yards long, and although the mode of preparing the ground entails a great deal of labour, we are amply repaid by the results, as instead of the bulbs weakening and deteriorating, they annually increase in vigour and become more floriferous. Bulbs are also so exceedingly cheap that those who wish for a good display in spring should plant extensively.—*Wm. J. Ireland, Headfort, Kells.*

Sunflowers.—Having noticed that Sunflowers are very popular among cottagers, it occurred to me that there must be other reasons besides their beauty that has brought them so much in favour amongst a class that are scarcely likely to be imbued with a taste for the "æsthetic," sufficient to account for the popularity of that which may be considered the queen of æsthetic flowers. On making enquiries, I found that in many cases they are grown expressly for the seeds, which are used as food for poultry. This will perhaps account for prizes being offered for the heaviest flowers, as mentioned in a previous number of The Gardening World.—*H.*

Pear Beurré Capiaumont.—This is generally only considered a second-rate Pear as regards flavour, but I doubt if we have any other variety to match it for its good bearing qualities. It is seldom that this Pear fails to carry a crop even in seasons when other kinds are scarce, and it is also a good grower. If trained as a pyramid and grown with a number of other trees, it can easily be distinguished by its distinct habit of growth and the light green colour of its foliage. Even in unfavourable situations, where other kinds seem to linger only between life and death, Beurré Capiaumont thrives and forms a vigorous tree; and if double worked with other sorts, and grown against a wall, it will produce prodigious crops of fruit.—*T. W.*

A new method of growing Hyacinths in Glasses.—For years I have amused myself by growing Hyacinths in glasses in my rooms, and in a majority of cases, the results were unsatisfactory. The foliage was generally, even with the coolest and most careful treatment, at best, tender and limp; the blooms were short-lived, never plump and robust like those grown in pots. Last year, I thought I would imitate the sandy soil of the Dutch, so far as possible consistent with culture in glasses, so instead of pure water, which requires to be changed so often, and that cannot supply the roots with any of the silicia required to give the desirable amount of healthy robustness, I filled the glasses with moist river sand, and allowed the base of the bulb merely to touch it. Finer Hyacinths of the kind I never saw, excepting those of a friend whom I recommended to get sea-sand at Brighton.—*W. J. Murphy, Clonmel.*

Machet and Parson's Giant White Mignonettes—I have grown the variety with the French name of Machet, this season, and found it to be almost, if not quite, identical with a pyramidal strain obtained a few years since from Mr. James, of Farnham Royal, and which he stated was the same as that grown for the London market by our best growers. Of the two I think the latter is a somewhat redder colour than is Machet, but in all other respects there seems to be no distinction. As a compact habited variety for pot

culture this red pyramidal can hardly be excelled. Of course I refer to market plants, but for the production of pyramidal trained plants, or strong bushy masses, I prefer a good selection of Parson's Giant White, one of the very finest and best Mignonettes ever introduced. Specially is this a fine kind to produce spikes for cutting from, and to that end should never be allowed to seed. If not so strained then the plants will continue to produce a constant supply of very pleasing shoots tipped with bloom spikes until the end of November. Those who have never sown thin, or, even better still, dibbled out plants in the early summer 1 ft. apart, cannot realise the fine proportions to which this plant will attain. I prefer planting out, thus ensuring regularity of plants, and robust growth. Those who have to make up nosegays with Asters, Lothian Stocks, Michaelmas Daisies, Early Chrysanthemums, and similar autumn-blooming flowers, can realise the usefulness of a big breadth of Mignonette, in addition to which, it lends to the bunches a delicious fragrance. The yellow-flowered kinds are pretty, but need for seed purposes very careful treatment to ensure truthfulness, or they show a natural tendency to hark back. Without doubt the most distinctive Mignonettes we have are the Giant White, Red Pyramidal, Golden Queen, and the Double White, which I saw blooming very beautifully but recently in Messrs. Sutton's grounds at Reading.—*A.*

Chou de Burghley.—Walking through a well-managed kitchen garden, a few weeks ago, we noticed a small patch of Mr. Richard Gilbert's Chou de Burghley, which suggested the question, "How do you like it?" "Not much," replied our friend the gardener; "it's neither a Cabbage nor a Cauliflower, neither fish, flesh, fowl, nor good red herring!" "Don't they like it in the house?" we rejoined, and again the answer was in the negative form. Some days afterwards we received and accepted an invitation to "come and have a look round" from another professional friend, and we found "the Chou" in the garden under his charge too. "What have you got here?" we asked friend number two. "Oh, Chou de Burghley—a curiosity, like its raiser!" slily added the speaker. "Is it good for anything?" "Yes, we like it very much, and shall grow more of it another season." Now, here was a poser; in two gardens not a hundred miles apart the presiding geniuses were the one as much for as the other was against the new vegetable. There must be a reason for this, we thought, but it did not seem probable at the moment that we should soon discover what it is. "The master likes it better than Cabbages—it's much milder in flavour, but it wants more boiling than a Cabbage; it must be kept in the saucepan much longer, then you get it right." The mystery was explained—it was in the boiling, and one of the two cooks had not discovered the secret. The matter had passed out of our mind until a day or two ago, when we received from Mr. Gilbert some samples of a few of his novelties, and among them Chou de Burghley, "very carefully selected." We need scarcely add that they were well boiled, and nothing more tender or of a milder marrow-like flavour could be desired.

Chou de Gilbert.—With the above came a dish of what appeared at first sight to be large Brussels Sprouts. This was the Chou de Gilbert, which the raiser states was obtained by crossing the Chou de Burghley with the Brussels Sprout. It is certainly a novelty, and a very distinct one. In its habit of growth, and in the shape of the sprouts, it bears a strong resemblance to the Brussels Sprout, but there the resemblance ceases, for the sprouts are nothing more nor less than Cabbages in miniature. When cooked they were very good, but not so mild as Chou de Burghley.

Sanday's Seedling Potato "E. W." at p. 24 is quite right in his remarks relative to this Potato, for on referring to my notes I find in one report on newer kinds of Potatos shown at the Crystal Palace on 13th and 14th Sept., 1883, it is described as "a seedling from Lapstone and Myatt's Ashleaf," and Mr. R. Dean in his catalogue for this year so gives it, but spells the name Sandy's. In the report above referred to it is described also as a Lapstone like variety, and in your last vol., p. 23, you state, "it hails as a recently new kind, but comes very near to Lapstone, so much so that we hesitate to put both into the list." Prior to "E. W.'s" remark at p. 42 I had not seen it claimed as a seedling from Crystal Palace and River's Royal Ashleaf, except in Messrs. Daniel's catalogue, and as you report in a recent issue, that they have this year a most extensive trial of between three and four thousand varieties of their own raising, it is not surprising if errors will crop up, but what right any one has to alter the parentage as given when the seedling is first exhibited, I cannot understand, and I quite agree with "E. W." that it seems to be a kind of afterthought, if not, something worse, and enquiry has proved to me that raisers themselves differ so much in their reports of their own seedlings that errors made by others, either accidentally or for purposes of gain, are very frequent and not surprising. I perfectly recollect one firm sending out a Potato with a coloured representation and high enconiums, and two years afterwards entered it, "formerly known as——and——and an American variety." I leave the names out as to mention them might be thought personal.—*H. T.*

Darlingtonia Californica.—This curious plant, the Californian Side-Saddle flower, is grown well at Mount Merrion, Dublin. There is now a splendid specimen growing in a north house in the garden there, some of the pitchers on which are fully 3 ft. long and of a splendid colour. The wings at the top are over 6 in. across. Mr. Welsh is to be congratulated upon his success in growing this curiosity, as well as many other interesting plants which his collection contains.—*A. O.*

The Messrs. Upton's Tomato.—The particular variety of Tomato which was alluded to by "N. J. D." in his notes on our nursery in your last issue, p. 59, has come to maturity since your correspondent called, and the fruit he measured is now 13 ins. in circumference, and weighs 11¼ ozs. On the same bunch, we have three more fruits swelling off to a large size, and on the same plant, there are eight bunches, with from six to ten fruits on each. I will send you the total weight of the crop when ripe.—*J. J. Upton, jun., Irlam.*

Fruit Judging.—Surely "C. W. C." is not serious in suggesting that Melons should only be judged by appearance only, and not by taste. If that practice were adopted, only the largest or handsomest fruits would have a chance, whilst the most delicious or luscious would be ignored. Whatsoever may be the beauty of a Melon, and all well-grown fruits have some considerable beauty, it is certain, that it is a fruit that will be esteemed on the dessert table only, as it is good and well-flavoured. No amount of external form and beauty can ensure the internal accompaniment of good flavour and excellence, and, without these, what are Melons worth? A bad Melon is detestable, and no amount of external beauty can redeem it from that animadversion. If such is the case, then how is it possible to do justice to Melons by any other method than by tasting? As to the unpleasantness arising from the cutting of fruit, certainly something may be done by turning the fruit over after it is once tasted, whilst, better still it would be, to always offer prizes to pairs of Melons, so that one only need be cut to determine flavour, and which may, after tasting, be removed. I have had some experience of Melon tasting, and can assert that in any considerable show, the proportion of bad fruits to good ones is vastly disproportioned. In the case of wall fruits, the practice of tasting would be absurd, because all growers of these know what is the relative qualities of each kind when grown, and that the best coloured and handsomest fruits of its kind will certainly be the best. Melons have little steadfastness of character, and vary exceedingly, hence they can only be judged by tasting. I do not envy judges the task thus so often imposed upon them, for it is not seldom a very pleasant one. In the case of grapes, where there is relative evenness in appearance and finish, it may be needful to determine the balance by tasting, because some bunches will be riper than others, but that test is hardly needed in the case of stone fruits. On the whole, I think the present methods of judging fruits, if carried out by intelligent judges, are fairly just, and productive of excellent results.—*A. D.*

Judging Fruit at Exhibitions.—"C. W. C.," on p. 60, raises a question of some interest to exhibitors on the cutting and tasting of various fruits on the exhibition table. With Melons it is unquestionably necessary, until some one can raise a variety, or a different race, the flavour of which does not vary with cultural conditions, and in this respect to be in advance of all existing varieties. What a fortunate individual the raiser of such a variety would be! Coming to Peaches and Nectarines, I think good judges should have a sufficient knowledge of the various varieties to enable them to form a correct judgment on the dishes before them without cutting the fruits. Unfortunately, at some provincial exhibitions, it cannot be said that duly qualified judges are always appointed, and perhaps the instance alluded to by "C. W. C." was a case in point. I never recollect seeing any Peaches or Nectarines cut at any Metropolitan exhibitions, even when these fruits have been largely shown, and on one or two occasions reaching upwards of thirty exhibitors in the single dish class. Grapes also, as a rule, may, I think, be easily judged from their appearance, although cases sometimes occur when tasting may be necessary to form a final decision; for instance, when an exhibitor—as was the case recently at South Kensington—stages White Tokay in a Foster's seedling class, although the appearance of the two are so distinct as scarcely to render it necessary. The flavour of the different varieties of Grapes must be well known by judges, and if colour and size of bunch and berry be satisfactory it may be generally guaranteed for flavour also, according to variety. If I were judging in a mixed Black Grape class, I should give a preference to the best flavoured varieties, such as Madresfield Court, Mrs. Pince's Black Muscat, and Muscat Hamburgh, if fairly well coloured, over such easily-grown kinds as Alicante and Gros Maroc. Can any correspondent inform me whether Cooper's Black is synonymous with Gros Maroc? It appears precisely similar, although the judges, at the recent Grape Show at South Kensington, awarded two bunches under this name a First Prize in the "any other variety" class, while a special class was set apart for Gros Maroc.—*Gerrard's Cross.*

Bottling Grapes.—Allow me to remind those amateurs who grow grapes and plants in the same house, and who will soon have the former ripe, and, therefore, all the more subject to injury from damp, that they can save themselves much trouble and loss by cutting off the bunches and bottling them. Procure some wine bottles, or any other sort about the same size, and, after washing them clean, fill them with clear soft water and put in each bottle a few small pieces of charcoal to keep the water pure and sweet. Put the bottles in a dry room or shed, and fix them in a slanting position so that when the bunches are cut with 3 ins. or 4 ins. of wood, above or below them and placed in the bottles, the fruit will hang clear. Many gardeners leave the grapes hanging on the vine until this time of the year, but that is not necessary, as after they have become ripe they will keep as well in bottles as on the vine. I proved this thoroughly by cutting some Black Hamburghs, Muscat of Alexandria, and Black Alicante, in September, before the leaves were off the vine, and the result was all that could be desired—they kept excellently.—*W. S.*

Proposed Dahlia Show in the North.—We were pleased to notice in a recent issue of THE GARDENING WORLD that it is proposed to hold a Dahlia Exhibition in the north. We wish the movement every success, and trust soon to hear that arrangements have been made to bring the suggestion to a practical issue. We shall be glad to render what assistance we can, and venture to think that all lovers of the Dahlia north of the Tweed will give the show their hearty support. York would certainly be a good centre, but as a matter of course the nearer the border the better chance there would be of a good turn-out from Scotland. We hope the subject will not be allowed to drop until something definite is agreed upon.

Apple Mère de Ménage.—This is a high-coloured handsome variety, large, somewhat conical in shape, and of a dark crimson colour on the sunny side. It is a mid-winter culinary variety, very distinct, and a good bearer. It always shows well in a collection. —*T. W.*

MOUNT RORAIMA.—Mr. Everard im Thurn, at the late meeting of the British Association, stated that Mount Roraima was situated, not in British Guiana, but just outside, in Brazil. In height the mountain was a mere dwarf, as its summit was only between 8,000 ft. and 9,000 ft. above the level of the plain from which it rose. To have some conception of Roraima they must imagine a flat-topped pillar, itself some 2,500 ft. in height, set on a very steeply sloping truncated cone of about another 2,500 ft. in height. Moreover, the sloping base on which the pillar-like portion of Roraima stood was over the greater part of its surface rendered but barely passable by reason of a complete covering of boulders and rocks, such as presented the appearance of an enormous and magnificent moraine; and it was obscured and rendered yet more impassable by one of the densest and most tangled forests to be found even in the tropics.

THE GARDENERS' CALENDAR.

THE FRUIT HOUSES.

THE EARLY FORCING OF VINES.—Vines from which ripe Grapes are expected to be cut at the end of April or early in May next, should now be pruned back to a good plump bud, as close to the main stem as it can be obtained, taking care that the half-inch of wood left beyond the bud is not split in doing so. The wounds should afterwards be dressed with Thomson's Vine Styptic to prevent them from bleeding, and the house be thoroughly cleansed by having the woodwork and glass washed—the former with soft soap and warm water, the latter with clean water only, and the brickwork and plaster washed with hot lime, that has had a couple of handfuls of sulphur stirred into it.

The Vine-canes should then have any loose bark that may happen to be on them rubbed off with the hand and afterwards be well washed with a solution consisting of about 4 ozs. of Gishurst's compound, the same quantity of sulphur, and 2 ozs. of soft soap dissolved in a gallon of warm water. This, having been well mixed, should be applied to the vines with a stiff brush, and be well rubbed into the crevices about the spurs as the work proceeds, so as to destroy any red spider or other insects that may happen to be located there; but be careful, however, not to injure the buds in so doing. The vines being thus cleansed, should be tied horizontally to the wires over the front pipes until they begin to burst their buds, when they must be untied and trained up under the roof in the ordinary way, care being taken not to damage the buds in the operation.

The surface of the border will next require attention; this should be pricked over with a five-pronged fork, but not deep enough to injure the roots, which if in a satisfactory condition will be a perfect net-work a few inches beneath the surface. Then remove the loose soil and lay on a good dressing of Thomson's Vine Manure, working it into the soil with the fork, and follow this with 2 ins. thick of suitable soil, consisting, say, of three-parts of calcareous loam and one of lime-rubble as a top-dressing, covering the same afterwards with a like thickness of horse-droppings. Subsequently give the whole a good soaking of tepid water, which with the other applications will wash the substance of the manures down to the roots. If the border be an outside one rotten dung might be substituted for horse-droppings, and over this 18 ins. to 20 ins. thick of leaves and fermenting manure (about one-part of the latter to three of the former) well mixed, should be laid on. This by heating the surface of the border will have the effect of attracting the roots thither, and in the top-dressing and mulching they will form a network of feeders.

This bed of dung and leaves should, according to circumstances, be freshened up twice or three times during the interval from the middle of November to the middle of February by removing a portion of the old and replacing it with fresh fermenting materials. As soon as the internal arrangements of the house have been completed the ventilators should be kept closed at night, and the process of forcing be commenced in the second or third week in November by applying sufficient fire-heat to maintain a night temperature of 50°, and 55° to 60° by day, running up 10° higher with sun heat. Syringe the vines with tepid water two or three times a day, more or less frequently according to circumstances.

The vines in second and third early houses should have the shoots shortened back to within four joints of the main stems preparatory to finally pruning them back to a plump eye, as indicated above a month or six weeks hence. Late varieties, such as Muscat of Alexandria, Alnwick Seedling, Gros Colmar, Black Alicante, Lady Downes, Gros Guillaume, Mrs. Pince's Black Muscat, and Gros Maroc should have all the sub-laterals removed forthwith, together with the tops of any unduly long main laterals, so as to allow of more light reaching the bunches as well as the wood, thereby consolidating the latter as well as plumping the buds, one of which—the plumpest nearest to the main stem should be selected for producing fruit next year; cutting out all the others carefully with a sharp knife, so as not to injure the leaf at its base, and also with a view to concentrating the sap into its proper channel—that of plumping the buds from which we are to select our bunches for next year's crop.—*H. W. Ward.*

THE KITCHEN GARDEN.

LATE POTATOS should, if not already done, be taken up at once. All those fit for table should be picked up first when dry, and stored by themselves in narrow pits on high ground, if convenient, of from 3 to 4 ft. wide, taking care that the base of the pit is sufficiently high that no water can enter, and if thought necessary cut a track around the pit for the purpose of carrying any moisture away. We find our late Potatos keep very well placed in ridges under which some dry Fern is spread, and from 3 to 4 ft. high from the base to the top of the ridge, and covered first with dry Fern and subsequently with as many inches of soil as will keep out frost. The Fern being of a light open character, and not so likely to decay as straw, will admit of the escape of moisture arising from the massing together of the tubers, and which will be more or less according to the condition of the tubers at the time of being ridged. This, however, will have ceased before it will be necessary to add a covering of soil to the Fern. The Potato-ridge should be covered as the building of the latter is proceeded with, in order not to expose the tubers intended for table use longer than is necessary. With those intended for seed, this does not matter so much; indeed, some people expose them intentionally for that purpose, as the tubers are calculated to keep better.

ORDINARY WORK.—Where the necessary quantities of herbs have not already been cut and dried as recommended in a previous calendar, no time should be lost in doing so, lest the plants get cut down by frost, that is, if they are not so injured in the mean time. Beet-roots which were planted at the foot of a south wall in spring for seeding, should now be taken up, tied together in small quantities, and suspended in a stokehole or dry shed for a few weeks before having the seed cleaned out. The collecting of a good stock of French Beans and Scarlet Runners for seed, and the placing of them in an early Peach-house, vinery, or dry shed, to harden before being shelled, should be seen to without further delay. Peas for this purpose will have been already harvested, labelled, and put away in the seed-room until required for use. Tomatos, which are soon injured by frost, should be gathered as soon as the fruit commences to colour, and be spread upon the staging or on boards in a late vinery, or in any other moderately warm and airy place, even suspended in a stokehole they will complete the ripening process, and keep good for weeks afterwards. Chilies growing at the foot of south walls, and which have not yet ripened all their fruits, should be taken up and tied together in small quantities like the Beetroots, and, like them, be suspended in a warm airy place to ripen their fruits.

FORCING DEPARTMENT.—French Beans which were sown early in the preceding month will, ere this, have had the points nipped out, and the plants earthed-up to the rim of the pots. The plants should be kept near the glass to prevent them from making a weakly growth, and be syringed overhead morning and afternoon on sunny days, and a night temperature of from 55° to 60° will be congenial to the well-being of the plants. Make another sowing of Cooling's Ne Plus Ultra, which as stated in a previous calendar is an excellent variety for early forcing in the manner described at p. 10 of the present volume, and in quantity according to the accommodation at command, and the demand for the same in each individual establishment. Where Tomatos are grown for fruiting during the winter and spring months, whether in pots or planted in a bed, they must have attention in the way of thinning, stopping, and training of the shoots and leaves; the latter should be kept well within bounds, and the roots when necessary, that is, when the plants are swelling their fruits, liberally supplied (especially if confined to pots) with tepid weak liquid manure.—*H. W. Ward, Longford Castle, Salisbury.*

THE PLANT HOUSES.

The severe weather which came so suddenly upon us at the end of last week, proved how necessary it is to be prepared for frost by the middle of September. It is rarely that we get it severe enough to damage Chrysanthemums so early in the season, but we fear that much damage has been done this season, especially in low-lying districts, where the plants were exposed. However, the injury that has been done cannot be repaired, yet, with a little care, some blooms may be had from plants that are grown for cutting from. As most of the top buds will be injured, some of the side buds that are less likely to have been should be left, though, of course, these will not produce such good flowers as the terminal ones would, still, they will be useful for some purposes.

THE STOVE.—It requires some care in regulating the temperature at this season of the year. While it is necessary to maintain sufficient heat for plants to mature their growths, if too high a temperature is kept, some plants will start off into fresh growth, which they cannot properly mature during the winter. Shading should be entirely dispensed with now; Allamandas, Dipladenias, &c., should be dried off as soon as they have done flowering; Stephanotis should now be kept dry, and may be thinned out a little, so that the wood may have a better chance of ripening off properly. The Stephanotis generally flowers best where it can be dried off and kept cool, so as to give it an entire rest before starting it into fresh growth. Euphorbia Jacquinæflora, which is one of the most useful winter-flowering stove plants, should have a favourable position, and care must be taken that it does not get too much water, as it is very liable to die off just before the flowering time, if it gets a little too wet at the root.

ORCHID NOTES AND GLEANINGS.

Shading and Heating.—There are things in particular which want special attention at this season in the Orchid houses, viz., the management of the shading, and the regulation of the heating. With respect to the shading, some make it a rule to have all the blinds taken off at the end of September, but, for my part, I always preferred leaving them in their places on the houses much later, and until the really settled dull weather proved that they were no longer wanted. I prefer leaving the blinds in position late in the year, because we frequently get days in autumn, when the sun is so bright, that the shading is wanted down as much as at midsummer, seeing that such bright days coming after long dull intervals, render the plants more liable to injury. At the same time, it must be distinctly understood that every hour in which the houses are shaded unnecessarily, robs the plants of that amount of light which is required for hardening their tissues, and fitting them for passing through the winter. Care should, therefore, be taken to exercise discretion in the matter, and only to let the shading down when the sun is bright enough to cause damage, and, if any doubt exists, extra ventilation should be given, provided it is decided not to shade.

Where there is not a good command of heat, it is advisable to leave the blinds on the houses all the winter, for they are often useful in such a case for letting down at night in very severe weather. With the heating apparatus at this season, there are days when artificial heat could be done without, and when, if not kept well in check, it would do more harm than good. It, therefore, pays well to give all the attention possible, to restricting the artificial heat strictly to that necessary to preserve the proper temperature, as any excess of it at this season favours large crops of all insect pests to do mischief and cause trouble all the winter.

Another important matter is to see that the lower night temperature is observed, as nothing is more injurious to Orchids than being kept hotter at night than in the day. This is often unwittingly done in autumn, by the fires which have been kept in check all day, being started in the afternoon. If the temperature cannot be kept down at night in any other way, extra ventilation should be resorted to; as a rule, the nights, when the plants want to rest, are cooler than the days in all parts of the world, and in some of the homes of the Orchids the thermometer ranges very much lower at night than in the day.

THE TEMPERATURES FOR OCTOBER should be— Warm House or East Indian, 70° to 75° by day, 65° at night; Cattleya or Intermediate House, 65° to 70° by day, 60° at night; Cool or Odontoglossum House, 60° to 65° by day, 55° at night, Fahr.—*James O'Brien.*

Calanthes.—The varieties of Calanthe Veitchii, vestita, &c. should now have completed their growth, and must be placed in as light and sunny a place as possible. Ours have made gigantic bulbs this season. They were potted as soon as growth commenced in spring, in good fibry loam with a little charcoal added, and about a fortnight ago were top dressed with the

same material, and although standing on a stage close to the glass, shading was entirely removed, and occasional doses of weak liquid manure will be given until the flower stems are about 2 ft. long, after that time very little water will be needed. We find that if they are given plenty of light now, that the flowers come of a much brighter colour than when shading is continued later, and the foliage being very stout there is no fear of its burning.—*W. J. Ireland, Headfort.*

Vanda Sanderiana.—This fine Orchid is now in bloom in Messrs. Low's Nursery, Clapton, and as there are several plants with spikes in various stages of development, the flowering season of it is likely to extend over a considerable length of time and will well repay a visit to those interested in the cultivation of these lovely and curious plants.—*E. F. Kemp, Clapton.*

FLORICULTURE.

Picotee Liddington's Favourite.—This charming light rose-edged Picotee has been seen in fine form this season, and was selected as the premier Picotee at the exhibition of the National Carnation and Picotee Society (Southern Section) in July last. It was then generally regarded as Liddingstone Favourite, but it is in reality Favourite (Liddington), and it was raised some years since by Mr. Liddingtou, sen., a grower of some repute in his day, but now residing at Thame. It appears to have been confounded with Mrs. Payne and grown as this variety; and some of it having been sent to Mr. E. S. Dodwell under the name of Mrs. Payne, he noticed the difference in the character of the "grass" or foliage, and was able to get at its history. A year or so ago it was distributed gratuitously among amateur cultivators of the Picotee by Mr. Thomas Anstiss, of Brill, and is now, or at least will be next season, pretty generally cultivated. It is one of the very best varieties of the light rose-edged section.—*R. D.*

New Carnations.—Mr. T. S. Ware, of the Hale Farm Nurseries, Tottenham, announces a new set of these, mainly of the Clove or Fancy section, and from what I saw of many of them on the occasion of the exhibition of the National Carnation and Picotee Society, at South Kensington, in July last, I am sure they are well worthy of cultivation. They are:—

Bell Halliday.—Pure soft yellow without any markings, good substance, and strong vigorous growth.

Blush Clove.—A blush variety of the old crimson Clove, similar in habit, but with flowers of a beautiful soft blush; finely scented.

Gloire de Nancy.—One of the finest white Cloves yet introduced, having a robust habit, and producing in the greatest perfection, pure white, large sized flowers, making it valuable for cutting purposes; it is also finely scented.

Captain Greetwood has flowers of a coppery fawn ground, or occasionally splashed with deep carmine, medium sized, and very free, and likely to become a great favourite.

Florence is a nankeen yellow variety, large, fine form, and very useful for exhibition purposes.

John Barnett is a very fine self Carnation, the colour pleasing, bright cerise, flowers very large, and of good form, hardy, vigorous, and very free.

Lady Louisa Ashburton has white flowers which are much fimbriated; they are sweet-scented, and very pleasing.

Madame Blechroder is a seedling from Souvenir de la Malmaison, the colour deep salmon-pink; extra fine, and dwarf habit.

Mary Morris, deep shining rose colour, strong, free habit, a fine and distinct variety.

Miss Wheeler, pale sulphur, suffused with white.

Queen of Yellows, deep bright clear yellow, good form; andone of the best varieties of this shade of colour.

Pride of Penshurst, another yellow, of large size, and fine form; very useful indeed for cutting from.

Walter T. Ware, rich fawny yellow, with markings of bright lake; a vigorous grower, and very free and fine. Lastly,

W. P. Milner, also pure white, one of the very best, the flowers large, and of fine form. The pod does not burst, as is the case with some of the varieties.

We have called these new, and they are new, but, in this sense of the word, that they have been put into circulation during the last two or three years, but they, as yet, are comparatively little known.

In another month or so rooted layers of these plants can be had, it may be that they can be obtained already. Previous to purchasing the plants the bed should be formed, and it should be made chiefly of good yellow loam with some rough sand and leaf-mould dug in with it, and also some well decomposed manure mixed with it. The soil should be dug deeply, and well stirred previous to planting, and it is well if the bed be thrown up 4 ins. above the ground-level. Plant deeply and firmly, and as soon as possible.

Carnations of this class do best in the open. During the winter and spring months, when chilling winds prevail, it is well to place some sprigs of Evergreens, like Spruce Fir for instance, around and about the plants, as it will be found a very useful and acceptable shelter, and it will be useful also in times of frost, for the old Carnation cultivators used to say that if the sun fell upon the plants while the hoar-frost was upon them the leaves would crack.

Every gardener should grow a few of these Carnations, they are so useful for cutting from, and at the same time so ornamental in a garden. These flowers are so sweetly scented also, that it is no wonder they are so popular; and they can be credited with this additional merit that they last a long time in a cut state.—*Quo.*

EALING HORTICULTURAL SOCIETY.

Presentation to Mr. R. Dean.—On the evening of Wednesday, September 23rd, the officers and friends of the Ealing, Acton, and Hanwell Horticultural Society, to the number of 160, dined together to celebrate the twenty-first anniversary of the society. The honour of presiding over this representative gathering was conferred upon Mr. Richard Dean, in recognition of his invaluable services as hon. sec. of the society for many years. He was supported by the Right Hon. Spencer H. Walpole, the honoured president of the society, and by all the leading local horticulturists, amateur and practical. The platform of the Lyric Hall was made bright with a tasteful arrangement of Crotons, Dracænas, Palms, Ferns, and other plants from Gunnersbury Park, and the tables were made attractive with plants and flowers from other places.

After dinner, in felicitous terms, the chairman proposed "The Queen and the rest of the Royal Family." The gardener had, he said, shown his loyalty by naming after the royal family some of his choicest productions. The gigantic water lily of the Amazon was called 'Victoria regia'; he had his Croton 'Prince of Wales,' his Odontoglossum 'Alexandria,' his Rhododendron 'Duke of Edinburgh,' and his Clematis 'Albert Victor'; whilst the breadth of his political sympathies was indicated by his having his Croton 'Disraeli,' and his Dracæna 'Gladstoni.'

Mr Willey proposed "Success to the Ealing, Acton, and Hanwell Horticultural Society," remarking that the society, in which all of them took so deep an interest, had its origin in very small beginnings. Whereas in its first year the prizes amounted to £47 only, they would amount in this, its twenty-first year, to something like £250. This betokened not only very great success in the past, but an earnest of still larger achievements in the future. Surely the grand show held recently in Lord Rothschild's ground, and the great and general public appreciation of the efforts the society then made, must be a source of the highest gratification, and induce all to put their shoulders to the wheel and make future shows, if possible, grander and more worthy of public acceptance.

Mr. C. Atlee, whose name was coupled with the toast as hon. treasurer of the society from its commencement, said, "that in 1867 the total income was £176, and in 1876, the year in which Mr. Dean became secretary, it was £259, an increase of £80 in ten years; in the present year they expected the income would not be very much less than £600. Another important feature was the gate money; in 1867 it amounted to £32, and in 1876 to £69, whilst no less than £189 was taken at this year's summer show. If proof were wanted that the society is doing a grand work, it was afforded by the total of the gate money, because that did not come from the *elite*, but from the poorer classes. The £189 was chiefly made up of sixpences, proving to how large a number was afforded a day of unalloyed pleasure.

Dr. Christie next submitted "The President, the Right Hon. S. H. Walpole," who, in reply, said if he had been of service to this excellent society, he unfeignedly declared that it was due to others and not to himself that it had prospered so exceedingly. The success of the society had not been exaggerated by his good friend, Mr. Willey, and it was due in the largest measure to the secretary and treasurer. Of all the men he had been associated with in work he had known none to equal his friend, Mr. Dean. That he could say with unfeigned truth.

The chairman in proposing the next toast, "The Exhibitors—gardeners, amateurs, and cottagers," said he remembered seeing the last of the series of those great Chiswick shows which commanded so much attention in this country, and he was prepared to say that they had at their summer show in Gunnersbury Park features of excellence altogether unknown in the days of Chiswick shows. At that time there were few exhibitions held, now almost every village has its flower show. The summer show was something of which Ealing might well be proud. When he went into the tent containing the table decorations, and saw what the ladies had done with such admirable effect, he never felt so proud of being their secretary. Their ladies' tent was an exhibition in itself. The thanks of the meeting were due to the employers of gardeners, such as Mr. Nelson and Mr. Nye, who permitted their houses to be denuded in order that the public might have the privilege of looking upon their beautiful plants. The district had exhibitors of no common order. Mr. Roberts, of Gunnersbury Park, at the Crystal Palace the other day carried off first prizes for twenty dishes of fruit and ten varieties of Grapes. Mr. Hudson, of Gunnersbury House, and Mr. Chadwick, of Hanger Hill, had also won prizes at the best shows of the year. Some of their cottagers, too, put in an appearance at South Kensington, where, however, they were handicapped, as many of those exhibiting there were not strictly cottagers. And he (Mr. Dean) with his usual diffidence might claim to have done a little, for in the culture of the homely Potato and of the Primrose he had gained not a few prizes. He would take this opportunity of thanking the exhibitors for the exceedingly generous support they had given him during the ten years he had been secretary. Very desirous was he that the cottager exhibitors should be extended. But how could that be done with the limited number of allotment gardens? Those who had the letting of the allotment gardens were at present beseiged by something like seventy to eighty applications. There was a crying necessity for allotment gardens. Two years ago he asked whether a field close to the church and connected with Lady Rawlinson's charity could not be applied to the purpose, and he hoped the way would be clear for so applying it before long. A gardener's life was one long fight against some of the forces of Nature, but there was a potent spirit of emulation abroad; and he hoped that the show held in Gunnersbury Park was only the commencement of a series of exhibitions still more successful, making Ealing a place to be envied.

Mr. J. Roberts, as representing the honorary exhibitors; Mr. Chadwick, as representing the gardeners in the open classes; Mr. W. Abbot, of Hanwell, as representing the amateurs; and Mr. W. Farndon, for the cottagers, responded in turn; when the toast list was interrupted in order that a presentation might be made to the chairman by the gardeners and cottagers. It consisted of an illuminated address, and a marble timepiece, a 14-day clock, standing 21 ins. high, and striking the hours and half hours on a cathedral toned gong. The centre of the base carried a gold plate bearing the following inscription:—Presented by the gentlemen's gardeners and cottagers exhibiting at the Ealing, Acton, and Hanwell Horticultural Society's Show, to Mr. R. Dean, for many years the honorary secretary, as a mark of their esteem and respect.—September 23rd, 1885. The address was as follows:—"This address, together with a timepiece, was presented to Mr. Richard Dean by the gentlemen's gardeners and cottagers exhibiting at the Ealing, Acton, and Hanwell Horticultural Society's Shows, in token of their esteem for him as the honorary secretary for many years of the above society. The undersigned subscribers also wish to offer Mr. Dean their most sincere thanks for the kindness and courtesy he had always shown to them as exhibitors, and earnestly hope that he will remain for many years to come the honorary secretary of the Ealing, Acton, and Hanwell

Horticultural Society." Mr. Fountain presented the address and timepiece, the company cheering with much enthusiasm. Mr. Dean said he had not only been greatly surprised but inexpressibly touched. He had no idea whatever that any such thing was contemplated. Apart from the handsome present, which he accepted with great gratitude, he was glad to know that he had the confidence of such a large body of his gardening brethren in Ealing. He had honestly tried to make the show interesting to all classes of the community in their growing town, and it was a source of great gratification to him that it was now become the annual holiday. And he trusted that it would continue to be their annual holiday for many years to come. After ten years service, he hoped he might claim honourable retirement. He had arrived at that time of life when a man felt the strain of such a large and important society should be lessened rather than increased. But whether he remained their secretary or not, they may depend upon it that whilst he had health and strength he should do his best to make the society what it had been in the past, a great and signal success.

Numerous other toasts, including "the Donors of Special Prizes," "The Officers and Committee," and "Kindred Societies," having been given and responded to, the company separated after spending a most enjoyable evening.

QUESTIONS AND ANSWERS.

Dendrobium Wardianum—Tobacco Water.—1. What is the lowest temperature in which I can successfully winter Dendrobium Wardianum and D. nobile during the resting season? 2. What proportion of the tobacco juice usually sold to mix with water for dipping and sponging Orchids.—*W. D. Marks.* [1. Those who have worked their plants into the way often winter them successfully in a very low temperature, but as a rule it is not safe to let them get much below 50°. 2. Tobacco juices are of different strengths. Better put the question to the maker, or try experiments on a few common plants until the proper strength is found.]

Standard Morello Cherry Trees.—Have any of your readers had any experience of the Morello Cherry as a standard? We have two trees here (within four miles of Aberdeen) that are loaded with fruit every year, far superior to the same variety on the walls. I have never seen them other than on walls until I came here, but if they will do as well as standards in other districts it would seem to be a great mistake to grow them against walls.—*Morello.* [Morellos are grown as standards in many places, and in considerable numbers, in West Middlesex especially. To say nothing of the usefulness of the crop when ripe, the trees when in bloom are amongst the most handsome in the garden.]

Apples Shedding their Blossoms: Peaches Unpruned.—1. A few of my Apple and Pear trees flower every year beautifully, but they retain the blooms only for a short time when they all fall off, and I can discover no reason for it. Other trees retain all their blossoms. If possible, kindly say what is the probable cause of this annual occurrence. 2. On Peach trees, which are kept outside, the whole of this year's growth remains yet without being pruned. Your advice through your very interesting journal as to the safest method for doing so now will oblige.—*J. B., Co. Kerry.* [1. We should attribute the cause of the blossoms falling off to weakness, brought about by imperfect root action. The remedy is lifting and planting again in fresh soil, and you will find some seasonable advice on this subject under the heading of "The Fruit Garden," on p. 71. 2. Go over the Peach trees as soon as you can, and carefully remove all the shoots not required for fruiting next season, and lay the others in to the wall to ripen. Commence at the top of the trees, and lay the young growths in thinly, that it may the better ripen.]

When to gather Pears.—Is there any guide in print which tells one exactly when to gather Pears? There are plenty which give their season of ripening, but say nothing about gathering. The sort of information wanted may be indicated in the following example:—Beurré Capiaumont should be gathered from 21st to 29th of September; 23rd is the mean day, will be ripe for the table in 14 to 21 days later. Or, take Williams' Bon Chrétien: gather on 23rd of August, never more than a day later or earlier; will begin to ripen for table a week or ten days later. Beyond these my wisdom fails.—*C. E., S. Devon.* [No. There is no such guide, so far as we know, nor could one that would be applicable under all circumstances be written. The proper time for gathering is when the fruit will part from the tree freely, and the exact time when it will do this depends upon the locality, the season, the soil, and the stock, which are never exactly alike.]

Chrysanthemum House.—I have just put one together in light deal framing, span-roof form, 16 ft. by 12 ft. 6 in., intending to cover it with tiffany the third week in October, or so far as may be necessary. It stands about 4 ft. from high walling on the north and east, and is well open to the sun on the south and west. Will it do to cover round the sides only? or, in addition to this, with one breadth across the lower half of the top, to be tied with tapes or hung by rings or hooks, so as to be removed every day? In years gone by much was written of tiffany houses for tender fruits, &c., but silence reigns now.—*C. E., S. Devon.* [It would be best to tack up the tiffany on the north and east sides permanently, and on the south and west sides to hang it with rings and tenter-hooks, so that on fine days one or both sides can be exposed if need be. The roof should all be covered to thoroughly protect the plants; this is more important than protecting the sides, unless you are exposed to gales. The top side next the wall we should tack down, and on that exposed to the sun it would be best to fix the tiffany to a roller, to allow of its being pulled up and down.]

Gardenias.—My Gardenias, after resting in the open air for some weeks, were sent back about a month ago and placed in heat, where they have made good growth. Should they be now repotted or left till spring? Also what compost suits them best?—*D. B. K.* [If you want them to flower during the winter defer the potting till spring, and feed them, in the meantime, with liquid manure weak and often. The best compost is rough fibrous peat, with about a sixth part of well-decayed manure, and plenty of sand to keep it open, as the plants require an abundance of water.]

Grafting Camellias.—I have a lot of Camellia Stocks, and should be glad to know if I graft them now, and put them into a case heated to about 50°, would they be successful, or would they be better grafted in February?—*J. Busby, Burnley.* [It would have been better to have grafted them a little earlier in the season, but, with careful attention, there is no reason why you should not succeed now as well as in February.]

Lapageria rosea.—I have a plant trained by string up the south wall of the house, which has been out of doors five years. This summer has been a trying one to it—too dry, and as it is within 4 ft. of a strong white Grape, will it not be better to cut the leaders to about 4 ft. from the ground in February, and remove it to a place more free from other growth? Snails eat the young shoots as soon as they appear above ground. Not one was saved this year, but on the old long shoots there are some good flowers now, and will probably produce more up to Christmas.—*C. E., S. Devon.* [Remove it by all means; but we should not advise its being cut back so hard as you suggest. To protect the young shoots you should put a ring of lime or soot round the part through which shoots are expected to come, or cover the ground with cocoa-nut fibre refuse.]

Tweed Vineyard.—Erratum.—At p. 58, in the remarks as to the weight of the individual bunches of Muscat of Alexandria Grapes, for 3 lbs. read 5 lbs. Ryde Flower Show.—In the report of this exhibition in our number for September 5th, for Mr. G. "Wilkinson" read Mr. G. "Wilkins."

Names of Fruits.—*C. B.*—1, Glou Morceau; 2, Marie Louise, a large specimen; 3 and 4, Fondante d'Automne. *Clergyman.*—1 and 13 are identical, and probably Beurré d'Amanlis, but very small; 5, Beurré Capiaumont; 7, Louise Bonne of Jersey; 8, Passe Colmar; 9, Williams' Bon Chrêtien. *Jersey.*—1, resembles Nousuch; 2, Wykeu or Warwickshire Pippin; 3, not known; 4, Ingestrie Yellow; 5, not recognised; 6, Pomme Poire.

Communications Received.—T. S. W.—G. T. M.—R. D.—E. J.—G. W.—D. & Co.—J. B., Sutton (next week).—J. S.—W. T.—A. L. (many thanks).—Jersey.—G. B.—G. N. J.—G. C. B. (Too late, we will write you in a day or two).—D. J. (next week).

LONDON SEED TRADE.

September 30th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report no change in the state of trade, but a few orders still come in for Trifolium, Tares, and Rye, at last week's rates. The rainy weather may have a bad effect on the crops of English Red Clover, as although there is a large breadth seeding, it will require fully three weeks to complete harvest. The Continental crop is fair, and quality useful. White Alsike and Trefoil are offering at Moderate prices. No quotable change in value of Bird Seeds.

COVENT GARDEN MARKET.

October 21st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	25 0	26 0	Plums, ½ sieve	1 6	3 6
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces .. per dozen	2 0	
Cabbages .... per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium candidum, 12 blooms		
Anemone, 12 bunches			Lilium Longiflorum, 12 blooms	4 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	2 0	6 0
Asters, 12 bunches	4 0	8 0	Mignonette, 12 bun.	1 6	3 0
Azalea, 12 sprays	..	2 0	Pelargoniums, per 12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet, 12 sprays	0 4	0 6
Camellias, 12 blooms.	4 0	8 0	Pinks, various, 12 bun.		
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 6	1 0
Carnations, 12 bunch.	4 0	8 0	Primulas, Chinese, bun.	..	0 6
Chrysanthemums, 12 blooms	1 0	6 0	Pyrethrum, 12 bun.	2 0	4 0
Chrysanthemums, 12 bunches	3 0	12 0	Rhodanthe, 12 bun.		
Cineraria, per bunch			Roses (coloured)	1 0	2 0
Cornflower, 12 bunch.	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.			Roses, per doz. bun.	3 0	8 0
Day Lily, 12 bunches.			Spiræa, 12 bunches		
Epiphyllums, 12 blms.			Stephanotis, 12 sprays	5 0	6 0
Eschscholtzia, 12 bun.			Stocks, 12 bunches		
Eucharis, per dozen	4 0	6 0	Sweet Peas, 12 bunch		
Gardenias, 12 blooms.	2 0	5 0	Sweet Sultan, 12 bun.	4 0	6 0
Heliotropes, 12 sprays	0 6	1 0	Tuberoses, per dozen.	0 6	1 0
Lapageria, white, 12 blooms	2 0	3 0	Tulips, per dozen		
Lapageria, red, 12 blms.	1 0	2 0	White Jasmine, bun.	0 6	0 9
Lavender, 12 bunches			Woodroffe, 12 bunches		

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsias, per dozen	3 0	9 0
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen		
Asters, per doz.	4 0	6 0	Heaths or Erica, var., per dozen	10 0	12 0
Azalea, per doz.			Hyacinths, per dozen		
Balsams, per dozen			Hydrangea, per dozen		
Begonias, per dozen	4 0	12 0	Ivy Geraniums, per dozen	3 0	6 0
Bouvardias, per dozen	9 0	18 0	Lilium longiflorum, per dozen		
Calceolarias, per doz.			Lilium lancifolium, per dozen	9 0	12 0
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Deutzia, per dozen			Petunias, per dozen		
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.		
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 0			

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SHOWS.

Royal Horticultural Society, South Kensington.

SHOW of APPLES and PEARS on TUESDAY, October 13th, and WEDNESDAY, October 14th. Visitors to the International Inventions Exhibition, admitted free at One o'clock on October 13th.

National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND EXHIBITION, November 11th and 12th. Schedules (free) on application.

NOTICE.—Floral Committee Meetings at the ROYAL AQUARIUM, on October 14th, 28th, November 11th, 25th, and December 9th, at 2.30 p.m. precisely. (Regulations see Schedule).

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ROYAL CALEDONIAN HORTICULTURAL SOCIETY APPLE AND PEAR CONGRESS.

To be held in the WAVERLEY MARKET, EDINBURGH, on the 25TH and 26TH NOVEMBER, 1885, and Following Days.

THE COUNCIL of the ROYAL CALEDONIAN HORTICULTURAL SOCIETY intend to hold a SPECIAL EXHIBITION and CONFERENCE on APPLES and PEARS in connection with the SOCIETY'S NEW WINTER or CHRYSANTHEMUM SHOW, on the 25th and 26th November, 1885.

To assist them in making the EXHIBITION and CONFERENCE a complete success, the Council respectfully solicits the hearty co-operation of all FRUIT GROWERS.

Those who desire to contribute Fruit for examination and information, or otherwise to help the objects in view, will receive gratis, on application to the Assistant-Secretary, Mr. WILLIAM YOUNG, 18, Waverley Market, Edinburgh, the OFFICIAL CIRCULARS and FORMS, and all other Particulars.

JOHN STEWART, *Hon. Secy.*

Edinburgh, 1st October, 1885.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 10, 1885.

ALLOTMENT GARDENS.—This is a matter that is being forced upon the attention of the public at the present moment. A leading statesman has recently declared that "politics are the science of human happiness, and the business of the politician is to find out how he can improve and increase the happiness of those less fortunate than himself." This is a very important and timely declaration, and though it is hinted that such a statement is made only for the purpose of influencing votes at the coming general election, we are of opinion that it indicates a wise resolve on the part of those in a position to act, that the happiness and well-being of the masses of the people shall be the immediate and earnest concern of practical statesmanship.

It is said that "misery, poverty, and inequality are the heritage of mankind." While we dispute this as a necessary corollary of human life, yet we are compelled to admit that these things exist. But we do not believe that the mass of mankind are born into the world to live very much like beasts of burden, to half-starve with their families on ten or twelve shillings a week, and to go on from the cradle to the grave living in homes unfit for human beings, and no brighter prospects before them, when they are no longer able to work, than the workhouse. Therefore, we are unable to assent to the dictum that misery, poverty, and inequality are the heritage of the human race. We think that men everywhere should aim at living noble and useful lives, and that all impediments to this should be removed, and encouragement given so to live. We think, also, that there is no necessity for so much evil in the world, and that a great deal of it may be removed by means of legislative aid. How this can be most readily rendered we leave to the practical statesmen who have closely studied the matter; but we give our cordial support to a wide extension of the system of allotment gardens. This we regard as a matter of the first importance.

Anyone who is acquainted with the rapidly-growing suburbs of London has been made aware that estates, market gardens, and fields are becoming covered with houses, and that the smallest of gardens are given to them. In very many cases, we are sorry to say, when no local authority exists to enforce stringent bye-laws, the garden is a tiny piece of back yard, where nothing can be expected to grow. The denizens of such houses lack one main incentive to thrift and industry—a plot of land to cultivate. They cannot hire a piece, it is all reserved for building purposes. It is worthy of mention that there are at least three unrepealed Acts in the Statute-books which, speaking generally, enable poor law guardians, under control of the Local Government Board, to buy twenty acres and to hire fifty for re-letting to the poor. It does not appear, unfortunately, that the power is inherited by local Boards of Health. One thing is quite certain, that local bodies capable of putting these Acts into operation have not been in a hurry to do so; and this is shown by the first Report of the Women's and Children's Employment Commission of 1868, which states that only 2,119 acres, out of 7,000,000 acres enclosed since 1760, were believed to have been allotted to labourers. Is it any wonder, then, that a leading and popular statesman, with these facts before him, makes it a *sine qua non* of his connection with the government of the country that a measure shall be passed giving to local councils compulsory powers of purchase of land for letting out as allotment gardens and for other public purposes.

Lord Tollemache, a large Cheshire land-holder and a Conservative peer, in a letter published a few days ago, appears to recognise the fact that this power will be given under a county government bill, and he significantly remarks: "I cannot but think that the rights of landed proprietors—especially large proprietors—are now in a critical position, and can only be preserved for any length of time by a vast extension throughout the country of the allotment and small holding system. By far the most effectual and satisfactory way of extending this system is by the voluntary action of the landlords; but if no decided movement takes place on their part in the matter, as a last resource, not only for the comfort and advantage of the middle and labouring classes, but for the protection of the just rights of landed property generally, the compulsory powers alluded to ought, in my opinion, to be adopted, accompanied by conditions such as an ample notice being given to the owners of land, with powers of appeal, &c." But the question of allotment gardens has other aspects of interest, to be more particularly referred to in a future issue.

GARDENING MISCELLANY.

Meetings for next week,—*Tuesday.*—Meetings of the Fruit and Floral Committees at South Kensington. Show of Apples and Pears continued next day.

The National Pear Conference.—It has been decided the committee of management that the show of Pears, to be opened at Chiswick on Wednesday the 21st inst., shall be kept open until Wednesday, November 4th.

The Gardeners' Royal Benevolent Institution.—Candidates for the pension of this institution, who are desirous of being put on the list in January next, should make early application to the committee, as we understand that the list will be closed on November 4th.

The Carnation and Picotee.—Urged by many friends, and an increasing sense of disabling infirmity, Mr. E. S. Dodwell proposes, as probably the last service he may render to his fellow-lovers of Carnations and Picotees, to collect, revise, and reprint certain of his essays and papers thereon, contributed over a space of several years to periodic floral literature, and thus make easily accessible what at present is only open to a few. The reprint will include the history, properties, and management of the Carnation and Picotee, with a descriptive list of the best varieties in cultivation, and will be issued in four monthly numbers, price, 6*d.* The first number will be ready on December 1st.

The Royal Horticultural Society: Proposed Provincial Exhibition.—At a meeting of the Bury St. Edmunds Town Council, held on Tuesday, the clerk read a letter from the secretary of the Royal Horticultural Society, stating that the society proposed to resume the system of holding provincial shows, and asking to be put into communication with horticultural and botanical authorities as to the holding of a show at Bury St. Edmunds next year. The Council agreed to welcome the society and send the names as requested. The prospect of an early return to the practice of holding provincial shows, which were so popular with all classes of horticulturists, will be welcome news to all true friends of the Society. A meeting of the council and committees of the Royal Horticultural Society is also summoned for Tuesday next, with a view of ascertaining the possibility of holding an International Show in 1887.

Registered Telegraph Addresses.—It may be useful to some of our trade readers to know the registered addresses for sixpenny telegrams of the following firms:—Messrs. Hurst & Son, Houndsditch, "Hurst, London"; Messrs. James Carter & Co., High Holborn, "Carter, London"; Messrs. James Dickson & Sons, Chester, "Confidence, Chester"; Messrs. F. & A. Dickson & Sons., "Reliance, Chester"; The Liverpool Horticultural Company, "Cowan, Liverpool"; Messrs. R. B. Laird & Sons, Edinburgh, "Laird, Edinburgh."

Stoke Newington Chrysanthemum Society.—A general meeting of this society was held on Friday, October 2nd, when several new members were admitted. The exhibition will be held on the 9th and 10th November, and there is every prospect of a good show. Schedules and all particulars can be obtained of the hon. sec., Mr. W. Goldsmith, Grove Road, Stamford Hill, N.

Horticultural Soils, Sundries, &c.—We understand that the business which for thirty years or more has been carried on by Mr. John Kennard, at Swan Place, Old Kent Road, S.E., has passed into the hands of his son-in-law, Mr. Benjamin Field, who has our good wishes for his future welfare. If Mr. Field can make and maintain as good a reputation as his predecessor in the business, he will have no cause to regret his venture.

The National Chrysanthemum Society.—The first meeting of the newly-formed floral committee of this society, composed of Messrs. Berry, Roehampton; M. Butcher, Barnet; Bevan, Dartmouth Hill; H. Cannell, Swanley; R. Dean, Ealing; N. Davis, Camberwell; Gibson, Mitcham; G. Gordon, Gunnersbury; E. Kemp, Clapton; J. J. Lowry, Mill Hill; Mardlin, Finsbury Park; G. Stevens, Putney; J. Springbett, Cheshunt; C. Swift, Fulham; and J. Townsend, Putney; will be held at the Royal Aquarium, Westminster, in the Organ Gallery, on Wednesday next, at 2.30 p.m., precisely, when new or rare Chrysanthemums, or any other subjects may be submitted. Certificates will be awarded according to merit. Exhibitors can obtain admission to the meetings by signing the attendance book at the Staff entrance of the Royal Aquarium (next to Theatre). Exhibits should be staged not later than 2.15 p.m. Parcels (carriage paid) may be directed to Mr. William Holmes, honorary secretary, care of F. Cates, Esq., Royal Aquarium, Westminster.

Mr. Richard Holloway, for two and a half years foreman in the gardens at Headfort House, Kells, where he has given every satisfaction, has been engaged by Lord Castletown to take charge of the gardens at Granston Manor, Abbeyleix, where his lordship intends to carry out various improvements.

Elementary Botany.—Gardeners residing within reach of Bedford may be interested to know, that two courses of weekly lectures on Elementary Botany will be delivered, during the winter, in the museum, Bedford Rooms, by Mr. Arthur Ransom. The first course, Vegetable Morphology, and Physiology, will commence on Monday, October 5th, and end on Monday, December 14th; and the second course, Systematic Botany, will commence on January 18th, and end on March 29th, 1886. These lectures are prepared with the view of encouraging the study of botany among the people generally, as well as of assisting those who are required to pass examinations in botany, or are engaged in occupations in which a knowledge of botany is useful. Mr. Ransom, we understand, offers tickets free to working gardeners.

English Dahlias at the Antwerp Exhibition.—Messrs. Rawlings Brothers of Romford have been awarded the First Prize, a Gold Medal, by acclamation, for a collection of fifty Dahlias, and a further Silver Medal for a collection of twenty-five blooms, at the Antwerp Universal Exhibition. Mr. J. West, Gardener to W. Keith, Esq., Brentwood, was also successful in securing a first prize for twenty-five blooms on the same occasion.

"Tam-o'-Shanter" Hones.—Mr. John C. Montgomerie, Dalmore, Tarbolton, Ayrshire, has been awarded a gold medal at the Inventions Exhibition for his hones, the good qualities of which we have already commented upon.

Bently Priory, Stanmore, will be known to many as a delightful old place with a very fine garden. In 1852 it passed into Sir John Kelks hands, with Mr. Neve for gardener. Since then it has passed into the hands of Mr. Frederick Gordon, and this year it was opened as a high-class hotel, the like of which is not to be found in the kingdom. It is to be hoped that with such a clever gardener, and such fine ranges of glass, the present proprietor will be tempted to infuse a little more spirit into the Bently Priory gardening than has been the case of late years. Mr. Neve has the skill, and the necessary accommodation is available, all that is requisite is a little capital which will give a safe return. Will it be at Bently Priory as at many other places, while expenditure is lavish in most directions, the garden will be nipped and screwed in such a manner as to effectually bring to the very lowest both the pleasure and the profit of it?

Local Bulb Auctions and Back Street Sales.—On this subject our correspondent, Mr. W. J. Murphy, Clonmel, writes:—"I had two letters this morning—one from London, the other from Manchester, and both, while drawing attention to some notes from myself and others in THE GARDENING WORLD, agree in denouncing the system now in vogue in Holland of sending over the refuse of the bulb farms, and having them disposed of either by auction or by grocers, chemists, tobacconists, &c. No doubt there is a wonderful amount of imposition in this way, and there is not anything like the same certainty as if one had their bulbs from any of the great seed and bulb firms; but I would ask at the same time, as a point open to discussion, whether bringing bulbs for sale to the very doors of the masses is not a corresponding gain to horticulture?"

The Temple Chrysanthemums.—"Temple" writes:—"I send you a cutting from the *Journal of Horticulture* for the 1st inst., in which you will see it stated that 'it is not generally known that the Temple authorities do not purchase Chrysanthemums for the gardens, but the gardeners obtain all the newer varieties at their own cost, and have the privilege of disposing of cuttings to recoup themselves for the outlay.' Are we now, then, to understand that the credit of the exhibition must not be given to the Benchers as heretofore, but to the gardeners who, for the time being, become nurserymen in a small way of business, but a profitable business, nevertheless, if the gardeners in question live on the premises and pay neither rent, rates, nor taxes. It may be a fact that the 'Temple authorities' allow the cuttings to be sold, but I imagine that as far as the Benchers are concerned, it is principally for the purpose of gratifying the visitors who go to see the plants when in bloom, and not solely to recoup the gardeners. There are, no doubt, a number of people who pass through the show who like to have some of the cuttings merely for the sake of saying that they came from the Temple Gardens; but if the plants are to be advertised in this style, the Temple authorities can scarcely be surprised if they are considered as nurserymen instead of the owners of a private garden which is very popular with the public. This open competition between the Temple gardeners and ordinary tradesmen who are taxed up to the hilt may be legally right, but morally it is a great wrong, and in equity should not be allowed."

Is a Tenants' Greenhouse a Building?—Mr. A. Dent, Horticultural Builder, 118, Selsdon Road, Croydon, writes under date of October 6th:—"On Wednesday, September 30th, I was summoned by Mr. Elkington, District Surveyor of Penge, to appear at Lambeth Police Court, on a charge of erecting a greenhouse, 12 ft. by 8 ft., in the district of Penge, without having given the notice required under the Building Act. I contended that this greenhouse was a tenants' fixture, and did not come under the Act, being made portable in every respect, boarded up to sill of sashes, standing on but not fixed to another sill or frame at bottom formed of 7 by 2½ deal. I was advised to have four wheels put upon this greenhouse to save being compelled to comply with the Act, which states that all buildings shall have 9-inch brick walls with proper footings, and concrete foundations, which of course I could not carry out being only a tenants fixture. Accordingly I had four wheels put on the bottom frame, so that the whole could be moved in one if necessary, or taken apart and stowed away in a shed if required. The result was that Mr. Chance (magistrate) decided that this greenhouse, although not connected with the ground, either by posts driven in or by brickwork under, but only laid on the top of the earth was a building within the Act, and gave it as his opinion that even Cucumber frames were not exempt.

"Now, sir, I report this case to you feeling that it is a matter not to be trifled with, but should be dealt with promptly and decisively, and in the interests of flower growers generally, I take the liberty of asking you to give this matter all the publicity possible. Having seen the uncertainty which existed among tenants and the gardening papers generally, I took the precaution of employing a first-class solicitor to defend the case, thus incurring considerable expense, the case being adjourned, and having to re-appear on Saturday; but it was all no use, I was fined a nominal fine of 5*s.* and the cost of the summons, with, of course, the privilege of appeal. Now, this appeal will be of no use to me, but if your readers feel sufficient interest in the cause of tenants' rights, as to having a greenhouse of their own, and will offer some assistance towards the cost of an appeal against this decision, I am quite willing to join in the expense, and allow my case to be made a test case in the interests of tenants and flower growers generally. Should you deem this worthy of insertion, those of your readers who wish to help in this important matter, may forward their names, addresses, and amount they promise to contribute, to Basil E. Greenfield, Esq., Solicitor, 17, Katherine Street, Croydon, and they will receive an acknowledgment in the paper they choose to name. In writing please write the word 'Appeal' on the outside of the envelope."

THE PRIMULA CONFERENCE.

FROM a copy of the programme of the Primula Conference, to be held in April, 1886, under the auspices of the Royal Horticultural Society, it appears that an exhibition of these interesting plants will be held in the conservatory at South Kensington, in conjunction with the exhibition of the National Auricula Society. The President of the Conference, John T. D. Llewelyn, Esq., F.L.S., and the chairman of the committee, Dr. Michael Foster, F.R.S., are supported by a numerous committee of gentlemen interested in the subject in this country, both amateur and professional, as well as by the representatives of a large number of the chief Botanical and Horticultural Gardens and Museums abroad. It is proposed that the plants to be exhibited shall be ranged under eleven classes, namely: I., the Auricula; II., the Primrose and Polyanthus; III., varieties of Primula Sieboldi; IV., varieties of Primula sinensis; V., European species, varieties and hybrids of the genus Primula; VI., Himalayan and other Asiatic ditto ditto; VII., Chinese and Japanese ditto ditto; VIII., American ditto; IX., plants allied to the genus Primula, such as Cyclamen, Dodecatheon, Androsace, Cortusa, etc. (the species only, and not garden varieties will be admitted); X., Primulaceous plants grown to illustrate special modes of culture, etc.; XI., specimens, models and drawings, illustrative of the structure and mode of growth of Primulaceous plants.

In order to assist in the arrangement of the European Primulas at the exhibition, Mr. J. G. Baker, F.R.S., has kindly drawn up for the committee a list of European Primulas, classified in three groups, published as an appendix to the programme, which may serve as a preliminary basis for the discussion at the Conference, and also as a guide, so far as possible, to the exhibitors, in giving names to the plants.

The provisional programme of the Conference on April 24th, 1886, includes (1) the origin and history of the florists' Auricula, on which subject an introductory paper will be read by Mr. Shirley Hibberd; (2), the directions in which efforts should be made with the view of improving the florists' flowers belonging to the genus Primula, introductory paper by Samuel Barlow, Esq., J.P.; (3), the nomenclature of Alpine Primulas, introductory paper by Mr. J. G. Baker; (4), culture of hardy Primulas, introductory paper by Dr. Maxwell T. Masters, on root structure and mode of growth, as affording indications of the probable best culture.

DUKE OF BUCCLEUCH GRAPE.

"S. W." in a contemporary lately wrote a short note which had for its sole aim and object the disparagement of this Grape. "S. W.'s" signature bears a close resemblance to a slightly longer one which has for some years been associated with personal attacks, and rather bitter, if smart, writing. A reply to that note has appeared, and a number of *facts* have been given, which will surely have more weight than "S. W.'s" vague remarks and baseless assertions. Looking over some old gardening papers the other day, I came upon an account of a show held in Edinburgh, on September 10th, 1879, in which Duke of Buccleuch is noted thus: "Muscats, Golden Champion, Duke of Buccleuch, Alicante, Lady Downes, and the more recent novelty, Alnwick Seedling, being simply superb;" Mr. McIndoe had "most splendid Duke of Buccleuch." "The blue ribbon for the coveted prize of eight bunches fell to a new exhibitor, Mr. A. Kirk, Ernsfrie, Castle Douglas, with an evenly good lot, not a bunch under 3½ lbs. in weight, and some of the biggest approaching 7 lbs." "They consisted of Duke of Buccleuch, etc." The second prize fell to Mr. McIndoe, who had among other kinds "Duke of Buccleuch, in splendid style, and Forster's White Seedling, which looked like a Currant Grape alongside of the noble, but much abused Duke, clearly showing what cultivation can do." "For four bunches of Grapes, Mr. McIndoe and Mr. Kirk exchanged positions, the former having 'Duke' and Muscat of Alexandria, grand, and the latter the Duke and Buckland Sweetwater, very fine indeed." At the same show we again find the "Duke" in the class for twelve bunches, six white and six black. This notice is in *The Gardeners' Chronicle* for September 13th, 1879.

Looking back among some other old papers I came upon the following, among many more notices of the Duke being shown in various parts of the kingdom, at the Dundee International Show:—"For two bunches of the Duke of Buccleuch, which was exhibited in many parts of the hall, Mr. Ballantyne, Duloch House, Inverkeithing, Fife, has been awarded first. His bunches were large and clean, and not quite so green as the second prize two from Mr. Dickson, St. Andrews." I may note that the next sentence of the same report is this:—"For two bunches of any sort of white Grape Mr. Goodacre came in first with splendid Golden Champion"—another very much abused Grape. I quote in this instance from the *Journal of Horticulture* for September 14th, 1876.

The "Duke" is very often mentioned in glowing terms in reports of shows both prior to, and after, the cases that I quote here. The present year has seen it displayed in first-class condition at various shows. Grant that it has peculiarities which require special attention, it is worthy of all the trouble that can be bestowed on it; no other Grape can approach it for appearance and quality when successfully grown. It is so juicy, has so few seeds, and such a thin skin, that no Grape can beat it for refreshing lusciousness. Peculiarities in its treatment have been so often noted that I need not enlarge on them. Suffice it to say, that long spur-pruning, running up young rods, careful attention as regards moisture—both at the root and in the atmosphere, keeping it rather drier than most other Grapes, and not watering the border at all after the second swelling

has begun, the use of the gimlet or knife to check the flow of the sap, these are some precautions which can easily be taken by anyone at all anxious to succeed with the Duke of Buccleuch.

Criticism is not objected to when fairly done; but sometimes evidence is not wanting to prove that something more than mere professional difference of opinion is the cause of the appearance from time to time of paragraphs bearing almost unmistakeable signs of emanating from a certain writer, better known for his peculiar style of personal attacks, than for his impartial discussion of various subjects with a view to advance the interest of horticulture generally.—*J.*

CHRYSANTHEMUM NOTES.

By the time these notes appear all Chrysanthemums should have been got under shelter, whether in the greenhouse, conservatory, or under some temporary covering to protect them from frost. If possible a dry day should be selected when they are being housed, for if the plants are housed when the foliage is wet they are liable to be attacked with mildew. The time is now drawing near when the grower will be amply repaid for the months of careful attention he has paid to his plants, and what useful plants they are to the amateur with his unheated greenhouse, for by their aid he can have a display of bloom from September till Christmas.

All the plants should now be well set with buds, and should be kept regularly supplied with manure-water until they show colour. Air should be given freely, especially in the daytime. If any signs of mildew should appear, the plants should be lightly dusted with flowers of sulphur. The summer-flowering varieties will make a good display until the late-flowering varieties come in, and these consisting of early and late sections are most valuable for prolonging the display of bloom.

Among the earliest (of the late varieties) to open are Galatea, Emblem, Frizon, Colibri, &c., followed by Le Chinois, L'Africane, James Salter, Elaine, Mrs. Rundle, Mrs. Dixon, George Glenny, Red Dragon, Gloria Mundi, White, Golden, and Lilac Cedo Nulli, and the single varieties such as Henry Irving, Magenta King, Mrs. Laugtry, Coachman, and others. The later varieties following the above will keep up a good display of bloom and enliven the greenhouse until the Hyacinths and others bulbs commence to flower.—*W. E. Boyce, Yerbury Road, Holloway.*

LATHOM HOUSE, ORMSKIRK.

A collection of Orchids is being rapidly formed in this establishment, and three compartments have been erected for their accommodation. The central division, which is much smaller than the other two, is devoted to plants in flower, so that they can be inspected with a greater degree of comfort than in the houses they are grown in. Here Cattleya crispa superba was in good health and flowering freely, and fixed at such an elevation (like the others) that it required no effort on the part of the spectators to view it thoroughly. Oncidium varicosum was represented by several flowering specimens, and O. flexuosum, which is slightly inferior, though we prefer it to many of the dirty chocolate-coloured varieties. Cypripedium Sedenii had twelve strong spikes, and Zygopetalum Gautieri had four well-flowered spikes 12 ins. long. Small but healthy plants of Odontoglossum Alexandræ were in various stages of inflorescence. Calanthe Veitchii is remarkably well done, being grown by the score on one side of a span-roofed house, not intended for Orchids; the remaining space in this division being occupied by Crotons, Dracænas, Pandanus Veitchii, and other ornamental plants for table and other decorations in the mansion, and which are frequently conducted on an extensive scale. A batch of about three dozen of the leading species of Phalænopsis were looking happier than they usually do in a snug corner of another division.

As others may be tempted to pay a visit to Lathom House, it will be as well to state that it may be reached either from Burscough Junction, or Ormskirk, just as the traveller may be proceeding to or from the North, and the distance from both stations is the same, or about half an hour's walk; visitors who are unable to walk, however, should pass Burscough Junction, and drive from Ormskirk, where plenty of conveyances and willing drivers are ever ready to offer their services for about half the sum it cost us, a party of three, for the hire of a trap at Burscough.—*Visitor.*

MICROLOMA OR WAX CLIMBER.

Mr. H. Halleck, the President of the Naturalists Society of Port Elizabeth, South Africa, displayed his extensive knowledge of the Flora of South Africa, when in a recent address he selected this lovely plant as a worthy example of the beauties comprised in it, and saying of the Microloma that it is a lovely little gem as seen growing wild, and still more beautiful when brought under cultivation.

For my part I consider it one of the handsomest and most desirable plants I ever saw, and I often wonder how it is that such a beauty has escaped the gardeners in England, for I never saw it there or anything like it. The variety I find in this locality has very narrow dark green leaves, and stems like thin green wire. It is found growing in gravelly loam quite out in the open

Microloma or Wax Climber.

plain with no shelter for a distance of fifty miles. It is in flower all through our winter, and the flowers are not the least affected by wind or rain, always the same whenever you see them, and always clinging to some bush or other support near. The flowers are borne in clusters of from four to twelve, erect, after the manner of some of the Hoyas. Each individual flower resembles a tiny vase five-angled, bright scarlet suffused with pink, exactly as if made of scarlet wax and glazed. The plants last a wonderful time in bloom, you see them in May, and still, while I am writing in September, they are always the same—always bright and pretty.

As a cold frame, greenhouse, or conservatory plant I have never seen anything more likely to form a favourite, and easily cultivated plant for growing in English gardens. I often think what a treasure it would be for trailing over vases for table and indoor decoration, it being as graceful in foliage as the Mrysiphyllum, and has, in addition, its beautiful and lasting flowers. It may be grown as a trailer for trellises or in pots either as small or large specimens, all that is necessary being to place a requisite number of light twigs for it to trail over, they will soon be covered and almost hidden from view. Anything short of actual frost cannot hurt it, and I hope to hear some day that it occupies a place in gardens at home.—*James Hall, Port Elizabeth, South Africa.*

TOMATOS AT READING.

A few weeks since we gave some particulars of a very interesting trial of Tomatos made during the present season in the Messrs. Sutton & Sons' London Road Nursery, Reading. The peculiarity of this trial lies in the fact that the plants were grown absolutely in the open, and very much as market gardeners cultivate Tomatos for sale; but probably the style throughout was neater, and that abundance of manure for mulching purposes, so common in market gardens, was altogether wanting. We may mention in evidence of the trial that some forty or more kinds, inclusive of most of the best known sorts, were included; that it comprised eleven beds, each containing 156 plants put out in pairs, three pairs in a row, and each plant trained to one main stem only, and supported by a stout stake 5 ft. in height. Thus there was a total of some 1,700 plants, quite a remarkable collection. As the utmost impartiality has been shown in the trial, the firm being only anxious to obtain a true line as to the merits of sorts under this mode of culture, the test naturally possessed material interest, especially as no fruits had been gathered, and the crops, whether as respects earliness or prolificacy, were left to tell their own tale.

Taking them in the order of planting, we found an entire bed devoted to that now popular variety, Chiswick Red. Probably this wondrously prolific and plum-shaped kind is universally known, and here its cropping qualities were well shown, for the produce was of the heaviest. All the ripe fruits were fine, and had thinning been practised, no doubt these would have been larger still. Here it showed not only great cropping qualities, but also earliness, for its fruits compared well with those of any other kind for colour, except a specially early and very meritorious sort, Earliest of All, which certainly seems to be admirably named, for here it was much the earliest and carried far more of ripe fruit than any other kind. It ought to make a very popular variety for market growers for this kind of outdoor culture, as precocity is of the very first importance. The fruits are of good size, flattish round, rich red in hue, and a trifle sutured, though later ones improve in form. It is a peculiarity of many kinds that the earliest fruits are the most corrugated. There was an entire bed of this kind to show character, and nearly an entire bed was filled with Sutton's Main Crop, which, if a little later, is a fine kind, fruits large and handsome, and is an enormous cropper; indeed, it is wonderful how the single stems can produce and carry such an exceeding weight of fruit. This kind gives a rich colour, and is one of the best in the whole collection.

Powell's Early follows, a fairly early and once popular kind, now much superseded by improved and more productive kinds. Vick's Criterion, with its egg-shaped fruits of a carmine or brick-red hue, carried a good crop, and must be ranked as a second early ripener. Bliss's Paragon gave but a moderate crop, but the fruits were fine, handsome, and of a rich colour. Acme had a moderate crop, and was apparently lacking in constitution for outdoor work. Stamfordian, which has so often been represented on show tables by fine and handsome fruits, here showed a weak constitution, cropped well, but the fruits were exceedingly sutured and large. Hathaway's Excelsior is so well known as to need little reference, but here it cropped but moderately, whilst the fruits were very handsome. Trophy gave a moderate crop; indeed, judging by the numerous racemes of flower-stems hanging, seems to have been a shy setter outdoors. Golden Trophy is a yellow reproduction of the previous kind, but like all the yellow sorts here, seemed to lack the average robustness shown by the red ones. Large Yellow came very near indeed to Golden Trophy, though seemingly a little better cropper, but here neither displayed any particular merit.

The Large Red so well known in the market trade gave but moderate growth, indeed, as weak as any kind in the entire trial. The fruits were much sutured, and ripened fairly early, but on the whole was considerably behind the stock of Main Crop. Sutton's Cluster is a

large graceful Tomato, and is very pleasing indeed for decoration, and excellent for preserving whole; this fruits finely, ripens well, and is a very meritorious kind. Williams' Seedling proved a very fair cropper, the fruit handsome and well coloured, and a robust grower. Williams' Golden Queen is also a fair cropping kind, the fruit is of a rich golden hue, and very handsome in form. Hackwood Park, one of the Excelsior type, presented weak growth, the fruits small, and late in colouring. Mayflower, a new American kind, carries fine fruits of a rich red hue, of the Excelsior type, is a moderate cropper, and not very robust, indeed, several kinds raised from American seed seemed to lack the strength found in English or continental seed strains. Cardinal is very much like the preceding kind, fruits handsome, and of a beautiful rich colour, but is a shy cropper. Canada Victor is large, but possessing no special merit. Blount's Cluster seems to be a fine and very promising kind, it is a moderate grower, fruits freely, generally a handsome sample of deep red hue.

Hartington is another American sort, rather more robust than some other kinds, but exhibits no other merit. Smooth Round and Small Round seedlings are selections which seem to need considerable fixing. The tendency on the part of some forms of Tomatos to sport from red to yellow, and from yellow to red is remarkable. Nisbet's Victoria and Dickson's Queen of Tomatos are both medium-sized Pear-shaped kinds, pretty enough, and very fruitful, but not otherwise valuable for outdoor culture. Other yellow kinds than those previously mentioned are Golden Eagle, a very poor doer; Golden Acme, a yellow form of Acme; Greengage, now so well known as a yellow sport from Excelsior and Golden Plum, a yellow form of Chiswick Red; whilst King Humbert is something like the latter, but less robust. Trentham Fillbasket is a moderate cropper; so also here is Reading Perfection, though such a fine doer under glass. Garfield is a gigantic kind, fruits perfect monsters, but unripe and ungainly. Vilmorin's Early, Glamorgan, Plum Shaped, and various others, call for no special comment. Generally the result of the trial indicated that nine-tenths of our Tomatos are only adapted for warm wall or glasshouse culture.

AN EARLY FROST.

In Scotland we have suffered severely from early frosts. On the 1st of September, 7°, 8°, and even 10° were registered in different parts of the country, and the damage done to Potatos has been very serious. As a matter of course, all tender things came to grief, and many kitchen and flower gardens presented a miserable appearance on the day following this severe frost. It becomes a serious question for consideration whether it is worth while now-a-days to continue bedding out many plants that are sometimes nipped by late frosts in June, and are killed entirely by such a severe frost as we suffered from on the 1st of September. If our seasons are to continue deteriorating as they seem to be doing, we may expect to have frost and snow in the middle of what used to be summer, and in consequence many plants at present cultivated for flower garden decoration and for kitchen garden use, will have to be discarded, or else relegated to pits and frames, where they can be protected, and be made the subject of reflections on the change of our climate, by men who have seen times when we had a spring and summer distinguishable from winter, and who can point to them and tell the young men they may be training, that these "grew outside a few years ago."

Some people think that we are only suffering from a temporary depreciation in the value of our summers, and that in a short time we shall be able to mark the bounds which divide winter from summer—not to mention spring. The cultivation of the numerous beautiful and hardy Japanese shrubs should be largely increased if our climate is still going to remain "chill and drear." They will stand all kinds of ill-treatment from "Dame Nature," and are becoming very cheap.

There are numbers of hardy shrubs which display beautiful flowers as well as handsome foliage, these should be more extensively planted, also many more of the numerous family of herbaceous plants which can stand frost at any time.

The labours attending ordinary "bedding out" plants are hardly duly rewarded by a brief display in midsummer, especially when there is the risk of seeing many of them either injured or killed by late and early frosts.—*Scotia.*

SCOTTISH GARDENING.

Notes of Observation: The Madresfield Court Grape.—This Grape is only grown extensively in very few places, but where it can be cultivated free from the tantalizing "cracking" of its skin, its fine qualities are thoroughly appreciated. Its handsome appearance, its immense berries, and its very refreshing and distinct flavour, are qualities so prominently developed that the most fastidious palates of connoisseurs are generally satisfied. The cracking infirmity has done more than anything else to exclude it from choice collections of Grapes. What is most curious in connection with this "cracking" infirmity is, that one may see it in a bad form in some places, while in others the fruit is quite exempt from it, even though no special care is taken to prevent it, drenchings of water being given *ad lib*, and the fruit remaining intact to the last. We observe that the skin is very thin and tender, which sometimes causes premature decay. The berries require to be thinned with extra severity, and to be done by an experienced hand. This season we suffered a little by the jambing of the berries through insufficient thinning, they swelled out to a much greater size than we had seen them do before, and such is the only excuse we have for our mistake. It seems curious that a mere spindle of a vine (a supernumerary) cropped so heavily as the one referred to should produce berries of such a size, colour, and fair bunches (about 2½ to 3 lbs. weight) seven of which were on a small rod 8 ft. long.

It is a mystery with some other fruit trees, besides vines, why thin wiry wood often bears as heavy crops of better fruit as wood doubly strong, and to all appearance thoroughly ripened. The cracking process has also something mysterious about it, as we know that in some places it is never seen, even where nothing is done to prevent it. A proprietor who is a keen observer in all matters horticultural, told us that cracking was never seen in his vineries, and we know that in these structures plants are grown extensively during the ripening period of the Grapes. Camellias are planted along the back wall, and moisture is liberally supplied to the flowers and roots (they are outside in a very low lying spot) along with the other vines which number five or six kinds—in the same house, and nicking or "boring" the wood is never practised. I fear that, notwithstanding all we have read about the misbehaviour of this Grape, we are ignorant of the true cause of many of its eccentricities. We purchased this Grape (a two guinea vine) when it was first sent out, and recommended it to others. We first saw it at the "Royal" when it held its provincial show at Leicester. Some of the friends to whom we recommended it were successful in its cultivation, while the examples which we grew were almost worthless, and we were taught the lesson, which is sometimes ignored, that when others attain perfection in cultivating a fruit or anything else, we should attribute our own failure with the same to our own want of knowledge and not to inherent defects in the thing itself, as is too often done, not only in the case of the Madresfield Court Grape, but with Golden Champion, Golden Hamburgh, Duke of Buccleuch, and some others of the very cream of Grapes.

Good Peaches and Nectarines.—Among the best kinds which we have seen this year, are, Dr. Hogg, Sea Eagle, and Princess of Wales. While their appearance has been nearly all that one could desire, their flavour when well ripened in a dry and bracing air has also been of first quality. The handsomest Peach we perhaps ever saw, was Sea Eagle, but while admiring these we have not lost our esteem for Bellegarde, Royal George, Noblesse, and Barrington, which always hold their own whether on the dessert table or exhibition benches. Novelties among Peaches are not yet shunting the old kinds familiar to us in our youth. Among Nectarines we have seen a greater variety this year than heretofore, and the much abused Lord Napier, both in pots and and trained on trellises has been well to the front, and at one extensive place we know, it has been much appreciated both as a cropper and for dessert. Violet Hative, Elruge, and Pitmaston Orange, among a host of others in the same gardens, were decidedly in every respect second to none. Queen Victoria we find is one of the hardiest and best croppers we have seen. A maiden tree, which we planted two years ago last August, from a box in which the roots were laid out flat till the glass structures were ready, has perfected about 130 fruits, some of which were grown in clusters. Though not one of the handsomest of Nectarines, it is a very free bearer, very hardy, and the flavour is fair. As good trained trees are not easily found, we would advise the purchase of maidens, using the knife at first only to thin out the shoots should they be too numerous. Train them at full length, either fan shape or horizontal, and the second year they will grow to the top of a 10 or 12 ft. high trellis, cover a good width, and form a very handsome tree as well.

Fly on Cabbages, &c.—Vermin has this year been something like a calamity in every locality which we have visited. Cabbage, Cauliflower, Brussels Sprouts, &c., have been smothered with a green fly which has almost destroyed the whole crops, and in some cases have defied every effort of persevering cultivators to eradicate the unwelcome intruders. I think we have suffered as bad as most people, but have kept master of the situation, by applying liberal dustings of soot and lime; though it has been a struggle to get plants to grow, we never was better pleased with the produce, not a yard of space being vacant.

Turf, Vegetable Refuse, &c.—Old gardens which have long been well supplied with manure, and may be fairly well cultivated, sometimes cease to give satisfactory returns for labour and attention expended on them. Where a depth of soil cannot any longer be brought to the surface to renew what may be considered the upper crust, much good can be done by withholding manure and turning in very liberally a good quantity of turf, fresh soil of any kind, and garden refuse. The complete transformation of soils by liberal additions of such materials is very marked, and to every portion of ground in which such material has been well incorporated one can easily point. Now is a good time to trench in such material, and where rubbish is accumulating a sanitary improvement will take place and economy be maintained. A good plot of ground prepared in this way, and Cabbage planted thereon, will give satisfactory results. We have often seen great quantities of useful material for land wasted when it might have done much to improve the tilth in gardens. It is supposed that at this season large breadths of ground in vegetable gardens should be empty, and turned up to the influence of the weather. Where it is absolutely necessary that ground should be vacant, the turning of it up to the weather will in all likelihood improve it; but we do not consider it a well-managed garden to have much vacant space at this season of the year. Where close cultivation is practised, every part of the ground at present should be covered with good vegetables. Where such has to stand through the winter, we prefer healthy well-trenched land, renewed and sweetened by fresh soil, in preference to heavy applications of manure. Strawberries which have stood three years, trenched down with all the trimmings of other Strawberry plots, puts land into fine condition for spring crops.

Gladioli in Pots.—Gladioli for autumn and early winter decoration of conservatories are of much value, both for appearance and for cut flowers. Planted late in pots, and in good rich soil, they throw up fine spikes, say during October and November. A few dozens placed among dwarf plants less showy, throwing up their spikes clear and distinct, give a lively appearance to the structure in which they are placed. When the flower-spikes appear, liberal waterings with liquid manure should be given. Gladioli with good bold spikes, and not insignificant in quality, can be bought very cheap. What growers call their seedlings are often found to be useful.

Pansies from Seed.—Seeds may now be had from the leading growers which will give 90 per cent. of fine flowers, and few bad ones will be seen in the whole stock. Some seeds which we had sent here for trial have turned out far beyond our expectations. A strip of peaty ground, not very rich, has produced the finest lot of flowers we have seen from seed. They were planted out good plants from the seed-boxes during May, and have flowered ever since. Several Pansy fanciers have been to criticise them, and have done so most favourably. They have had very little attention at our hands, but do credit to the vendor of the seeds, Mr. Forbes, of Hawick Nurseries, a grower who is making a speciality of florist flowers. It is sometimes believed that Pansies flower most profusely in rather poor soil. We have never noticed this to be the case. In deep well-broken ground, well enriched with rotten cow-manure, and in the full sun, the finest Pansies we have ever seen were grown.—*M. T.*

Scottish Horticultural Association. — The seventh ordinary meeting of this Association was held in the Bible Society's Rooms, St. Andrew Square, Edinburgh, on Tuesday night. Mr. Lindsay presided. Dr. J. M. Macfarlane, of the Royal Botanic Garden, Edinburgh, read a paper on "Nepenthes," in which he drew attention to the history, general structure, affinities, microscopic structure and physiological action, species, and cultivation of this curious class of plants. He stated that about forty species were known, of which about twenty have been introduced during the last thirty years. He pointed out the arrangement by which insects are caught in the pitchers of the plant, and drew attention to the very remarkable peculiarities in the species which have been introduced, as well as in those that are still known only in dried specimens. A discussion followed, during which the Chairman stated that the first seedling Nepenthes raised in Scotland was reared by Mr. Kelly, of Messrs. Dickson & Sons' Nursery, Edinburgh, about forty yeas ago. Mr. F. W, Burbidge, of Trinity College Botanic Garden, Dublin, gave the result of some of his observations in Borneo, the principal habitat of pitcher plants. Various exhibits of new varieties of fruits and flowers were shown, as well as a fruit new to Europe—Aberia Caffra, the Kei Apple of the Cape, ripened at La Martolo, Italy, and likely to be a serviceable half-hardy fruit, suitable for cultivation in peach-houses in this country, for making preserve, or for preparation as a pickle without vinegar as used by the Dutch settlers.

The Vineries at Barassie.—The extensive vineries at Barassie, concerning which I sent you a note a few weeks ago (p. 42) have been purchased by the gardener, Mr. Cockburn, for the sum of £1,100, and he will now carry on the place as a nursery and fruit garden. The grounds secured occupy about two acres. It may interest some of your readers (but not if they are growers) to know that good hothouse Grapes are being sold in Edinburgh at 1*s.* per lb.—*J. D.*

STOBO CASTLE, PEEBLESHIRE.

The gardens at Sir Graham Montgomery's are well worthy of a visit, no matter at what season of the year one may happen to be in the neighbourhood. I was particularly struck on the occasion of a recent visit with the glorious blaze of flower in the house specially set apart for the display of zonal Pelargoniums, a class of plants which, by the way, I was pleased to see you notice in last week's issue under the head of "The Zonal Pelargonium to the Fore Again." The house is a lean-to, 70 ft. long, and as the back wall (12 ft. in height), as well as the broad stage in front is literally clad from top to bottom with healthy, well-grown plants, the sight on entering is one not easily forgotten.

Through the courtesy of Sir Graham, the gardens are open to visitors during the season, and this past summer and autumn many seemed to have called simply through the fame of the Pelargonium-house having been noised abroad. Mr. Borthwick, like all gardeners, has his favourite sorts which he grows in quantity ; but every year new sorts are added, and varieties which have been improved upon discarded. Mrs. Clifton, Col. Holden, Miss Laura Walters, Helen, The Rev. Mr. Atkinson, Henry Jacoby, Duchess of Edinburgh, Niphetos, Lady Sheffield, Lady Chesterfield, Lord Zetland, and Aline are among the sorts approved of. In order to give a little variety, the back wall is covered here and there with well-grown examples of Fuchsias, sweet-scented Geraniums, Clematis, and Heliotrope. The collection of herbaceous and Alpine plants at Stobo Castle is very complete, and we are glad to notice that although bedding is carried out extensively, this department has not been neglected.—*D. P. L.*

Carter's Dedham Favourite Tomato.—Mr. Neve, the gardener at Bently Priory, who is a noted plantsman, and a most successful grower of fruits, considers this the finest of all Tomatos for the general crop, and therefore cultivates it almost exclusively, only Trophy being grown besides. Mr. Neve grows Tomatos largely, every available house being made to bear a crop, and Cucumbers and other things are immediately succeeded by Tomatos. In some houses, beds 1 ft. wide, and 1 ft. 6 ins. deep, are made up between the piping and the wall as required, and in these the plants are planted and run up on single stout stems. When so grown, the plants are most manageable and prolific, and the large handsome fruits of the Dedham Favourite frequently reach 14 ozs. or 15 ozs. in weight.

The Amateurs' Garden.

THE FLOWER GARDEN.

Protecting Tender Plants.—The sharp spell of cold with which we have recently been visited, forcibly reminds us that winter is at hand, and that frost, cruel and destructive in its visitation, will soon be upon us, which being so, it is high time to look round and see what plants there are of a tender nature to be saved, as any night now they may be laid low and killed. Heliotrope, Verbenas, Ageratums, and all others of that class that propagate readily are best struck in the spring, and therefore it is useless saving more than just enough of the old stock to afford the necessary cuttings, but with Pelargoniums the case is different, as aged plants of them flower so much better than young ones, and as they may be stored and kept readily in a small space, it is advisable to winter the greater part of those now in the beds. The way to do this with safety is to lift them carefully, and then cut them back right into the hard or ripe wood, only leaving two or three buds at the base, and after this is done and the roots shortened a little, they may be laid in closely together in fine sandy soil in boxes or pots, when they should have a watering and be stood on shelves in any light airy house.

Planting Bulbs.—With the beds or borders cleared of their summer occupants, the next thing to think of is filling the places by planting bulbs, most of which are better got in early as it gives them time to root before they are called on to make top growth, and they are then able to send up fine heads of flower. In cases where they are to be planted in masses the beds must be prepared by being manured, dug, or trenched, and if the soil is at all close, it is advisable to work in some sand or leaf mould to keep it open so as to insure free drainage, and thus prevent the bulbs from rotting or suffering from wet, which they do unless rain can pass quickly through.

Arranging and Planting the Bulbs.—The arrangement of the bulbs is a matter of taste, some preferring them in rows of distinct colours, while others like to see them more mixed, the latter perhaps being more preferable, as greater variety may be had, and a good effect produced if the plants come into bloom all together. The proper depth at which to plant such things as Hyacinths, Tulips, Narcissus, and Crocuses is about 3 in., and when putting them in, it is a good plan to drop a pinch of sharp sand over each before covering, which helps greatly to keep the bulbs sound.

Grouping in Borders.—In borders the best way is to plant in groups or patches of three, placing the roots triangularly about 6 in. apart, but Crocuses need to go nearer. Protecting from vermin : As rats and mice are very fond of bulbs, it will be necessary to keep a watchful eye to protect or save the roots from their depredations, which can only be managed temporarily, by placing an inverted pot over each till the mice or rats can be caught.

THE FRUIT GARDEN.

Gathering Fruit.—The chief thing requiring attention in this department is the ingathering of fruit, but this must not be done indiscriminately, as sorts vary much in their order of ripening, some requiring much more time than others to hang on the trees, and if gathered too soon they shrivel and spoil. These remarks apply equally to Apples and Pears, both of which should be picked with the greatest care, and laid tenderly in padded baskets to prevent bruising, as any damage in that way, interferes with their keeping and brings on rapid decay.

Storing the Fruit.—The best place for storing the fruit is a cool airy room or dry cellar, where the temperature is low and does not vary much, as warmth causes early maturity and such a sweating, that the juices of the fruit evaporate, and the flesh shrinks and loses much of its flavour. What often spoils this too, is, using straw to lay the Apples or Pears on, for though the straw may be the sweetest and cleanest that can be got, it becomes tainted from being in a damp atmosphere, and soon affects the fruit with its odour. This being so, it is better to lay the Pears or Apples on bare boards, and only in single layers, so that they can be seen and examined easily to pick out any that show signs of not keeping.

Raspberries, Gooseberries, and Currants.—These are generally left in the same plantations for years, but it is a mistake to let them stand too long, as young canes or bushes bear far more freely than old, which become weak and worn out, and often without any buds on the lower branches, where they remain bare of shoots. One of the best situations for Raspberries is a half-shady position like that between rows of Apples or Pears, or along side of a wall or low building, as in places of that kind they do not suffer from heat and drought in the way they do when standing out in the open. To grow Raspberries well, the ground must be heavily manured and broken up deep by digging or trenching, as it is only when the roots of the plants can ramify freely and find plenty of food that they bear large crops of fine fruit.

Planting the Canes.—The proper distance to plant the canes is 4 ft. apart, and as it exhausts the plants to take fruit from them the first year, they should be cut down nearly close to the ground, which will cause them to break very strong from below, and send up some vigorous shoots. Gooseberries and Currants succeed well enough in poor land, and to economise space and facilitate gathering, they should be planted near the edges of walks or paths, where they look well and get plenty of air and light on both sides of the rows.

THE VEGETABLE GARDEN.

Celery.—This promises to be unusually fine and good this year, the late rains having come well to set it growing fast, and while it is doing this it is better without any earthing up, the only good of putting soil to the plants at all being to blanch them, and if that could be done in a more cleanly and less troublesome way it would be preferable, as the soil harbours worms and slugs, which get into the hearts of the Celery, and often spoil it for use. What we have done with ours this year is to bind it round with sea-weed, which has answered admirably for the early rows, while the plants in the later are being tied to keep them close and compact, and the leaves together, ready for moulding up before sharp weather sets in.

Cauliflowers. — These, too, have been greatly benefited by the wet, and keep turning in grandly. Veitch's Autumn Giant is a long way the finest and best for this season, and to save their heads from frost the leaves should be tied or bent over the flowers to preserve them till they are wanted for use. Although young plants will sometimes stand without protection, they only do so in mild winters, and to make sure of them, must either be pricked out close up against a warm sunny wall, or sheltered under hand-lights or an old frame, where they must have plenty of air to keep them from drawing

Cabbages.—The earliest batch of these ought now to have got well hold of the ground, and should be hoed between to prevent the growth of seed weeds, and to stir the surface, which aerating is very beneficial to all young crops, and keeps them healthy and strong. The grub has been very busy, and is yet very troublesome, eating up the plants, which should be kept filled up in the rows, but it is useless doing this till a search is made and the insects destroyed, as they travel on from place to place and devour all that they find.

Scarlet Runners.—There seems no end to the bearing capabilities of a good row of Scarlet Runners, which are only stopped by frost, but as this may come now any night, it is only wise to keep them closely picked as they turn in, and lay them on a cool damp floor, where they will remain fresh and fit for use for a week or two. Any that have been over looked, and are forward enough for seed, should be gathered and saved for that purpose, and especially any pods that are large and long, as by selecting them an improved stock may be had.

Tomatos.—These have now begun to show the effects of the season, as the cold is telling on the plants, and it is useless leaving any fruits exposed longer, as they will ripen under glass on a warm dry shelf if it is fully grown and changing colour when cut.

Spinach.—This is a vegetable that slugs are very fond of, and to prevent their ravages the beds should have a dressing of soot, which ought to be sown on when the plants are dry, and the ground stirred after by running a Dutch hoe over the surface to disturb and break up the clods.

NOTES FROM GARDENS.

Oakbrook, Sheffield.—Amongst the many fine suburban residences in the neighbourhood of Sheffield, this is one of the principal. The princely mansion was built by the late Mark Firth, Esq., and is still occupied by his widow. The gardens and park-like grounds which surround it are about twenty-six acres in extent, forming a slope from the mansion towards the south, the lowest portion of which is part of the old Endcliffe wood. About a 100 yards from the east front there is a little valley, and a stream of water which supplies a piece of ornamental water, and close by this valley are four golden Irish Yews and two Oaks planted by members of the Royal Family, and all of which are doing well. The Yew trees were planted in 1875, by their Royal Highnesses the Prince and Princess of Wales, on the occasion of their visit to Sheffield to open the Firth Park, which was given to the town by the late Mr. Firth. The two Oaks mentioned were planted a few years later by the late Duke of Albany, who visited the town on the occasion of the opening of the Firth College, which was also given by the same philanthropist, whose name will for ever live as an example to others, by his many acts of generosity to his native town.

On the west front are the flower gardens, which at the time of my visit, September 23rd, were very neat and gay with bedding plants, including some excellent examples of carpet bedding; this part of the garden is well protected from the east by the mansion, and from the north by a good range of glass, in front of which are some borders of single seedling Dahlias, with many shades of bright colour; these are not tied to stakes, as we generally see them, but laid down at the time they were planted and allowed to grow naturally, by which method they grow dwarf and look much better. We next enter the range of glass, which is divided into four compartments, the first is a stove in which are several healthy Orchids and decorative stove plants, amongst the latter being a plant of the double white Clerodendron, too seldom seen amongst collections of plants. The next house is a lofty conservatory, the centre of which is occupied by large Camellias planted out, full of vigour, and well set with fine promising buds. These Camellias were not in this condition when Mr. Woodcock, the gardener, took charge three years ago, and he attributes his success in their culture in a great measure to the application of Beeson's manure, and a good supply of water. The side stages are filled with decorative plants.

The other two houses in this range are vineries, bearing good crops of fruit. On the back wall of one of these vineries are some fine plants of Sericographis Ghiesbreghtiana, which grows very vigorously, and flowers profusely during the winter months. Continuing our steps westwards we come to a very high wall which protects the fruit garden from the north winds; this wall is planted with two sets of trees, the lower part with Apricots which reach about half way up, the upper part being covered with Pears, grafted on long stems, most of them carrying heavy crops of fruit. On the west side of this garden there is a range of Peach houses having an east aspect, which is not favourable to the production of the best fruit, but under Mr. Woodcock's careful management fine crops are annually produced. In front of this glass range stands four rows of Chrysanthemums stout and vigorous, which have the appearance of "life-guardsmen" in training for a fierce battle.

In another span-roof conservatory, which runs north and south at one end of the tennis ground, the centre of attraction at the time of my visit was the Lapagerias, red and white, both planted in boxes, one in each corner at the north end. The two plants cover a space of 252 sq. ft., with such a profusion of flowers hanging in clusters of eight or ten on a shoot; we calculated that they would average six expanded flowers to the foot. The boxes in which they are growing are very small, being only 4 ft. by 1 ft. 6 in. and 1 ft. 6 in. deep, resting on the hot-water pipes beneath the stage. I enquired of Mr. Woodcock how he managed to keep them in such a vigorous condition in these small boxes, and he replied that he gave them an annual top dressing of peat, loam, and charcoal, with the addition of a little Beeson's manure. At the opposite end of the house there are Tea Roses, which will, from their appearance, do good service in due season. The kitchen gardens are some distance from the mansion on the south side of the park, which is in two divisions, the upper part, which is about three quarters of an acre, the lower garden being about one acre, both alike producing fine crops of vegetables. The Potato crops, just lifted, were of good quality and free from disease. This department is quite in harmony with the others, which testify to the visitor that careful and good management is carried out by the gardener.—*W. S.*

PLANTS FOR FORCING.

(Continued from p. 59.)

Hard-wooded Plants.—Having in our previous notes dealt exclusively with bulbs and plants of a soft-wooded and herbaceous character, we now come to what may be termed the hard-wooded section, and which includes shrubs of various descriptions, both evergreen and deciduous, being equally useful and as valuable for early or late forcing as those subjects already noticed. At the outset it may be as well to remark for the purpose of avoiding a repetition, that in potting hard-wooded subjects, a somewhat different system must be adopted from that which is applied to plants of an opposite character, viz., they must be potted very firmly, ramming the soil into the pots with a stout stick made for the purpose. To many this may appear to be a very small matter, but let us reply to such by stating that in it lies one of the elements of success, and to ignore or disregard it in practice simply means failure.

Andromeda floribunda.—Although not one of the most popular shrubs, this is, nevertheless, well worth growing for the adornment of our conservatories in the early spring months; being very floriferous, and producing as it does an abundance of its greenish white blossoms, which are very useful for cutting, it ought not to be overlooked where winter flowers are in demand. It delights—as in fact most other subjects of its class do—in a somewhat peaty soil, it should be lifted from the open ground and potted towards the end of this month, and introduced into a gentle heat in December if it is required to flower before March.

Azaleas.—It goes almost without saying, that, these are unsurpassed for floral beauty and usefulness by any other class of hard-wooded winter and spring flowering plants, and amongst which they may be said to hold the same place relatively as does the Lily of the Valley amongst its class. There are so many good varieties, that we can make no pretence at giving anything like a full list of the best sorts to grow; regarding A. indica, however, it may be stated that the great majority of its varieties will be found suitable for forcing, and the same remark applies to the Belgian kinds. A. poutica has always been a great favourite of ours, owing to its peculiar, and to us, very agreeable odour. Its beautiful yellow flowers render it a very showy and attractive object when intermixed with Palms and other foliaged plants; being deciduous, time must be given to shed its leaves before potting, it must also be borne in mind not to attempt to force it on too quickly, otherwise there may be a premature falling off of buds. In A. mollis and its varieties—originally introduced from Japan—we have a race of Azaleas which has gained great popularity during the last three or four years, and in our opinion, justly so, as in form, colour, and size of flower, together with its handsome foliage, it is much superior to the Belgian and ponticum varieties. An additional merit also is its dwarf compact habit and sweet fragrance, or perhaps we ought to say strong smell, for sweet it most decidedly is not to all constitutions. A plant in flower in a small stuffy room, would give one the idea of a fox being huddled up in some warm corner after a hard day's hunting, at least, such was the remark made to the writer the first time he had occasion to use the plant for room decoration, but being in a fox-hunting country, and the individual not over strong at the time, no great heed was given to the expression, and the plant has been used for the same purpose many times since. Two parts peat and one part of loam will be found a suitable compost for these, and a moist warm temperature of from 60° to 65° with plenty of syringing overhead, will be found to answer all other requirements to bring this into flower early.

Deutzia crenata flore pleno and D. gracilis, especially the latter, should receive every attention at the hands of their cultivator, as they are of inestimable value in a variety of ways for decorative purposes. Many grow on the plants into flowering stuff in pots, and we do not wish to deprecate the system as it is the only successful one to follow in some of the northern counties, still, we think by far the better plan to adopt in the south is, to plant out in the open border in May, and lift again early in October. Of course, they must have a sunny position and good soil to grow in, as well as receive every attention in the way of watering, staking, and tying. Treated thus, we get strong sturdy plants with well ripened wood, capable of producing large quantities of bloom.

Kalmia latifolia deserves passing mention as being an old North American shrub introduced in 1734, and specially adapted for winter forcing, It is seldom, however—at least not generally—met with now-a-days, and yet, we can hardly say for why, except it is that some of the more recent introductions have knocked it out of time; be that as it may, we have in it a very pretty free-flowering shrub that is worthy of commendation for forcing.

Lilac.—Charles X. and Persian are unquestionably the best sorts for this purpose, so also are imported plants, *i.e.*, if small plants in pots are wanted, and if they are required to flower at Christmas, these will stand plenty of heat and moisture. If, however, they are to be grown only for cut blooms and are wanted a little later than the time mentioned, we should much prefer to dig up bushes 6 or 8 ft. high, and as much through from the open ground, and which, if put into an early vinery, just started, and with a covering of soil 3 or 4 ins. deep over the roots, an incalculable amount of bloom may be cut, costing but little trouble or attention beyond a daily syringing overhead and an occasional watering at the roots.

Prunus sinensis alba.—The double variety is a subject possessing real merit, and may be briefly described as very pretty, very free-flowering, and easily grown.

Rhododendrons are amongst the most gorgeous and showy shrubs we have, concerning which a whole page might be written if one were to enter into details; to be brief and to the point let me here say, that named varieties, although more expensive than unnamed ones, will be found in the end to give by far the greatest amount of satisfaction. They may be potted up towards the end of this month, using peat only as a compost to grow them in; after potting, they should be plunged in coal ashes or cocoa-nut fibre refuse, there to remain for some few weeks before introducing them into heat. If there is one thing more than another that Rhododendrons will resent, it is hard forcing; they must be brought on very gradually, and on no account must they be allowed to suffer for want of water, neglect of either of these two points will most assuredly bring about failure.

Viburnum opulus.—The Guelder Rose is too well-known and popular to require any lengthened remarks, we will merely say that its large clusters of white flowers reminding one very much of snowballs, makes it a conspicuous and striking object when in bloom, and ought to secure for it a foremost place in all collections of plants for forcing. *J. H.*

THE FLAME NASTURTIUM.

Although this charming creeper, Tropæolum speciosum, was introduced into English gardens some forty years ago from South America, and although it is strikingly beautiful, and unlike any other plant wherever it thrives well, the fact remains that even to this day it is not generally cultivated, and is unknown even to many gardeners. In some parts of Scotland it grows in the most luxuriant manner, but in gardens on this side of the border many failures with it have been experienced, so many, indeed, that the unsuccessful in some instances believe the plant unmanagable except in Scotland. Such is not the case, however, for in various parts of the country we have seen the Flame Nasturtium growing to perfection, and as an example of what it will do, even in the neighbourhood of London, we gladly avail ourselves of the opportunity of giving an illustration of it growing over the porch of the Harrow School Sanatorium, where it has become so thoroughly established that every summer it forms an object of great beauty, its graceful slender shoots twining in all directions over the porch, and the shrubs beside it, and sending out its drooping sprays of reddish scarlet flowers in all directions.

As may readily be supposed by a glance at our illustration, which gives on a small scale the habit of the plant, and by reference to the spray above it the

natural size of the flowers and leaves, none could fail to be struck with admiration at the beauty of such an object, even the most apathetic must pause to contemplate such a lovely work of nature. Many have viewed it no doubt at the Harrow School Sanatorium, and longed for the possession of such in their own gardens. As there is no reason why their wishes should not be gratified, if they only go to work in the matter intelligently, let us endeavour to point out a few of the likes and dislikes of the plant, on the observance of which success or failure with it mainly depends.

Tropæolum speciosum has fleshy roots (like those of the Bindweed) which lie dormant in the ground all the winter, and in spring send forth their annual growth, it is therefore necessary that it should be planted where it will not get dug up while dormant; it likes to be left undisturbed, and we fear the use of the spade or fork about it before it could get thoroughly established will account for many failures — once established it is by no means capricious. In planting it is above all things necessary that a shady moist situation should be selected, and if not on the shady side of any structure (which is preferable), at least where trees or some other screen stands between it and the midday sun. It certainly prefers shade and grows infinitely better, and last much longer there than in the sun.

As regards soil, our observation proves to us that the quality of it is not of so much consequence as was at one time supposed, any moist soil on what is commonly called a cool sub-soil being suitable, but the plant seems to give the preference to loam, that at Harrow being almost clay. Any time between October and May will do for planting, and in planting it is best to plant pot-roots, which are easily obtainable; when planted they should be carefully marked, so that they be not disturbed, and although they will put forth a few shoots the first season, but little must be expected of them until the next and ensuing summers, when their fleshy rhizomes have become firmly established in the ground, after which time the plants will take care of themselves, growing and training themselves, and even finding their own supports if any other climbers or shrubs be near enough to cling to. The Flame Nasturtium, therefore, is an admirable plant for trailing among rockeries, ferneries, or rambling over shrubs, and decking them with its bright flowers in summer,

The Flame Nasturtium on the Porch of the Sanatorium at Harrow School.

and the handsome blue seeds which follow them at this season.

The greater part of the small-leaved creeper shown in our illustration is Tropæolum speciosum with its long sprays of flowers, the highest point over the entrance being densely crowned with the reddish violet flowers of Clematis rubella, which, together with the other climbers, form an admirable setting to the beautiful plant, the subject of our notice.

THE NEWTOWNARDS NURSERY.

Probably a greater number of English and Scotch gentlemen, owing to the Cholera scare on the continent, visited Ireland this year than on any former occasion. I am glad to see that Mr. Alfred Outram not only came, but noted in your columns some of the many attractions of gardening interest around Dublin. As I am personally aware that your journal has many devoted admirers also in the North of Ireland, especially around the progressive town of Belfast, I transcribe the following notes for you that I am persuaded have more than a local interest:—One of the places I had the pleasure of visiting during a recent trip to the North of Ireland, was Messrs. Alexander Dickson & Son's Nurseries at Newtownards. This seems a prosperous and thriving town, at the northern extremity of Strangford Lough, and with direct railway communication to Belfast. The Nurseries, though having the benefit of an open and exposed position, enjoy a fine climate and the maximum of sunshine. This last is an important consideration, when estimating the chances of Tea Roses, half-hardy shrubs and trees, and many plants *outdoors*, during our, at times, very severe winters. The fact that I saw here, trained against a south wall, about five hundred of the healthiest and most vigorous Marechal Niel Roses I ever noticed, in ten inch pots, that had been undisturbed for two winters, is a good illustration of the above, as well as of the system of ripening and hardening of the wood adopted here. But I shall come to this immediately. This firm has been established just fifty years, and seems to possess unusual facilities for attaining the maximum of commercial prosperity. Besides its proximity to the northern Athens, and their extensive seed warehouse there, opposite the new Post Office in the Royal Avenue—to which I shall subsequently allude—the head of the firm has the immense advantage of having his own sons and relatives as superintendents of the various departments, both in Belfast and Newtownards; under such favourable circumstances, one cannot therefore be surprised to find that Alexander Dickson's Roses, Dahlias, Fruit and Forest Trees have an established reputation in the North of Ireland, but that they are elbowing their way to the sunnier south.

Arriving near the Nurseries, I was at first struck with a large, commodious, and handsome range of buildings, which includes besides the private residences and appurtenances thereto recently erected, new offices furnished with all modern appliances, and attached, a parcels department for the rapid execution and transmission of orders, besides the packing sheds at the Nurseries. Unfortunately I had but a limited time here, and can do little more than give your readers an idea of what they may expect to see. There are strictly several nurseries, but all are conveniently situated; and each is stocked with Roses, Coniferæ, Fruit Trees, Shrubs and Forest Trees, American Plants, with special space set apart for Dahlias, Gladioli, Azaleas, Camellias, Spiræas, Hydrangeas, Yuccas, &c., and large squares of Chrysanthemums, Pelargoniums, and the customary bedding stuff getting ripened and hardened for winter and spring decoration. I was glad to hear that Messrs. Dickson are making, and every year extending, a large trade in winter and spring flowering plants. Besides its commercial importance, it indicates a superior culture and civilisation to see artisans and factory operatives, walk into Messrs. Dickson's Seed Warehouse in Belfast, buy their handsome flowering bulb, or such things as winter-flowering Pelargoniums, Hydrangeas, Spiræas, Lily of the Valley, Nile Lily—always a favourite house plant—Dielytra, Solomon's Seal, Helleborus, &c., and so on; while the better classes walk away in triumph with Dwarf Azaleas, Camellias, Cyclamens, Chrysanthemums in variety, Sweet-scented Verbenas, Begonias of the "Semperflorens" type, or the earlier flowering Tea and Bourbon Roses, &c. Now I specially notice this as a "new departure," that other nurserymen would do well to copy. It will afford a most commendable, showy, and cheap species of decoration for those living in towns, and it will give additional employment to nursery hands, besides disseminating a more general love of plants and plant-culture among the masses, while making the rooms of the manufacturing and working classes gay at the time of year when all is black and gloomy outside.

I take it Messrs. Dickson, at least in Belfast, can thus defy competition, so I have the less hesitation in alluding to the matter; but could not our Dublin, Cork, and other nurserymen more generally "follow suit," and more largely open up this, to a great extent, new enterprise? Could not the number of ladies, not to mention gentlemen, who in the ordinary every-day shopping avocations, passing a show window of handsome plants, labelled 1*s.*, 2*s.*, or 3*s.*, as the case may be, especially during winter and spring, be counted by the thousand in all our large towns? I say "Yes," and if once catered for the number would be steadily increasing. This point is more important than it seems at first sight; but I must not digress further. As indicative of the enterprise of this firm, I may mention that a portion of their nurseries was liable to be flooded periodically. To prevent this, and utilise almost worthless land, they arched it over and raised it so as to render this impossible. This is now the best land, and can be always relied on.

I have touched in a general way on their immense stock of the Marshal Niel Rose, grown outdoors in pots, and principally sold for early blooming in England and Scotland to the proprietors of small greenhouses; but all other Roses are here, too, in proportion. At present they expect to have 50,000 fit for sale next year, not including the large quantity grown indoors for forcing to supply cut flowers for the thousand and one demands of a large town, Tea Roses alone for this purpose having a house devoted to them 100 ft. long.

After Roses, perhaps Dahlias are the next speciality; but before coming to these there are two Rose notes I find I made. The stock used here is a specially-raised seedling from the Wild Briar, but quite distinct. The Manetti and others are used, but in a minor degree. The other point is the new seedling Roses raised by young Mr. Dickson. At present he has, out of some thousand seedlings, secured about six worth naming, and seemingly distinct advances on anything that has hitherto come under my notice. In raising seedling Roses, he has proceeded on the same principles that Mr. Bennett has found so successful in raising his "pedigree Roses." Every Irishman will be proud to think while an Englishman makes a fortune and a name in this way, a countryman may hope to do the same. These Roses are undergoing further testing and increase, and cannot be sent out for some time, but a few of them have already been certificated. For instance, "Earl Dufferin" (splendid dark rose), Lady Helen Stuart, and Marquis of Londonderry (hybrid perpetuals). Three of the best Teas would be Miss Ethel Brownlow, Lady Castlereagh, and Miss Hamilton Sell. Another Mr. Dickson has taken Dahlias (principally double show and fancy) in hand, and has succeeded beyond expectation so far—indeed the firm has at several keen competitions with their own seedlings chiefly, I understand, beaten the finest blooms sent out by Keynes, Rawlings, & Co., and others, a fact that will be remembered by those who have seen their exhibits at the Dublin shows. These, too, will be sent out and named in due course. The size of the blooms that came under my notice, though the season was passed, surprised me. Single, "Cactus," semi-double, and all the newer novelties were largely grown too.

I cannot pass from this department without referring to the grand spikes of Gladioli, hybrids of Gandavensis. I certainly never saw finer, though I grow all the best of Kelway's, Souchet's, and Campbell's. One of the explanations seemed to be that, like the foregoing, these enterprising young gentlemen raise their own seedlings chiefly, and know nothing of the dreaded "Gladioli disease." We now reach the houses, which are all splendidly stocked and number a dozen, each 100 ft., without counting pits or frames; but I was unable to make any notes here, as the railway whistle often disturbs the best intentions. I had previously looked into the American ground, and found fine specimens of Epacris and Ericas, Andromedas, Daphne, Kalmias, Pernettyas, Gaultherias, Daboecia, Escallonias, Olearias, Acacias, Ligustrums, hardy Azaleas, &c.—*W. J. Murphy, Clonmel.*

FRUITS, FLOWERS & VEGETABLES.

Crocus speciosus.—What a lovely form this is. It is now throwing up its large, beautiful, and striking flowers in places where I permanently planted it a few years ago; I think that is the way to treat it. Plant it 6 ins. deep at least, in good soil, where it can remain undisturbed, and every autumn about this time of the year it will flower gloriously. How shall I describe the flowers of this lovely species? Say soft blue-lilac on the exterior, but, in the interior of the petals a warm lilac-blue, with a few purple lines and saffron-coloured stamens. I have tried to flower it in pots with indifferent success, but as soon as I planted the bulbs out of doors, under a west wall, they began to flower gloriously. And yet, grand as the species is, and so worthy of a place in gardens, it does not find a place in any of the bulb catalogues of the ordinary character. Like the Colchicums, and the pretty saffron Crocus (C. sativus), it blooms in autumn, as if it would alter the right to flower despite the advancing frosts of winter.—*R. D.*

A Prolific Apple Tree.—We have here a large tree of the Catshead variety—and a more beautiful kitchen Apple I do not know—from which we have gathered the best fruits, 82 stone in all, and there are still the thirds left to pick, which I estimate at 8 stone, making the yield from the one tree, 90 stone.—*R. Gilbert, Burghley.*

Veitch's Perfect Gem Lettuce.—I saw this for the first time, three weeks ago, at Latham House, and if I may judge from the enthusiastic manner in which Mr. Hathaway praised it, it must be a real gem to him and others who have to maintain a constant supply during such seasons as the two past. There was a fine breadth of it ready for use at the time of my visit, with hearts like cricket balls. It has been so appreciated and highly praised in the house that Mr. Hathaway considers it will be useless to grow any other variety for summer and autumn use.—*Visitor.*

Chrysanthemum La Vierge.—This is a very fine dwarf early flowering kind, and appears to be intermediate between the pompon and the reflexed class, having the habit of some of the former, and the flower of the latter. It is a most desirable variety, and my advice to all who are fond of early flowering sorts, and who have not already got this, is to include it in their collection. The flowers are of good size and shape, and of the purest white, whilst the habit of the plant and its freedom of flowering are all that can be desired, and coming into bloom at the latter end of September and during October, makes it a most welcome addition to our early autumn flowers.—*B. L.*

Pteris tremula.—This is one of the best ferns in cultivation for all kinds of indoor decoration, especially where it has to be used in dark corners, where few other plants will keep fresh for any length of time, for even in such places it will grow and thrive almost as well as in an ordinary greenhouse. It has also other points to recommend it for decorative purposes in addition to the great merit it possesses in its enduring qualities. In habit of growth it is everything to be desired for such work, as its free branching fronds, when intermixed with other plants, can be made to produce that irregular yet neat appearance which is so generally admired. We sometimes use various sized plants of this Pteris as a ground work, and dot Dracænas, Crotons, or flowering plants among them; and although the plan is simplicity itself, the effect produced is novel and striking, and a great variety of arrangements can be worked out in this way by changing the plants used to supply colour. We are always able to find plenty of seedling plants (to keep up our stock) springing up among Orchids in pots and baskets, and under the stages where old plants are grown. But if any difficulty is found in getting plants in this way, they can easily be had by preparing a few pans with the usual amount of drainage, and then getting them with rough peat, with a little sand and charcoal added, then lay on the soil an old frond which has plenty of brown spores on the under side, cover with a bell glass, and keep shaded till the young forms appear.—*H. Dunkin.*

Judging Fruit at Exhibitions.—I think "A. D" has mistaken my reason for writing, as he seems to think that it is my desire to give prizes to Melons for their appearance only, whereas I have no

such thought, and the reason I mentioned Melons in my note was, only to give a case in point as to the appearance presented by cut fruit. I asked if it was not a new departure to cut Peaches and Nectarines when judging them, and whether exhibitors and judges generally thought such was necessary to the just awarding of the prizes. I am perfectly aware how misleading to the eye Melons are, and it is no uncommon thing to see ill-shaped and badly developed specimens come off with leading honours, but who needs regret it, as they were to be judged for flavour and not appearance. I quite agree with "Gerrard's Cross" that in the case of a very close contest indeed, tasting might be resorted to as a last move, both in the case of Peaches and Grapes, but to commence the tasting at the first onset, with a view of coming to a just decision, I think is a new departure, and I am pleased to see the view of the matter taken by "Gerrard's Cross," as well as his estimate of the varieties of Grapes exactly coincides with my own. I have no experience of Gros Maroc nor of Cooper's Black, but should be pleased to know something of the parentage and history of either.—*C. W. C.*

Chou be Burghley.—Opinions vary with respect to this vegetable. It has been grown by nearly all the gardeners in this neighbourhood, and more than one of them has asked the cook to give it a little extra boil, but still we hear the same cry, "Don't send any more in, we much prefer your small Yorks." Our late *chef* who served here for 10 years, said, "boil it as long as you like it is never any better than ordinary cabbages," and as for there being a Brocoli in the centre, I have never yet seen it. Still it is used in the spring time when there is nothing much else to be had, just before the young Cabbages come in.—*W. J. Ireland, Headfort, Kells.*

Gilbert's Universal Savoy.—Last March a packet of seed of the above was sown away from any others, so that it could not be mixed. They came up splendidly, and when ready were planted out in a good border facing east. They grew well and have made splendid heads, but out of some half-dozen distinct kinds I should be glad to know which is the true universal. They have not yet been tried in the house, but more than one appears to be more like Cabbages than Savoys.—*W. J. Ireland, Headfort.*

Anemone japonica.—I make a note of this useful late-flowering plant, to point out how well it is adapted for growing and flowering in the shade of and even under trees. Single Dahlias will not blossom where in places this flowers grandly, and all three of the forms are equal in this respect. I find that the white variety of A. japonica is most generally grown, and well it deserves to be, for the flowers are of the purest white, chaste-looking in the extreme, and produced with great freedom. I may here remark that this is flowering very finely with me this season, which I attribute to the fact, that I kept the clumps well watered during the summer drought, and occasionally treated them to a dressing of Clay's Fertiliser, one of the most useful manures a gardener can have by him. I am afraid some are apt to look askance at A. japonica, on account of the ragged outline of its blossoms. I think that this to some extent adds to their decorative value, but then, it will always deserve a place in the garden for its colour. Then, what a beauty A. intermedia is. Here, we get a deep pink or pale rose counterpart of the white form, and it is excellent to cut from and to mingle with those of the taller in vases. If cut young, the flowers will last a much longer time in water than is generally supposed; the worst of it is, that it is a plant that becomes in time almost a nuisance. The creeping roots stretch themselves in all directions, and form new plants, and the smaller pieces of root appear to be so persistent as to make a plant. But I must praise Anemone japonica notwithstanding, and I say to all gardeners—grow it by all means.—*R. D.*

Fuchsia tryphylla.—This is a variety but little known, but is singularly beautiful. I saw it in bloom at Maiden Erleigh, the other day, though the plant was but a small one. The foliage is as dark as that of Dominiana but smaller, and the small plant was carrying three clusters of lovely scarlet flowers at a height of 10 ins. It is really an autumn-blooming variety, and is said to have been introduced here in 1842. No doubt, if taken in hand for greenhouse decoration in the autumn, it would prove a most acceptable plant. It would be an excellent idea to offer prizes for the best natural-blooming greenhouse plant, not commonly cultivated, to be shown in September or October. By so doing, some very beautiful things might be resuscitated, the which, because not in bloom during the ordinary plant exhibition season, are not well known.—*D.* [For some historical notes on this charming plant, see p. 52 of our last volume.—*Ed.*]

Celosia pyramidalis coccinea.—At Maiden Erleigh, Mr. Turton has this beautiful Celosia in fine form, admirably grown plants from 3 ft. to 4 ft. in height, and covered with tufts of bloom. Seed gives us annually for greenhouse decoration few plants more beautiful and so acceptable in the autumn. Some of the rich gold forms would blend well with these crimson wild kinds, but then the result would be to demoralise the strain. Mr. Herrin, at Chalfont Park, who had seed a year or two since from Maiden Erleigh, has this Celosia also in beautiful plants; indeed, as fine a lot as could be desired. I should like to see a score or two of them employed to decorate the tables of the show at South Kensington next week, or those of the Pear Congress at Chiswick. The chief drawbacks to this Celosia is that it at times seeds so sparingly here, but that may be due to good cultivation, as sometimes it is found that half-starved plants, if not so handsome, are more productive of seed. The plants come away slowly at the first, for sharp forcing is apt to distort them, hence they always bloom and come more perfect in the autumn than any other season.—*D.*

BOTANICAL MARE'S-NESTS—CHIEFLY FUNGOLOGICAL.*

No one likes to be set down as the discoverer of a mare's-nest. Mare's-nests are generally discovered by young, green, unfledged, and incautious persons. An old hand seldom discovers a mare's-nest, for he is too wary to put trust in any appearances; he suspects all he sees to be disguised mare's-nests. "Professors" of a certain sort are adepts in discovering mare's-nests. A regular genuine full-blown mare's-nest has often been first brought to light (as I shall soon show) by a "professor," or a "doctor" of a certain class. The discoverers of mare's-nests often write to the daily or weekly newspapers; they also write wondrous paragraphs for magazines. The discoverers are often anonymous, but sometimes a discoverer is so confident that his discovery is genuine, and not all "moonshine," that he ventures to append his name. In the following notes I shall endeavour not to hurt anyone's feelings, but simply give a few instances of botanical mare's-nests—chiefly fungological. There will be no doubt as to the genuiness of many of my examples of mare's-nests; but, perhaps, some young men may say that all are not genuine, all I can say is I am very suspicious that they are. There is this peculiarity about the finding of mare's-nests which are sometimes discovered by men of science, the discoverer probably soon sees the true nature of his discovery, and says no more about it. He looks at it askance, from afar off. But when the mare's-nest has once been discovered, a lot of young confirmers are sure to speedily put in an appearance, and these confirmers and lecturers constantly swear that "moonshine" is not "moonshine," but something very solid. They swarm round the "mare's-nest" like blue-bottles round carrion. After the discoverer (who is keeping at a safe distance) has long ceased to defend his "mare's-nest," these flies buzz about the nest, and brood over the addled eggs. Like ants and mosquitos they can do but little damage, but they cause annoyance and irritation to thin-skinned persons. Nearly all the greater fungological mare's-nests have been quietly abandoned by their discoverers, but they have been kept in existence, unfortunately, as laughing-stocks, by an ignoble army of small confirmers.

"Ear-cockle."

I always take pleasure in thrusting at shady "doctors" and "professors." I will, therefore, take a "doctor" first, a German "doctor," his name is Dr. Carle Mücke, a peculiar name, in English it indicates a mess or a muddle. This Dr. Mücke, in 1870, discovered a terrific mare's-nest in reference to a common and very familiar disease of Wheat termed "ear-cockle." "Ear-cockle," as every beginner knows, is caused by a minute thread-worm, named Anguillula tritici, this little worm which is allied to the so-called "vinegar-eel," causes little offensive galls to replace grains of corn in the ear. Friend Mücke "discovered" that the disease was caused by a mare's-nest fungus, named by him "Xenodochius," he probably meant Xenodochus. Dr. Mücke's essay was published by the Board of Agriculture of Melbourne, and Dr. Mücke was awarded a substantial money prize by the Board for his wonderful mare's-nest. The essay is a remarkable one, the German "doctor" does not write "tritici," but in every instance where he should use that word, he writes the extraordinary word "tritii"; he also tells the Melbourneites that some persons believe ear-cockle to be caused by the "chrysalis of an aphis." The "chrysalis of an aphis" is a grand mare's-nest, one of the first water. He illustrates what he calls the "imagines"—possibly meaning imago—of an aphis without a rostrum. He also figures a very red garden worm, and calls it "such an eel," and says it is not always red, for, says he, it is sometimes white. Dr. Mücke says he has examined "flour" from the roots of Wheat, and found the "flour" to consist of the "eggs of an aphis unknown to him." Fancy "flour" from the "roots of Wheat" being not flour but the eggs of an aphis, and an unknown aphis!

"A Lord Mayor's-Nest."

There is but one step from such a mare's-nest discovering, prize-taking German doctor to a London alderman, so I will take the next instance from the Guildhall Museum, London, where a large number of very curious curiosities may always be seen. In one of the public rooms there is a tall and handsome glass case (with its back to the window), the case contains a peculiar species of unmitigated mare's-nest, in fact, a Lord-Mayor's-nest. At the bottom of the case is a lump of sponge, and springing through the sponge is a Horny Coralline, Polyzoon, or Alcyonarian Zoophyte, quite an every-day and common-place affair. The case bears a remarkable inscription, painted on a tablet of deal (neatly grained to imitate oak). The legend says in capitals:—"This sponge was dredged in the Bahamas," then in much smaller Roman letters young citizens are instructed in the following terms:—"It shows the indissoluble union of an animal (the sponge) and a vegetable (the marine plant); the sponge has affixed itself to the root of the plant and both have grown together, the branches of the plant transfixing the sponge." The name of the discoverer of this Lord-Mayor's-nest is given in the glass-case; the discoverer was quite right (in a punster's sense) in calling his common Zoophyte "a marine plant," it is a kind of plant that should on April 1st be annually exhibited to the "marines."

Dodder and Rafflesia.

We will now notice a law case. In 1873 a trial took place at Bedford for "breach of warranty." A farmer had bought Clover seed infested with Dodder seed, the result of course being, that all the farmer's Clover was destroyed by the parasite. The farmer claimed £202 10*s.* damages; in defence, great doubts were thrown on the very existence of such dubious and impossible things as Dodder seeds, and it was said in the defence, that, "Dodder is a parasite, the propagation of which is wholly unaccountable to the most experienced agriculturalists." Judge and jury were alike perplexed. Although the very existence of such things as Dodder seeds had been tabooed, the jury found the defendant guilty, but assessed the damages not at £202 10*s.* but £50. The judge evidently believed in the non-existence of Dodder seeds, and the unaccountable mystery of Dodder, for he gave the defendant leave to have the damages reduced to £6 7*s.* 6*d.*, the price paid for the seed.

Before dismissing Dodder, I will mention a little mare's-nest discovered by a writer who described the well-known plant named Rafflesia in the *Edinburgh Review* for October, 1883. The Rafflesia as is well-known has a similar parasitic habit with Dodder, the reviewer said "the Rafflesia is a plant or fungus," observe that! "a plant or fungus." The mare's-nester elsewhere in his description, says, "that fungi are commonly regarded as not bearing flowers"; the Rafflesia fungus was, of course, an exception to this rule.

Scab in Potato.

I will now turn to Potatos. Lots of mare's-nests have been discovered about Potatos; one of the worst was when Prof. de Bary of Strasbourg discovered for the Royal Agricultural Society of England, that I did not know what I was talking about.

* A Paper read before the Essex Field Club, Buckhurst Hill, Oct. 3rd, 1885, by Worthington G. Smith, F.L.S., M.A.I., &c.

There is no disease of Potatos more common than one called "scab." Last year Lord Cathcart wrote an essay on the Potato and its diseases for the Royal Agricultural Society; of course "scab" was described. I may say here that "scab" is set up in Potatos by mechanical causes only, it is a mere roughening of the skin, but Lord Cathcart wrote for the Royal Agriculturists: "scab is a disease of the tuber, a fungus, Tuburcinia scabies." How Lord Cathcart contrived to fall bodily into the crater of this gigantic mare's-nest I do not know: he was possibly misled by the specific name "scabies," which certainly seems to have something to do with "scab." Tuburcinia scabies is, however, a fungus which causes "smut" in Potatos, and has nothing whatever to do with "scab." Lord Cathcart also discovered for the Royal Agricultural Society that the fungus of the Potato disease appears on Lilium lancifolium (!) three weeks before it is seen on Potatos; this is a choice novelty in mare's-nests—a sweet thing. These mare's-nests are the more remarkable as Lord Cathcart's M.S. was read, revised and annotated for him by two illustrious botanists.

A German doctor has also had a turn at "scab" in Potatos. He has discovered that scabby places on Potatos represent efforts on the part of the tubers to "form cork" for warding off attacks from certain destructive fungi. On first reading of this portentious mare's-nest I involuntarily exclaimed "oh cork!" Last year, 1884, my friend Mr. C. B. Plowright, of Kings Lynn, expressed his concurrence in the belief that Potatos really did begin to "form cork" when the spores of disagreeable fungi were by their germ tubes trying to penetrate their skins, but it unfortunately happened for Mr. Plowright (as well as for the German doctor) that Potatos were never so extensively "scabbed" as in 1884, and that in the same year Potato fungi were never more scarce. Potatos must have been very weak-minded in 1884 to form such a prodigious amount of "cork" when no fungoid assailants were near. The German "doctor" has published an engraving of part of a Potato in the very act of "forming cork." A writer in the *Gardeners' Chronicle* effectually burst the bladder about "intelligent cork formation" in Potatos, and compared it with the cork generally present in full wine bottles, as being the assumed product of the vinous beverage within to protect itself against the attacks of topers.

The Potato Disease.

In reference to the Potato disease, Dr. J. H, Gilbert, F.R.S., has said that some of the clergy, in the first years of the murrain, discovered the mare's-nest that the disease was a scourge sent by God, and that to attempt its cure was impiously to oppose the designs of the Almighty.

In September, 1872, a leading article was published in the *Times* on the Potato and the Potato disease; the writer exhibited a series of kaleidoscopic mare's-nests, all of which he had discovered himself. It is difficult to read this writer's description of the Potato without swimming of the head. This Solauum Solomon wrote:—"The Potato has been described as an accident(!) a sort of sac or wen on the root, rather than a legitimate part of the plant or a fruit. If this be the case," says he, "we must expect it to be a very sensitive and delicate thing. If the plant is labouring under a sort of disease to begin with, and compelled to feed a large adventitious mass from a very inadequate system, no wonder that it feels atmospheric shocks and disturbance more than we do." Listen to that, "more than we do." The writer concludes by saying:—"The soil itself, too, partakes of these shocks and disturbances quite as much as the atmosphere." Every word of the above is a jewel. When I am out of sorts I read it; its effect on me is like champagne or ginger-beer.

Nature of the Potato-fungus.

I think it is generally conceded that the nature of the Potato fungus is at the present time thoroughly understood, not even omitting the resting-spores, which I was once unfortunate enough to find. At the time of the discovery, Professor De Bary, as is well known, hotly contested my views, and of course a whole army of little botanical skirmishers followed in his wake. Times are different now, for Professor Thistleton Dyer informed the Select Committee of the House of Commons, a year or two ago, that although Professor De Bary is "not absolutely convinced," yet "he thinks it not at all improbable that they are the real thing." What a terrible blow for the professional confirmers! As the fungus is now quite understood, and my oospores after all considered to be very likely the "real thing," it seems inexcusable that any author should discover new mare's-nests about the Potato disease; yet an author last year out-Heroded Herod in a series of portentious mare's-nests. He began by saying the "fountain-head," whatever that may be, "had not been shown before he wrote;" but he omits all reference to "nids" and the "active resting" condition that Professor De Bary once thought he had discovered. These were possibly not at the "fountain-head." He goes on to say the critical time for a Potato is when it "changes its skin" (like a crab, I suppose), or perhaps this "critical time" is when the cook removes the skin with a knife prior to putting the tuber in the pot; this is certainly a "critical time" for the tuber. This mystic "skin," the author says, does not exist after August; and that after August it is impossible "even by boiling to get it." One could understand boiling the skin off, but how on earth a skin could be boiled on I do not know. After making this and other discoveries of a like nature, the author informs his readers that he "then felt like a policeman who, after capturing a notorious burglar, said to himself, 'Here you are—clear enough.'" One, however, loses confidence in the author when he says "the clubbing of Cabbages, Broccoli, Brussels Sprouts, also of Turnips, and that mysterious disease of the Cucumber and the Melon—all this I attribute to one and the same thing." "The balls" (whatever they may be), says the writer, "the balls all correspond." Perhaps the "balls" correspond with the "nids." The author goes on to say, "I have studied the common mildew, Peronospora infestans, but I cannot see anything of that in what I have discovered." I should say not! "I have also tried to find Fusiporium Solani, and looking time after time through portions of leaves that I have examined, I must say I have failed to find it." No doubt! One more quotation must suffice. the author repeats, "The tuber has to undergo a change of skin when it goes to rest." Can the Potato change its skin? The disease, he says, bursts "through the cuticle, and having done so it has rent it, as it were, at every vein under the skin; this (the skin) turns back, so showing plainly to the eye the form in which the tubes surround the tubers." I have never seen these "tubes" myself. They were first mentioned in the report of Professor De Bary's discoveries, in the *Journal of the Royal Agricultural Society*. I am glad their presence has been "confirmed." It seems they are "outside the tuber." I should say a long way outside. Professor de Bary did not mention the distance.

A short time ago several letters were published in one of the gardening papers about the Potato disease. The drift of these letters was to the effect that the disease was caused by "worms, wire-worms, and grubs." The information was at first rather indefinite, as we all know the word "grub" has more than one meaning, and that there are different sorts of worms. More than one species of worm was blamed. At length a gorgeous mare's-nestite rushed angrily to the rescue. He wrote and said that a former correspondent had blamed "the wrong worm." He, the writer, who had had forty years' experience, knew all about it, and informed the readers of the paper that the true worm "commenced its attack at the very bottom of the root, and punctured and skinned it upwards." The depredator was described as a "blanched sickly-looking earth-worm;" this, the true worm, was termed a "ravisher," and like "Moses' serpent," said the writer "eats up all the others within its reach." It would seem to be both an animal and vegetable feeder. The other worms, however, says the instructor, "know its skinning propensity, and give it a wide berth." The writer watered his Potatos with lime-water, and so he exclaimed, with revengeful and Shylockian glee, "I expect—to have skin for skin." The same writer concluded by saying the same worm skins the roots of Pansies, Calceolarias, and Parsley, and suggested that the worm is the sole cause of the familiar fungus of Hollyhocks, named Puccinia Malvacearum.

(To be continued.)

The Advance Nectarine.—To any of your readers in want of a good early Nectarine I can strongly recommend this seedling of Mr. Rivers' from Pitmaston Orange. In the same house with Hunt's Tawny it succeeds that variety, and always holds its own on the exhibition table; at least, that is my experience. It is a showy fruit, reddish brown on the sunny side, with greenish white flesh and rich flavour.—*W. S.*

The Gardeners' Calendar.

THE PLANT HOUSES.

It will now be time to give some of the winter-flowering plants a little more heat. We do not mean that the houses should be kept closer, on the contrary, we like to keep plenty of ventilation on as long as the weather will permit, but it will be necessary to give a little artificial heat; this helps to keep the atmosphere pure, and prevents the damp settling on any plants that are flowering. It is only by giving plenty of artificial heat, and keeping a good circulation of air that many plants can be induced to flower through the winter. Most of the autumn potting will be done by this time, but there may still remain some things that may be potted on at any time as they require it; this will apply to Cinerarias, Calceolarias, Primulas, &c. Cyclamen, Bouvardias, Begonias, Primulas, both double and single, or any other flowering plants that have well filled the pots with roots should have a little liquid manure from time to time. Chrysanthemums should also have plenty of manure now that they are coming into flower, they cannot very well be over-fed, but after watering them with strong manure, care should be taken that they are not allowed to get too dry before being watered again.

Propagating Plants for Sub-tropical Bedding.—Polymnia grandis.—This is one of the most useful plants for sub-tropical bedding work. After the season is over the plants may be taken up and potted, and if taken care of, will provide a good lot of cuttings for the following year. They should be kept moderately dry until they are started into growth for cuttings, which should be early in January, so as to give them time to make good plants before bedding out time. Cuttings, which should be taken off as soon as they can be secured, will strike freely in a close propagating pit where there is a good bottom heat, they should only have just sufficient water to keep them from shrivelling until the cuttings are well callused, when more water may be given. It is best to strike the cuttings simply in small pots, and pot them on as soon as they are well rooted.

THE FRUIT HOUSES.

Lifting and Transplanting Peach and Nectarine Trees.—No time should now be lost in carrying out the operation of lifting and transplanting any trees that have not grown and fruited satisfactorily during the last season or two. If the said trees are old worn-out ones, they should be removed forthwith to the fire-heap and be replaced by trees taken up carefully with nice balls of earth adhering to the roots from the open walls. But, on the other hand, if the trees are considered worth replanting, they should be taken up carefully by opening a trench about 4 ft. from the base of the tree, and from 2 to 2½ ft. deep; working most of the soil, which probably has become sour and, therefore, distasteful to healthy root action, from underneath and around the roots with a five-pronged fork; care being taken not to injure the former in doing so.

Then lift the tree bodily, placing it in a convenient position to the hole while the latter is being excavated to the depth of 4 ft. Into the bottom of this hole put 9 ins. thick of old brick-bats, stones, or clinkers, and over these a sufficient thickness of coarse gravel should be laid to fill in the chinks, and following this a layer of turf, grass-side down, to insure a perfect drainage. But should the water be likely to rise at any time nearer to the surface than 4 ft., it will, of course, be necessary to reduce the depth of the hole to such an extent as will prevent the possibility of the roots of the trees being at any time submerged—a circumstance which would be detrimental to their well-being. The holes having been made ready for the reception of the soil, the latter, consisting of three-parts of good calcareous loam, and of old lime-rubble and wood-ashes, well mixed, should be got into the holes in a moderately dry state, so that it may not adhere to the feet in treading on it. In planting the trees make due allowance for the soil subsiding 6 or 7 ins., within as many weeks.

Spread the roots out in every direction with a slight inclination downwards, at the same time shortening back all straggling roots a few inches, and cutting clean away with a sharp knife any that may have got injured

in the process of lifting, and make a series of incisions on the main roots to encourage the emission of young roots prior to covering the same with the compost indicated to the thickness of 6 ins., and before treading this slightly, take hold of the tree by the stem and give it a few gentle pulls in an upward direction, so as to admit of the soil getting well among the roots. This done, give sufficient water to settle the former about the latter. Damp the trees thus planted morning and afternoon during bright days, so that they may retain their leaves sufficiently long to admit of the roots taking to the soil before they fall, and with the same object in view, the trees should be shaded from the effects of bright sunshine for a week or two.—*H. W. Ward, Longford Castle.*

THE KITCHEN GARDEN.

Ordinary Work.—Any blanks which may be found in the rows of recently planted Cabbages, should be filled up forthwith with plants of the proper varieties. Look well after grubs, which are sometimes very destructive to the roots of these plants, their presence at the roots being easily detected by the sickly appearance of the leaves. Let Celery be well earthed up, so that in the event of frost, as little of the stems may be exposed as possible, but keep the soil out of the hearts of the plants. With this object in view, it will be necessary to be provided with a good stock of dry Fern or other like material, with which to protect such things as Lettuce, Endive, Celery, &c., from the frost. Cauliflowers and Broccolis too, which are now coming in, should be either lifted and stored away out of the reach of frost, or have the leaves bent over the head, which will effectually protect them from injury from a few degrees of frost, of which we have had three and four degrees respectively, on the nights of the 26th and 27th ultimo, just sufficient to bring the preparations for the advent of that, at this time of the year, unwelcome visitor to an immediate completion.

Frame Ground. — The plants in this department should have the sashes and shutters placed over them at night whenever frost is apprehended. From the time that plants of this description (Cauliflower, Lettuce, &c.) are planted in their winter quarters, until they are finally transplanted in the spring, they should have all the air that it is possible to give them during fine weather, in order to insure a sturdy growth, which will enable them the better to withstand the effects of winter.—*H. W. Ward, Longford Castle.*

ORCHID NOTES AND GLEANINGS.

Settling down for the Winter.—Many things get shifted about during the summer for convenience, and a number of plants which are by many put into the cold house during that season still remain there, and must at once be removed to the quarters they are to occupy during winter. It is better to see to this at once while there is yet but little artificial heat being employed, the houses in consequence being more alike in temperature than they will be later on. The removal of the plants to other houses can now be done without risk of their feeling the change. Foremost among the plants which are lost in the cold Odontoglossum house in winter, stand Odontoglossum vexillarium, O. Roezlii, and O. phalænopsis. These, it should be understood, are not safe in the cold house after this, and it is questionable if they are not best in a shady intermediate house all the year, and they should therefore be removed to the coolest and shadiest part of the intermediate house, where a quiet corner out of the reach of cold currents of air should be selected for them. With these plants, and many others which are hardly fit for the cold house all the year round, there is more in selecting a convenient spot where the atmosphere is fairly moist, and but slight in variation, than in the extra amount of heat given.

Bolleas, Pescatoreas, and Batemannias are sometimes put in the cold house in summer, and these too should be removed to a like situation to that given to O. vexillarium &c. These are never cold house plants, but require an even intermediate temperature all the year, shade, moisture, and a genial temperature being the chief essentials at all seasons. The Paphinias, Houlletias, and Miltonia Warscewiczii should also be wintered with O. vexillarium.

Masdevallia chimæra, and all those belonging to the same section, and M. tovarense I have proved by experience to be not so hardy as the varieties of M. Harryana; and although they are in some gardens successfully wintered with the Odontoglossum Alexandræ, it is better to give them a place in a house which is slightly warmer than that in which the cold house plants are kept.

Odontoglossum citrosmum, O. cirrosum, O. grande, O. Insleayii, O. Schleiperianum, O. maxillare (madrense), Maxillaria venusta, M. grandiflora, all the Anguloas, Zygopetalums, Lycastes, and Miltonias are not safe in the cold house where it is kept down to the lowest prescribed temperature, and, therefore, it will be wise to place them in a cool part of an intermediate house from henceforth until the early part of next summer. It is better to be on the safe side, and not to risk getting things chilled during the winter, as if such takes place they take years to recover, and in many cases never get round again.

On the other hand excessive heat in winter is a prolific source of loss among small growing things, such as Tricocentrums, Burlingtonias, Rodriguezias, and many other dwarf Brazilian species. A cool part of the intermediate house is warm enough for all such, and a very safe place to winter them, so as to bring them into the spring sound and vigorous.

Oncidium Marshallianum, O. crispum, O. Forbesii, O. Gardnerianum, and all that section, O. macranthum, O. varicosum, O. incurvum, Sophronitis grandiflora, and the others usually associated with them, will, if they have been previously kept cool, winter best in the cold house, unless it is anticipated that that house may fall below the usual limit, in which case a slightly warmer house should be found for them. During the progress of the work never let a dirty or shaky plant pass through the hands without being cleaned, or, if in bad stuff, repotted; and let me advise all who have plants which have thriven for any length of time under circumstances, however apparently different from the treatment usually recommended, not to alter their method of dealing with them to suit anyone's views, as in all probability there are points in their present treatment of these exceptional cases which practically bring them within the meaning of the rules generally found successful with such things, and recommended by growers, and which they would fail to improve on if they attempted to follow literally the instructions given. It is as bad a plan to shift about a thing that is doing well as it is to let one alone which is doing badly.—*James O'Brien.*

THE INTERNATIONAL POTATO SHOW.

The eleventh International Potato Exhibition, which was opened by the Lord Mayor on Wednesday afternoon, was something more than a surprise to its organisers, and to growers generally—for contrary to general expectation, it was a most gratifying success. Not so large in extent as some previous displays, owing in the main, perhaps, to the absence of the class for eighteen varieties, which at former shows always brought good entries, the Exhibition, nevertheless, comprised some 2,040 dishes, so that there was little to complain of on that score. As to the quality of the tubers, however, it was affirmed, and correctly, by growers who have attended all the exhibitions, that finer have never been seen at any show, and except that many samples were on the small side, as after such a dry season all were expected to be, the average good quality all through was most noticeable. As on a former occasion, the most successful exhibitor was Mr. J. Hughes, gardener to Colonel Cartwright, Byfield, Northampton, whose samples all round, for size, combined with clear skins and freedom from blemishes of any kind, were truly remarkable. His collection of twenty-four dishes, and with which he was an easy first, good as were those of many of his rivals, comprised the following fine sorts:—Adirondack, Schoolmaster, Sutton's Reading Russett, Blanchard, Queen of the Valley, Sutton's First and Best, The Dean, London Hero, Lord Roseberry, Sutton's Favourite, Beauty of Hebron, Cosmopolitan, Fidler's Prolific, Snowdrop, Vicar of Laleham, Sutton's Early Regent, Crimson Beauty, M.P., Rufus, Chancellor, Edgcote Purple, Edgcote Seedling, Sutton's Prizetaker, and Woodstock Kidney. There were fourteen competitors in this class.

With twelve varieties there were eleven competitors, and here another well-known and successful exhibitor, came to the front, Mr. C. Howard, Bridge, Canterbury, who had large, clean-skinned, smooth samples of Duke of Albany, The Dean, Chancellor, Vicar of Laleham, Ashtop Fluke, Beauty of Hebron, Vermont Champion, Adirondack, Magnet, Reading Russet, Schoolmaster, and Mr. Bresee. The best of seventeen collections of six sorts came from Mr. Hughes, remarkably good examples of Reading Russett, London Hero, Snowdrop, Chancellor, First and Best, and Edgcote Purple.

The best three white rounds came from Mr. R. Dean (whose seedlings held a good position in most of the collections), perfect samples of Schoolmaster, London Hero, and Harvester, the two last-named being of his own raising. In the corresponding class for coloured rounds, Mr. L. Stanton, Maidford House, Towcester, easily beat all competitors with his grand examples of Vicar of Laleham, Reading Russet, and Adirondack. The highest prize for three white kidneys went to Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Edgcote Park, Banbury, for Snowdrop, Cosmopolitan, and Edgcote Seedling, and the same competitor also took the first prize in the next class, which was for coloured kidneys, with Sutton's Prizetaker, Edgcote Purple, and Mr. Bresee, all of unexceptionable quality.

In the single dish classes the best white round of English origin was Schoolmaster, followed by Prime Minister and Chancellor; another best coloured round of English origin, Vicar of Laleham and Reading Russett. In similar classes for white and coloured Kidneys, the best in the former was Dean's Chancellor, and in the latter Dean's Cardinal, Snowdrop following the first named, and Edgcote Purple the second. Chancellor followed by Fidler's Prolific, and Doctor were also adjudged to be the best new white skinned varieties in the order named. For Messrs. Carter's prizes for half a dozen sorts to include Cosmopolitan, Sukreta, and Ashtop Fluke, there were only two competitors and the first prize went to Mr. James Lye, gardener, Clyffe Hall, Market Lavington.

The miscellaneous class, which is generally an important one at the annual gathering, owing to the large contributions made to it by the leading London and Provincial seed firms, was this year shorn of some of its more imposing features, such firms as Messrs. Sutton & Sons, Messrs. Daniels' Brothers, and Messrs. Hooper & Co. being unrepresented on this occasion. Messrs. Carter & Co., as usual, were well to the fore with a representative collection of the leading commercial varieties, shown in bulk, conspicuous amongst them being an enormous white kidney named Imperator, the new Sukreta, and the peculiarly rough-skinned red round named the Village Blacksmith. The firm had also a sample of several promising seedlings that they still have under probation. Messrs. Edward Webb & Sons, Wordsley, had a fine collection of about 70 sorts, all the leading varieties represented by clean well-grown samples. Messrs. Harrison & Sons, Leicester, staged a good collection of sorts, all grown under ordinary field culture. Mr. Thomas Laxton showed a collection of twenty-two seedlings, all raised from leading market sorts; and from Messrs. J. Cheal & Sons, Crawley, came samples of a white kidney named Crawley Prolific, and which has proved, after 5 years' cultivation, to be an immense cropper, a good keeper, and of good quality. Mr. C. Fidler, Friar Street, Reading, also staged a large collection, consisting of some 108 sorts, all grown under field culture, and including Fidler's Giant, a white kidney of enormous proportions.

At the termination of the opening ceremony, the Lord Mayor, supported by the Lady Mayoress, and the Sheriffs of London and Middlesex, presided over the luncheon, at which the usual toasts were given and received with much enthusiasm; Mr. Shirley Hibberd in responding to the toast of the day, "Success to the International Potato Exhibition," giving a succint account of the committee's work since its formation, and the holding of the first show at the Alexandra Palace.

CRYSTAL PALACE FRUIT SHOW.

In conjunction with the great annual Potato show, noticed in the preceeding columns, the Crystal Palace Company organised a display of Hardy Fruits, Apples and Pears, &c., Vegetables, Gourds, Pumpkins, &c., and the excellent prizes offered brought forth a good competition in all the classes, Apples were specially

well represented for the season, both as to numbers and quality, as, although, generally smaller all round than usual. The samples exhibited a marked absence of blemishes, but much that was beautiful in the way of colour.

There were five competitors for the four prizes offered for the best exhibition of Kitchen and Dessert Apples, six fruits of each variety, and the highest award was given to Messrs. G. & J. Lane, St. Mary Cray, Kent, Messrs. G. Bunyard & Co., of Maidstone, being placed second, as we think in error. It is not often that we have occasion, at London shows, to question the judgement of the censors, but in this case we do think the awards should have been reversed, as equally good as both collections were as regards numbers and size, the Maidstone fruits undoubtedly had it on the point of colour. Both firms showed 126 dishes each, which included all the best known sorts, and some of more recent introduction, such as the Washington, specially fine in the Messrs. Bunyard's collection, as also were the new Lady Sudeley, The Queen, Lane's Prince Albert, Stone's, Red Hawthorndean, Cox's Orange Pippin, Cellini, Pott's Seedling, Duchess of Oldenburg, Emperor Alexander, Warner's King, &c. Messrs. T. Rivers & Son, came in third with a large collection of medium sized, very clean fruit; and Messrs. Paul & Son, Cheshunt, were fourth, with a very good lot; the not placed exhibitor being Mr. Sidney Ford, gardener, Leonardslee, Horsham, who had some 136 dishes, and a fine lot of fruit too.

The best exhibition of Pears came from Messrs Thomas Rivers & Son—a collection of 102 dishes for the most part of very good samples, but with few exceptions, these fruits throughout the exhibition were not so fine as we had expected to see this season. Mr. James Butler, gardener, to A. J. Thomas, Esq., Orchard Lane, Sittingbourne, came in second. Messrs. G. Bunyard & Co., Maidstone, third, and Mr. A. Waterman, gardener, Preston Hall, Aylesford, fourth.

In the classes open only to amateurs and gentlemen's gardeners, Mr. Sidney Ford showed the best twenty-four dishes of kitchen and dessert apples, a fine lot of fruit, including such good sorts as Lady Henniker, Stone's, Blenheim Orange, Rambour Franc, Mère de Ménage, Hollandbury, Peasgood's Nonsuch, Royal Pearmain, &c. With twelve dishes of Pears Mr. Waterman came in first, showing, amongst others, fine samples of Pitmaston Duchess, Doyenné Boussoch, Callabasse Grosse, Beurré Superfin, Duchess d'Angoulême, Beurré d'Amanlis Panachée, Catillac, &c. In a corresponding class for Apples, the leading prizetaker was Mr. J. Gilmour, gardener, Hawkhurst, Kent.

Several large trade collections added much to the excellence of the display, both on the score of usefulness and effect. Messrs. James Veitch & Sons, Chelsea, contributed an immense assortment of apples and pears, consisting of over 250 dishes of clean, bright, and well-developed samples. From Messrs. J. Cheal & Sons, Crawley, came a collection of about 150 sorts, for the most part beautifully coloured fruits gathered from cordon-trained trees. Messrs. Wm. Paul & Son, Waltham Cross, also exhibited over 200 dishes, 125 of which were of apples of good quality. Several new varieties were shown for certificates, but only two sorts gained this distinction. These were Prince Bismarck and Laxton's September Beauty, the first named, of which very fine specimens grown under glass, were exhibited by Messrs. Veitch & Sons, was raised in New Zealand and first introduced into this country by Mr. McIndoe, gardener to Sir J. W. Pease, Hutton Hall, Yorkshire. It is a handsome culinary variety, in use from October to January, large, of a pale waxy yellow colour, with streaks and spots of crimson on the sunny side and at the base. Mr. Laxton's variety somewhat resembles a Ribston in size and shape, but is of a rich bright crimson colour, especially on the sunny side.

For the prizes offered for vegetables there was not a large competition, but an excellent representative display of garden produce nevertheless. In the open class for the best exhibition of vegetables, Mr. Waterman came in first with a remarkably fine lot, and next in order of merit came Mr. G. Neighbour, Bickley Park, Mr. T. A. Beckett, and Mr. C. J. Waite, Esher, while for twelve dishes the last-named exhibitor came in first. The collections of Gourds and Pumpkins, by reason of their size, strange forms, and various colours, created much interest among the visitors. Mr. C. Osman, South Metropolitan District Schools, Sutton, had the finest lot of ornamental Gourds, and Mr. J. Sharpe, gardener, Parkfield, Grove Park, Lee, had the heaviest Pumpkin, a specimen weighing 108 lbs.

FLORICULTURE.

Summer Flowering Chrysanthemums.—The extreme usefulness of the early or summer flowering section of Chrysanthemums, was never better illustrated than at the present time, late though they are as a rule this season. When the early frosts and heavy rains stripped the garden of many of the brightest flowers in the borders, and sent tender bedding plants to the right about, the brightly coloured early Chrysanthemums stepped into the breach, as it were, and will provide a display of blossoms till the later ones come in, that we should very much regret to be deprived of. We have before us a charming vase of flowers, received from Mr. W. E. Boyce, of Yerbury Road, Holloway, with whom the Chrysanthemum is a speciality of prime importance. The first to attract attention by reason of their size, striking colours, and novelty, are three summer flowering Japanese varieties. These are a welcome addition to the class, and may be named in the following order:—Mandarin is quite new, and a very fine variety, pure cream colour, changing to milk-white, and shaded with rose; flower large and full, and the petals narrow and somewhat curved; Roi des Précoces, a rich deep crimson, shaded with red; and Mons. Roux, deep bronzy red, shaded with crimson, and the reverse of the petals, which are flat and recurved, nankeen yellow; next to them, and which we ought perhaps to have placed first, comes splendid blossoms of that grandest of all autumn white flowering varieties, Madame C. Desgrange, and the new yellow sport from it, Mr. G. Wermig, which is an exact counterpart, only clear yellow in colour. These are sorts which should be largely grown by all who want cut flowers in quantity.

Then to come to the Pompon section, we have some remarkably good things in La Petite Marie, pure white, very dwarf, and very early—a perfect gem; Pompoinum (new), deep yellow with a shade of reddish bronze; a very free-flowering sort; La Bien Aimée (new), deep carmine, tipped with white, flowers full, double, and very neat in shape, a fine variety for blooming in small pots; Surprise (new), rose, or rosy violet, with a white centre; very fine, and a free bloomer; Adrastes, rosy purple, large and good; Bois Duval, maroon-red; Lyon, bright rosy purple, flowers of good size, and a free bloomer; Madame Jolivant, soft rosy peach, becoming white with age; Anastasio, rosy violet, dwarf, robust, and free-flowering; Mrs. Wood, amber, tipped with buff; Mr. W. Piercy, a sport from Madame Pecaul, deep red, changing to orange-brown; Precocite, a very fine clear yellow; Curiosity, pale lilac, a beautiful compact flower, and the plant dwarf and free blooming; Chrome Stella, orange, tipped with red; Petit Mignon (new), rose, tipped with white; Frederic Pele, crimson; Late Flora, deep golden yellow, very free; Jardin des Plantes, white; Illustration, pale pink, changing to white; Frederick Maronet, orange-yellow, very pretty and distinct; Early Casey, rosy lilac, with a light centre; Madeline Davis, bright golden yellow; and Madame Pecaul, deep rose, large and full.

QUESTIONS AND ANSWERS.

Parasite on Heath.—Please give me the name of the Parasite growing on a Heath which I send herewith. It has been growing on the Heath for the past six years and dies off in winter. I have never seen anything like it before.—*E. Welsh.* [It is one of the Dodders, Cuscata Epithymum, a native plant which grows on Heath, Thyme, &c.]

Agathæa cœlestis.—Kindly state in your next issue whether an Agathæa cœlestis, which has been in the open ground all the summer, should be cut down after being lifted, or left with its present growth unchecked.—"*Clophill.*" [You can do either, but if you lift it carefully, putting it into a suitable sized pot in good ordinary potting compost, and keeping it in a close frame for a few days after potting, it will flower all the winter in a greenhouse.]

Propagating Passion Flowers.—I have a Passion Flower growing over my house, and I am anxious to know if I can propagate it. When is the proper time to take proceedings? Can I take cuttings, or should I sow the seeds?—*Engström.* [The easiest and quickest way is to propagate it by cuttings, which strike freely in spring. When the plant has made some young shoots 5 or 6 ins. long, take them off with a heel of the old wood, and put them singly into small pots, half filled with sandy peat, and the top half filled with sharp sand. Keep them moist in a close frame until they have rooted, and if you can give them a little bottom heat so much the better. They will root in a few weeks.]

Names of Fruits.—*D. J.*—1, Allen's Everlasting; 5, Winter Majetin; others not recognised, probably local varieties. *E. E. B.*—1, Easter Beurré; 2, Glou Morceau; 3, Knight's Monarch; 4, Beurré Rance; 5, Pomme de Neige; 6, Duck's Bill. *J. Beddow.*—3, Kentish Fillbasket; 8, Hauwell Souring; 20, Grange's Pearmain; 26, Dutch Mignonne; E, Glou Morceau; V, Louise Bonne of Jersey.

Names of Plants.—*J. H.*—1, Yucca filamentosa; 2, Sedum spectabile; 3, Fuchsia gracilis; 4, Berberis vulgaris; 5, Chrysanthemum leucanthemum; 6, Anemone japonica; 7, Gladiolus Brenchleyensis var. *M.*—1 may be Dracæna amabilis, but we cannot name the others.

Mildew on Roses.—*A. S.*—The best preventative is to give as little side ventilation as possible during cold weather, to keep up a nice buoyant atmosphere, and to paint the hot-water pipes with a thin mixture of flowers of sulphur and milk Careful ventilation, however, is the great point.

Cactuses.—*J. B.*—Your best plan is to keep them dry and cool until spring, and then repot them in as small pots as convenient, using pure turfy loam and old lime rubble. You have perhaps been over watering them.

Petræa.—*Enquirer.*—The genus Petræa was dedicated by Linnæus to Robert James, Lord Petre, a famous patron of botany, who died in 1742. P. volubilis is the best known member of the genus, and that was introduced from Vera Cruz, in 1733.

Mutilating Dahlias.—*X. X. X.*—If the exhibitor had removed the centre of the flower, most certainly you would have been justified in disqualifying the stand containing it. No honest judge will pass a mutilated flower.

Communications Received.—P. McK.—J. D.—R. H. B.—M. T.—R. F.—A. F. B.—W. J. I.—E. S. D.—A. R.—T. S. W.—N. J. D.—W. G. (much obliged)—W. P. R.—G. T.—J. B.—A. A.—T. W.—E. J.—M. T.—North (too late for this week).

TRADE CATALOGUES RECEIVED.

Richard Smith & Co., St. John's, Worcester.—Herbaceous and Alpine Plants, Bulbs, &c.; Forest and Hardy Ornamental Trees and Shrubs; Rose List; Dutch Flower Roots.

William Rumsey, Joyning's Nurseries, Waltham Cross, N.—Roses, Trees, Shrubs, &c.

E. S. Dodwell, Stanley Road, Oxford.—New Carnations—Specialities for the Season of 1885-6.

LONDON SEED TRADE.

October 7th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at to-day's market, with but little business doing. Red Clover now offers freely from the continent, and prices are easier as buyers do not operate. No change in values of White Alsike or Trefoil. Winter Tares in good supply, and sell slowly at lower rates. Rye unchanged; Bird seeds and Linseed are firmly held.

COVENT GARDEN MARKET.

October 8th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	24 0	25 0	Plums, ½ sieve	1 6	3 6
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces ..per dozen	2 0	
Cabbages ....per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	4 0	6 0
Anemone, 12 bunches			Marguerites, 12 bun.	4 0	9 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	..	2 0	— scarlet, 12 sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pinks, various, 12 bun.		
Camellias, 12 blooms.	4 0	8 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Pyrethrum, 12 bun.		
Chrysanthemums, 12 blooms	1 0	6 0	Rhodanthe, 12 bun.		
Chrysanthemums, 12 bunches	5 0	12 0	Roses (coloured)	1 0	2 0
Cineraria, per bunch			Roses (indoors), doz.	1 0	3 0
Cornflower, 12 bunch.	2 0	4 0	Roses, per doz. bun.	6 0	12 0
Cyclamen, 12 blooms.			Spiræa, 12 bunches		
Day Lily, 12 bunches.			Stephanotis, 12 sprays	6 0	9 0
Epiphyllums, 12 blms.			Stocks, 12 bunches		
Eschscholtzia, 12 bun.			Sweet Peas, 12 bunch.		
Eucharis, per dozen	4 0	9 0	Sweet Sultan, 12 bun.	4 0	6 0
Gardenias, 12 blooms.	2 0	5 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Tulips, per dozen		
Lapageria, white, 12 blooms	3 0	4 0	Violet, 12 bunches	0 9	1 0
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 0	1 6
Lavender, 12 bunches			— Parma	4 0	5
Lilium candidum, 12 blooms			White Jasmine, bun.	0 6	0 9
			Woodroffe, 12 bunches		

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsias, per dozen	3 0	9 0
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen		
Asters, per doz.	4 0	6 0	Heaths or Erica, var., per dozen	10 0	12 0
Azalea, per doz.			Hyacinths, per dozen		
Balsams, per dozen			Hydrangea, per dozen		
Begonias, per dozen	4 0	12 0	Ivy Geraniums, per dozen	3 0	6 0
Bouvardias, per dozen	9 0	18 0	Lilium longiflorum, per dozen		
Calceolarias, per doz.			Lilium lancifolium, per dozen	12 0	18 0
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Deutzia, per dozen			Petunias, per dozen		
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.		
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 0			

SHOW.

The Royal Horticultural Society of Southampton.

CHRYSANTHEMUM and FRUIT SHOW, TUESDAY and WEDNESDAY, November 3rd and 4th, 1885. £150 in PRIZES.

Schedules and Entry Forms may be obtained of the undersigned. Entries close on October 27th.

C. S. FUIDGE, *Secretary.*

54, York Street, The Avenue.

The Gardeners' Royal Benevolent Institution.

NOTICE IS HEREBY GIVEN, that an addition will be made to the Pension List of this Institution in January next. All persons desirous of becoming Candidates are requested to send in their applications to the Committee on or before the 4th November next, after which day they will not be received. Preference will be given in accordance with Rule 6, to those applicants (or their Widows) who have been fifteen clear years on the books of the Institution.

By order.

E. R. CUTLER, Sec.

20, Spring Gardens, London, 5th October, 1885.

Printed forms of application can be obtained from the Secretary.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 17, 1885.

THE INTERNATIONAL POTATO SHOW.—There seems now to be some good reason why a comparatively new departure should be taken with the International Potato Show, but most certainly not for the reason that the promoters are disappointed. So far from that being the case, it seems to us that they rather have every reason for congratulation, for the late show displayed Potatos in a form never previously seen. It would seem as if it were impossible that Mr. Hughes' grand samples, for instance, could ever be excelled; and yet, ten years hence, leading exhibitors then may say, as we say now, "during the past decade the improvement has been remarkable." Mr. Hughes' twenty-four kinds in the premier class, gave an average and very even weight of eight ounces, showing fairly large samples, in which more perfection of form was found than has ever before been seen allied to such good size. That fact alone indicates that both cultivation and production of improved kinds keep pace with each other.

But any new departure, if such be taken, whilst not enforced by questions of utility as far as the tuber itself is concerned, yet may, in the end, have some practical bearing in that direction. At present it seems probable that the *venue* of the exhibition will, for one year at least, be changed from the Crystal Palace to that of the more attractive *locale* of South Kensington. Most certainly the Potato Show Committee have no reason to find fault with the Crystal Palace management in any way, for that has always most cheerfully and effectively rendered all possible assistance. But whilst the Palace remains as it was several years since, and the attendance of visitors seems to decline, it is found that at South Kensington there are special encouragements for the holding of the Potato Show there next year, because the vast space now utilised by the "Inventions" Exhibition will be occupied by produce of all kinds from our great colonial possessions, and the "Colonies" of next summer, if we may thus early coin what will doubtless be the abbreviated designation of the exhibition, will most certainly attract myriads of people, not only from our own country districts, but also from the wide world over; and it may prove as much for the benefit of these people as it has proved beneficial to us, that they, too, should become familiar with the grand kinds of garden Potatos this country now possesses. Of this we are certain, that whatever our inferiority in some productions, both natural and human, yet in the matter of Potatos we are inferior to none, and a long way ahead of all other countries and peoples. We think, therefore, it will be good for continentals and colonists alike, that they should become familiar with our Potato products; and that we shall be pleased to hear that the suggestion with respect to the change of *locale* for the show is to be adopted. Very certainly, if but regarded in a more limited sense, the change should be very beneficial to the Potato trade, for the show will be seen at South Kensington by some twenty times more people than it is seen by elsewhere.

Then there is something natural in the *rapprochement* thus shown towards the horticultural centre of the kingdom—the Royal Horticultural Society—which has exhibited no inconsiderable good feeling of late towards the International Potato Committee in kindly permitting that Committee to conduct its seedling trials in the Chiswick Gardens. These annual trials have proved to be some of the most valuable work of the Committee, for it has enabled a thorough testing of all new, or assumedly new, kinds to be conducted in a way that would probably be impossible elsewhere, and certainly under conditions which ensure confidence in the justice of the awards made. So important has that feature of the International Potato Committee's work been regarded, that we learn of an important suggestion which has been made in relation to it, which, if carried out, would, whilst serving to establish one united authoritative tribunal in these matters, also very materially help to bring about that cordial alliance between the International Potato Committee and the Royal Horticultural Society, to which we have referred.

The proposal is, that for the purpose of certificating new kinds of Potatos, the International Seedling Committee should unite in that object with a specially appointed Sub-Committee selected from the Fruit Committee of the Royal Horticultural Society; that there should be but one annual trial of seedlings conducted by Mr. Barron for this body; and that certificates to Potatos should be given by this joint-Committee only. An united Committee of, say, twelve persons would suffice. At present there is some considerable trouble given to exhibitors of seedlings in inviting them to send samples of their seedlings to the Potato Show, although it is already certain beforehand that, having failed to obtain the required number of marks at Chiswick, they cannot obtain any award at the International Potato Show. Henceforth it will be desirable to have samples exhibited of those kinds only, which have received certificates, and as far as possible these samples should be selected from the Chiswick trials.

Lest there should be the slightest tinge of suspicion as to partiality, or other sentiment, on the part of members of the Committee we would suggest that the seedlings should be grown and tested under numbers only, and that not a name should be made known to anyone until after the awards have been made. In making this suggestion we do not for a moment assume that any such partiality is shown, we simply desire to see all such feeling rendered impossible. We have so many splendid kinds of Potatos in commerce that it is absolutely needful that some very high ground should be taken by the Seedling Committee, and awards made to kinds only which display very superior qualities. Probably more mistakes have been made by the Fruit Committee than by the International Committee. It is hoped that the appointment of a joint-Committee might henceforth render any such mistakes impossible

GARDENING MISCELLANY.

Gardeners' Royal Benevolent Institution.—The date of the next annual festival of this institution has been fixed for Friday, July 2nd, 1886.

The Pear Conference at Chiswick which commences on Wednesday next, there can be no doubt now will be an unqualified success, the number of entries received being already very large. We may remind members of the general Committee that a meeting will be held on the opening day at one p.m.

Registered Telegraph Addresses.—To the short list published in our last, the following may now be added: New Plant & Bulb Co., Colchester, "Wallace, Colchester"; Mr. Thomas W. Robinson, Dennis Park Iron Works, Stourbridge, "Alpha, Brettell Lane"; Messrs. James Cocker & Sons, Sunnypark Nursery, Aberdeen, "Cocker, Aberdeen"; Mr. R. Gilbert, Burghley Park, Stamford, "Gilbert, Stamford"; Messrs. H. M. Pollett & Co., Horticultural Printers, Fann Street, Aldersgate Street, "Horticultural, London."

Death of Madame Van Hulle.—The many personal friends in this country and abroad of M. H. J. Van Hulle, the learned and courteous Professor in the State School of Horticulture, and Honorary Inspector of the public gardens and promenades of Ghent, will learn with regret of the great loss he has sustained in the death of his amiable wife. The sad event took place on the 10 inst.

The Edinburgh Apple and Pear Congress.—We are pleased to hear that the Apple and Pear Congress which is to be held in the Waverley Market, in conjunction with the Royal Caledonian Horticultural Society's Chrysanthemum show on November 25th and 26th, promises to be of an extensive and useful character. The conference will, we understand, be continued beyond the dates named in the aquarium and galleries of the market, which have been placed at the disposal of the council by the city authorities.

Chrysanthemum Lady Selborne.—This lovely pure white sport from the favourite James Salter, which is so distinct in the plaited arrangement of its petals, is now finely in bloom in Mr. Turner's nursery, at Slough, where a large stock of it has been raised this season. It is certainly one of the loveliest and earliest of white Chrysanthemums, very free to grow, and of great value either for decoration or as cut flowers.

New Plants Certificated at Ghent.—At a meeting of the Belgium Chambre Syndicale des Horticulteurs held on Monday last, certificates of merit were awarded to Mr. Jules Heye-Leysen, for Cypripedium Fairieanum; to Messrs. Vervaet & Co., for Dendrobium species de Bermanie; and to Mr. Desmet Duvivier, for Eucharis Sanderiana. Comparettia macroplecton from Messrs. Vervaet & Co.; Cypripedium Arthurianum from Mr. Edward Pynaert; and Cattleya superba splendens from Mr. Desmet Duvivier received honourable mention as novelties; and specimens of Cocos Blumenaui from Mr. Spae-Van der Meulin; and Tillandsia musaica from Mr. Bernard Spae, received a like award for their good cultivation.

Chrysanthemums at Swanley.—We learn from Mr. Cannell, who does nothing by halves, that his stock of flowering specimens number this season over 5,000, and that when in bloom they will fill five large houses.

Ivy-leaf Pelargonium, Alice Crousse.—This lovely double-flowered variety with its large trusses of violet-tinted magenta blossoms, and for which Mr. W. Bealby of Roehampton received a first-class certificate at the last meeting of the Royal Horticultural Society, reminds us of the general excellence of the whole of the double-

flowered Ivy-leaved section as flower garden and window-box plants. During the last summer they have been of great beauty wherever they have been used, and their behaviour this season will certainly lead to their more extended culture in future.

The Proposed International Horticultural Exhibition in 1887.—At the conclusion of the business of the Fruit and Floral Committees on Tuesday last, a meeting was held in the Music Room, East Central Avenue, South Kensington, to discuss the practicability and advisability of holding an International Show of flowers, plants, trees and other things connected with gardening and forestry at South Kensington in 1887. The chair was taken by Sir Trevor Lawrence, Bart., M.P., the president of the Royal Horticultural Society, and the meeting was attended by most of the members of the council and of the Floral, Fruit, and Scientific Committees. Sir Trevor Lawrence opened the proceedings with a very clear statement as to the reason why the meeting had been convened, and made some remarks on the matter as it then stood, stating that his object was not to suggest anything at present, but merely to hear what the representative body before him had to say on the subject. The president, however, stated, that he did not see why the idea should not be carried out as well in England as in other countries, and, if it was carried out, he considered that it should be under the auspices of the Royal Horticultural Society. Letters were stated to have been received from different gentlemen bearing on the subject, and portions of them were read. Several gentlemen asked questions chiefly directed to ascertain how far the commissioners of 1851 might be reckoned on? How long the exhibition was to be kept up? And how the necessary accommodation for rare plants was to be obtained. Many of the questions asked could not of course be answered in the present stage, but it was gleaned that the exhibition if possible, should run throughout the season as that which is now being held and the previous ones have done, and that it was not anticipated that there would be any difficulty about accommodation. Mr. John Frazer said that the main question was, "Where is the necessary money to come from?" There were other difficulties in the case, but this was the most important. Mr. Harry Veitch said that he quite agreed with Mr. Frazer—a large sum of money would be required, and in such a matter as an international show we were not in so good a position as Antwerp, for example, where they were largely assisted by the Government and the City. Mr. G. Paul thought the matter practicable, however difficult it might be. Nurserymen might find it worth their while to keep up a continuous show, but he did not think amateurs would. Col. Trevor Clarke said it appeared to him that the whole matter lay in a nutshell. Little could be done at the present meeting, but all present could think the matter over, and give the results at a larger and more representative meeting, to be held on November 10th. A vote of thanks to Sir Trevor Lawrence, for his kindness in presiding, brought the meeting to a close.

TUBEROUS BEGONIAS AT READING.

Even up to the present, and it is certainly late in the season, the tuberous Begonias at the London Road Nursery, Reading, are beautiful, though not like they have been in the past season. It is a peculiar feature of the collections of Begonias which the Messrs. Sutton & Sons have raised, that they carry their bloom over very lengthened periods. This arises, no doubt, considerably from their parentage, which includes much of the free-blooming Pearcei strain; indeed, free and continuous blooming has been more aimed at than has mere size of plant or flower. Those who want huge specimen plants will, perhaps, prefer Messrs. Laing's robust stout-bred strain, the plants of which produce huge flowers, though not so abundantly as do the Messrs. Sutton's. Then the former firm have favoured intense hues largely, whilst the latter seem to have developed soft and refined tints in exceeding abundance. The soft carmines, apricots, salmons, yellows, and delicate whites seen at Reading seem to be as beautiful as well can be. Very few of the plants, although those in the large area of glass houses devoted to them may be counted by thousands, are named. We see them blocked together in colours, and very beautiful indeed are they so arranged. Most bulbs or tubers are sold in colours, and seed in the same way. Two special batches of plants attracted much attention, the first being plants raised from seed early in 1884, and the other raised from seed of that batch and sown in January of the present year. We thus find Begonias as annuals produced in fine plants, and again as greenhouse herbaceous plants from the bulbs. Of course, the herbaceous plants were the finest, and admirably served to show what one season's roots would produce, whilst the second lot showed as forcibly what may be got from seed. Both in the production of Gloxinias as well as Begonias as annuals the Messrs. Sutton & Sons seem to have distanced most other growers, in addition to which the plants are literally as good and the strains as superb as can be found in the world.

PEARS FOR VILLA GARDENS.

Fruit culture is mostly a mere vanity and vexation of spirit in suburban gardens, because the owners of these attractions to most city people are not successful in choosing the proper kinds, being generally guided by the market names, which are frequently erroneous, and further, the sorts are not suitable for restricted culture, I venture, therefore, to give a list of trees that buyers can safely rely on to make selections from during the coming season, and they should, with the exception of those sorts which do equally well on the free stock be procured on the "Quince," as root-pruning is then not so often—if at all—necessary, and the culture is quite simple.

On receiving the trees, dig a hole of the required depth, place the tree in it, shovel in a little fine earth, give the tree a slight lift and a shake, repeat this operation twice, then fill in to within 3 ins. of the level, and tread the tree in as tightly as possible, finish off, and, if a large tree, stake it at once. The operation is the same for pyramids, espaliers, cordons, or wall-trees, and all the following sorts can be used in those styles. Prune in February where necessary, and if a horizontal trained tree, place the supporting stakes at once, if a wall-tree, tack it up lightly, as it may sink a little, and after a month it can be firmly fixed. These Pears also succeed on the oak fences so often seen in small gardens, and may be placed on any aspect, be it even north, where a few Morello Cherries would, however, be preferable.

A Selection of Pears which are great croppers, making but little growth, and, excepting severe frosts, may be relied on for a regular crop:—

July, Aug.	Beurré Giffard . . .	the best early Pear
	Souvenir de Congrés .	very large and good
September	Williams's Bon Chrétien	free bearer on the Quince
	Colmar d'Ete	very sweet and prolific
	Madame Treyve . . .	most delicious and fertile
Oct., Nov.	Belle Julie.	very fine bearer
	Durandeau.	large and handsome
	Emile d'Heyst . . .	good as Marie Louise
	Beurré Clairgeau. . .	enormous, not first-rate, but good if gathered rather before it is ripe
	Fertility	a nice Pear, constant bearer

As a stewing Pear Bellissime d'Hiver is most beautiful and productive. In warm soils, and good situations Louise Bonne of Jersey, Pitmaston Duchess, Beurré Superfin, and Doyenné du Comice may be tried. We avoid giving late Pears, as they must have a fruit-room to store them, but, if desirable, Josephine de Malines, Bergamote d'Esperen, and Olivier de Serres are the best.—*Geo. Bunyard, Maidstone.*

THE INTERNATIONAL POTATO SHOW.

There can be little doubt but that could any of the first prize twenty-four dishes of Potatos, exhibited at the earlier International Shows, have been resuscitated and compared with the truly grand collections shown by Messrs. Hughes, Ellington, and Wiles, at the Crystal Palace last week, we should marvel at the fact that such collections could ever have been esteemed premiers of their respective years. Without doubt there has been a remarkable advance, both in the style in which what are called show Potatos are now turned out, and in the sorts staged. It is very doubtful whether any of the kinds found in the leading collections at the recent show were found in those of nine or ten years since; so that there has been within the decade, which forms the life of the International Potato Exhibition, an entire change in the *personnel* of the sorts grown and shown, and, without doubt, that change has enormously been for the public benefit.

We have now such grand kinds that those who take but a passing view of Potato progression may be excused for thinking that better cannot be hoped for. In that view we are far from coinciding, for the conclusive reason that finality is an impossibility when the intellect and skill of man is brought to bear upon vegetable life. We even have a prospect of a comparatively new race of kinds being produced from the free-growing species known as Solanum Maglia, as both Mr. Robert Fenn, of Sulhampstead, and Messrs. Sutton & Sons, of Reading, have obtained crosses with that and a good garden variety, and next year some practical results may be looked for. The species known both as S. Jamesii and Fendleri is of too weak and insignificant a form to produce anything useful; but the Maglia is a very robust growing kind, and bears the impress of having been a garden Potato progenitor in anterior days. Should such prove to have been the case, the product of the recent hybridisation will simply be the reproduction of old sorts, and nothing more; that any really distinctive and essentially superior kinds will result from these efforts is most improbable. We have grand Potatos now; we shall continue to improve in our garden strains as long as they will give us bloom and pollen; and there is no falling off in that direction yet, or likely to be for some time to come.

It was anticipated that the new breaks might give us some real disease-resisting kinds, but the prospect is far from being a favourable one. It is quite as probable, perhaps more probable, that, assisted by very favourable seasons, we shall, through the instrumentality of new robust and carefully selected and cultivated kinds, beat our old enemy the Peronospora infestans; and thus, without the aid of other species, destroy the fungoid dragon. Really we have seen so little of that monster of late that we have begun to forget its existence. Let us hope that events will soon enable us to forget it absolutely. But whilst we cannot but look with interest to the future of our Potato varieties, certainly we can do so with entire confidence. If the past foreshadows the future, certainly it does in this instance, and that future will be for the Potato a great and prosperous one.

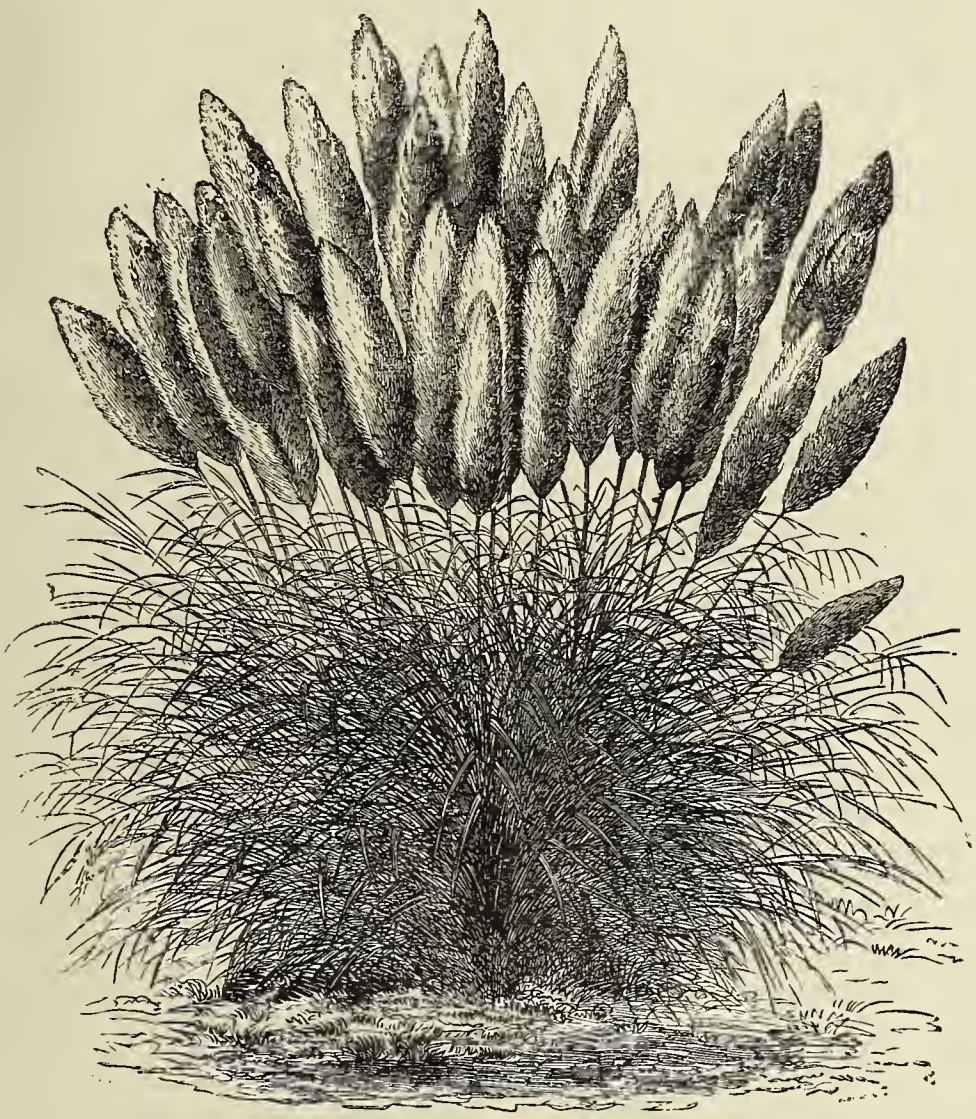
But whilst we have been thus raising and cultivating stout robust disease-resisting varieties, we have not ignored the very important element of table quality. Prejudiced persons may rave as they like, but only gross prejudice, or blind ignorance, causes them to assert that show Potatos, so called, are not fit for table. So utterly erroneous is that statement, that we venture to assert that nineteen out of twenty of the kinds shown in the large and best competing collections at the Crystal Palace were first-class croppers. We have many amongst our new kinds that are a long way ahead of the best table Potato of ten years ago, and when to that feature we add improved cropping qualities, and beauty of form, we find abundant evidence for the assertion. Many stupid people hold that rough or netted skins, and high-class table quality, will only be found in combination, but experience has long shown that assumption to be an absurd one, for we have many kinds which come out with skins like to ivory, and yet are of beautiful table quality. Perhaps some persons are so unfortunate that they have soil which will not produce good Potatos. In such a case they are to be pitied; but it is much more likely that the objections we sometimes read anent show Potatos, are the outcome of envy allied to ignorance.

It is worthy of remark also, that whilst the average size found in the best show samples was in advance of what has sometimes been found, it was equally below that seen on other occasions when judges have given an undue preference to weight over quality. We want a happy medium in matters of this kind, for tubers that are too big, even if handsome, yet are unsuitable for ordinary table purposes; whilst on the other hand samples which fall below 5 ozs. hardly give a profitable crop. There should be some clearly defined size or weight given, beyond which it should be held objectionable to go, as equally, samples below a given weight

should be esteemed wanting in merit. Very probably the best medium would be found in tubers from 6 ozs. to 8 ozs., and if selections were made by exhibitors within those limits, we should see everywhere much more even average weight and quality than is now found, even at the most pretentious of Potato exhibitions.

THE PAMPAS GRASS.

There are few more attractive objects in the pleasure grounds at this season than the noble Pampas Grass, Gynerium argenteum, now that its tall and elegant silvery-white, plume-like panicles of flowers are fully developed. For a single specimen on a lawn, for planting in front of shrubberies, for the American garden, or better still as an isolated specimen on the banks of a lake, there are few more ornamental subjects, and given a good deep soil, in not too damp a place, it soon establishes itself, and, except in very bleak places or very severe winters, requires no protection.



The Pampas Grass, Gynerium argenteum.

GOLD AND SILVER FERNS.

Gymnogrammas.—Although the genus Gymnogramma does not contain all the gold and silver Ferns, commonly so-called, yet, it includes by far the majority of them, and when speaking of gold and silver Ferns, the appellation is generally understood to mean Gymnogrammas. They form one of the most attractive and beautiful set of Ferns grown, as with the exception of G. chærophylla, G. rufa, and G. tomentosa, they all have their fronds more or less covered with golden, sulphur, or white farinose powder of various degrees of brilliancy. One often hears complaints about their being "miffy" and uncertain, but I cannot agree to this, although I am fully aware that the belief is rather deep-seated in many instances. Anyone possessing a stove, if they will give them a corner at the warmest end, or, indeed, any situation in the house (though a light one is preferable) where they can be kept from the syringe, so that no water goes over the foliage, will, I am certain, get satisfactory results where failures have been previously experienced. Besides, it adds much to the beauty of the plants by never allowing the fronds to be wetted, which mars the beauty of the Ferns if the farinose powder becomes washed off. I do not know any class of plants that present a more woe-begone appearance if heavily sponged to get rid of scale, which fortunately is not very troublesome, but which will occasionally obtain a footing.

Nurserymen, doubtless, collect the spores and sow them, and where required in quantities, this would, I imagine, be the better plan; but for private gardens it will not be necessary, as they freely reproduce themselves over the house in which they are grown, so much so, that one has frequently to throw them away as weeds. The only exception, however, in propagating itself with me, is G. chrysophylla grandiceps, which, although the plant has been grown here for three years, has never yet done so, but I do not despair of it yet. The following sorts will one and all be found worth growing, where space permits of their being grown, and seedlings from them, although not distinct enough to deserve being called new varieties, will be, however, very variable.

G. chrysophylla.—This is doubtless the commonest of all; the fronds are light green on the surface, and the underside is densely covered with beautiful golden powder, which changes with age to a darker colour, especially when the sori appears. This species grows from 1 ft. to 2 ft. high, but the varieties of G. chrysophylla Massoni, Stelzneriana, &c., are more robust, often attaining fully 3 ft. in height. G. chrysophylla Laucheana is more dense in habit than the type, and makes an excellent plant for exhibiting, quickly growing into a good specimen if conveniences are at hand for so doing. A variety of G. chrysophylla called grandiceps, is a beautiful massive crested form, making nice shaped specimens under good cultivation. It grows to the height of 2 ft. or 2½ ft., and at the same time is of a dense compact habit. G. chrysophylla Parsonsi is another of the crested forms in the golden section, which is well worthy of cultivation, being somewhat dwarfer in growth than the preceding variety, and of a dense compact habit, and cannot be otherwise than useful in a collection, in fact, as a crested form it is still in favour with some cultivators, but when the variety of G. chrysophylla grandiceps gets better known I think the latter will carry off the palm.

G. sulphurea is a dwarfer growing variety than any of the previous kinds, seldom reaching more than a foot in height. It is a beautiful but delicate species, and has golden powder on the surface, as well as on the underside of the fronds, but not so much.

G. trifoliata sometimes covered with golden and sometimes silver powder, is of a semi-scandent habit, and very different in appearance to any other member of the genus that I ever saw; the variation does not occur on the same plant, but appears to be a seedling probably of garden origin; which is the original I am not certain, but believe the golden form to be.

G. decomposita.—I must not forget to mention G. decomposita, a very distinct type of the genus, and which is also a plant of garden origin. It is of a more erect and better decorative habit than any of the forms already mentioned, the fronds, which grow from 2 ft. to 4 ft. in length, are slightly covered when in a young state with a nearly white farinose powder, but changes into a sulphur colour as they get older, the stipes being covered right down to the pot; the pinnæ are deeply cut into minute segments, thus giving the plant a very light and attractive appearance. As a plant for dinner-table decorations it is deserving of a high place where this genus is at all appreciated for the purpose; the farinose powder, however, does not show up so well by gaslight as in the case of G. chrysophylla Laucheana, &c., but still, its lighter appearance more than counterbalances this defect, if it be one.

Before leaving the golden section, I must mention their use for dinner table decoration, as I find them for that purpose better suited than the silver section, more especially at night, the lighter farinose powder not showing up so well as the darker tone of the golden forms, especially G. Laucheana grandiceps, whose crested fronds are thus shown at their best, and when once used for the purpose is not likely to be quickly discarded, where the decoration of the table is of primary importance and variety required for the purpose. Those belonging to the silver group are not, as a rule, quite so strong in growth, but are nevertheless very attractive, more particularly is this the case with the excellent and free growing G. Peruviana argyrophylla, which is a very handsome plant indeed. If confined to only one variety I should give this the preference, more particularly if I wanted it for exhibiting. Its beautiful fronds attain the height of fully 3 ft., and are covered on both sides of the fronds with a heavy coating of white powder, about the shade of white hoar frost when seen on the grass before the sun shines on it.

G. Wettenhalliana, a handsome crested form, is very variable in the colour of its powder, which is not so white as the preceding species at its whitest, and sometimes it is sulphur coloured, but is, in any case, a variety that ought to be in every collection, and one that will also make, under good cultivation, an excellent variety for the exhibition table, growing as it does from 2 ft. to 3 ft. in height, and of a handsome, dense, and compact habit.

G. tartarea.—A rather straggling long fronded variety, the surface of the fronds being dark green, whilst the under side is entirely covered with a very white powder, forming a striking contrast to the stipes, which are very black indeed. It is a dwarf habited spreading variety.

G. spectabilis or elegantissima, as it is sometimes called, is of an erect habit of growth and vigorous.

G. pulchella, is a very handsome species also, bright green on the surface of the fronds, and the underside of silvery whiteness; the fronds grow about 18 ins. or 2 ft. high, the pinnæ being very minutely cut in segments.

G. pulchella ramosa is a branched variety of the preceding, and is, I believe, of garden origin. Anyone may obtain a new variety that grow these Ferns without any trouble as regards fertilization. One other variety only will I mention, viz.,

G. schizophyllum, which is a comparatively new species, and for basket culture a very effective, distinct, and elegant Fern. I think this would do better in a lower temperature than the majority of this genus. I once had a plant of it, but lost it through, as I think, no other reason than keeping it too hot. I have seen it growing cooler than what I tried it in with good results, which I shall imitate when I get another plant.

I do not profess in the above list to have given by any means all the forms that are in cultivation, but such as are, perhaps, among the most commonly grown varieties, and most suitable from a gardener's point of view, and which is more than is to be found in most gardens, excepting with Fern fanciers who make them a speciality. For a compost two parts peat to one of loam, with small crock nodules mixed through it, and a liberal allowance of coarse sand added, will be found to answer for a root medium; whilst growing, abundance of water at the root is necessary. I have seen plants materially damaged through getting dry, but avoid the other extreme of soddening the soil or the plants will not thrive.—*E. Dumper.*

LANCASHIRE MARKET GARDENS.

Leaving Messrs. Upton's nursery at Irlam, which was noticed in your number for September 26th, we pursued our way to Mr. T. Deakin's market garden, where for the nonce, we might have fancied ourselves in the late Mr. Dancer's grounds at Fulham; the grounds here being planted on a similar plan. Here, we saw young Apple and Pear trees of luxurious growth, though the frosts of last May destroyed most of the crop, and we may remark, that there has not been one month this year free from frost in this part of the country. The breadths of Brussels Sprouts, Veitch's Cauliflower, Celery, Savoys, &c. were excellent. We saw some glass here but did not go into the houses, as we were anxious to get on to Mr. John Taylor's, Irwell Nurseries. These grounds, about 26 acres in extent, are well furnished with fruit and forest trees, shrubs and herbaceous plants, with numerous glass houses, and the cost for labour and horse-keep exceeds £700 per annum. The trade ramifications are extensive, and we were told that the present unfortunate strike of mill employés at Oldham, causes a difference in the returns of this one nursery of over £150 per week. The stock of green hollies here is very good, the plants varying from 2 ft. to 14 ft. in height, and the number grown is over 10,000. Large quantities of Privets, Rhododendrons, and Conifers are grown, as also large breadths of golden Retinospora, Laurels, and Aucubas, and great numbers of Gooseberries, Lancashire Lad and Crown Bob. We noticed also large quarters of Roses, especially of Madame Laffey, which is found very profitable for market purposes, Mr. Taylor having made many hundreds of pounds from this Rose alone. Moss Roses are also grown extensively for cutting from, as also Phloxes, Pinks, Cornflower, Lily of the Valley, &c., in fact, any free-blooming plant is here turned to use. Lilium speciosum and its varieties are grown in tubs or large-sized flower pots, and masses of Pyrus japonica and hardy heaths are also laid under tribute for Shudehill Market.

Within the houses the kinds grown for their flowers are too numerous to mention. Some houses are filled with Roses, others with Camellias, Acacia pubescens, and A. affinis over the roofs; Brugmansia suaveolens, Knightii, and sanguinea all come in useful. In others may be found Aloysia citriodora, Vallota purpurea, Allamanda grandiflora and Hendersoni, Stephanotis, and Clerodendron Thompsoni, with hundreds of Globe Amaranthus in pots on stages. In others again, we noticed Bougainvillea glabra, Gardenias, large plants of Hoya carnosa, and Bougainvillea running across rods and hanging in immense wreaths. Anon we came to masses of Zonal Pelargoniums just showing their bloom buds, and immense Azaleas of the Indian section, while large quantities of hardy kinds are brought forward as required during winter and early spring.

A number of other houses and pits were being erected to keep up the demand for cut flowers; in another place we noticed perhaps about an acre of Galtonia (Hyacinthus) candicans, Gladiolus, Pyrethrums, Phloxes, &c., from which large hampers of flowers were being cut. These are sent every day to Shudehill market, whence they are dispersed to the other busy towns of Lancashire. We are obliged to leave much unmentioned which we saw in this place, we were not aware there was such a busy place so near to Manchester; it is unique of its kind. On gaining the Manchester road we passed several farms under heavy crops, which were being gathered in.—*N. J. D.*

SCOTTISH GARDENING.

Planting Trees and Shrubs.—The season has now arrived when operations preparatory to tree and shrub planting generally occupy attention, September and April being favourite seasons for transplanting. Many make an early start and have the work completed before the earth becomes cold, as in late spring, so that growth takes place at once, and while there is a chance left of getting the roots secure in the fresh soil. It is admittedly a great advantage to the future well-being of the plants to have the wounds and cuts of the roots healed up before winter sets in, and with a hold of the soil, and all other things being equal, the plants will begin to grow next season as kindly as if they had never been moved. It is of much importance to plant quickly after the plants have been removed from the soil, and it is only in the case of systematically lifting them every one or two years, that immunity from a check, more or less, can be relied on. Where trees, especially the Fir tribe, have been long on the same ground where they have had deep rooting access, it is next to impossible to move plants of large size with much hope of success.

Hints on Purchasing Plants.—When planters are about to purchase their trees and shrubs from the nurseries, it is of vital importance to get a guarantee from the vendor that the roots are in a proper condition for removal and transit. At sales we have seen what by many was considered "capital bargains" disposed of, but a little time and experience showed that the plants would have been expensive could they have been had gratis, the roots being separated from the soil, fibreless, large, naked, unwieldly, and probably unavoidably injured at lifting time. Such trees the inexperienced should never (if possible) accept, but rather give a better price for plants which have had proper manipulation, by careful lifting and transplanting during past seasons. The same applies to fruit trees, but they are manageable compared with evergreen trees and shrubs. We have, during a course of many years practice, planted under very varied conditions, and often under circumstances the reverse of promising to lead to success, and also at times under orders which removed from us the smallest hope of success. Where work has to be done extensively it is not often that planting can be done at the right season, and, therefore, one must give the greater attention to preparing for the work. The mere forming of a hole and placing the roots firmly in it is not planting.

Preparing the Ground.—If clumps are to be planted trenching is most advisable, as a good depth of soil keeps long in an even state of moisture and is never so liable to become saturated with wet, as land lying solid and the tilth is of a shallow character; proprietors who have had much planting done and seen the results of trenching the soil readily agree to the extra expense. No one cares to plant without seeing tangible results, and trenching has done much to accomplish this. It is argued by some that it is dangerous in heavy clay districts to bring up the subsoil. This we would not advise, as the turning of healthy surface soil well down and bringing cold unhealthy subsoil upwards, and placing the roots of plants in it, would be most injudicious. The surface spit and the crumbs turned over on the subsoil after the latter has been deeply dug and broken up, is the better practice.

Draining is of primary importance where such is necessary. It is often noticeable that plants grow freely for a few years and then make little progress, and become stunted. The roots, under such conditions, may be arrested in their growth by a solid inert bottom, or the subsoil may be sour and poisonous from bad drainage. The position of the spot to be planted must have consideration; when the soil is high and dry, it may be necessary to put the roots well down into the soil, but if the reverse is the case, and the land is swampy, a mound of soil should be raised high enough to allow the roots to stand at least above the surrounding surface when planted, and if well covered with soil it will induce root growth to keep upwards. In severe seasons of frost, it is observable that trees and shrubs suffer most severely in low lying and damp localities, while on uplands the same class of plants may be found exempt.

Protecting the Roots.—It is highly necessary that when planting is performed the roots of valuable plants, which are liable to suffer from frost should be protected. On dry and poor land we prefer the protection of short manure, over which may be placed a quantity of soil to retain the virtue of the manure, as in ornamental grounds litter of any kind, however valuable, is very objectionable. We have often used withered grass and leaves for root protection. By summer the mulching is well rotted, and may be of great value as protection from drought.

Thick and Thin Planting.—When plantations and shrubberies are being formed, planting is often done so thinly that the keen draughts of wind through the plants punish them so severely that they never push into active growth, but move on slowly and stunted, always remaining dwarfed. We had lately favourable opportunities of observing a variety of hill planting in the highlands on slopes where one could hardly expect trees to thrive. There were vast plantations in the greatest luxuriance. Many of the Fir tribe were well represented, intermixed with Limes, Poplars of sorts, Birch, Oaks, Ash, Elms, &c. Such is common enough anywhere, but the care taken to plant so densely that the wind cannot penetrate the mass of plants in unbroken sweeps is carefully maintained. Each plant protects its fellow, and such immense growth speaks volumes for the system of "planting thickly," if "thinning early" is also adopted. Close to these plantations may be seen the results of "thin planting;" the stunted appearance of the plants telling forcibly that such false economy should be avoided. The highland foresters are men advanced in the arts of their profession, as the vast luxuriant forests testify, and we know that these men do not readily err on the side of false economy either in labour or plants.

Transplanting Large Trees.—When large trees are to be transplanted we have always found that preparation the previous year greatly facilitates success. Digging round the roots, cutting off cleanly such as are likely to be broken, and those which are free from fibre, replacing the soil, and leaving the whole untouched till next season, when a quantity of fibres will be formed which will readily strike into the new soil when transplanting takes place. It is in favour of ultimate success to make the soil firm about the roots, and they should be secured against wind. In preference to stakes, we use three ropes extending equi-distant outwards at regular angles, each fastened to a peg firmly fixed in the soil. The ropes are fastened round the stem of the tree, which is protected with a piece of cloth, matting, hay-bands, &c. If wind has the mastery of the plants a short career will be theirs. It is often noticeable that planting for effect is very injudiciously done, trees being placed indiscriminately on the demesne. Views which might have been retained are closed up, hollows are filled, and the plants only show their tops, making the surrounding undulations appear level. Clumps forming glades are to be commended, carrying the eye as far across the country as possible, and the clumps should not be in scrolls, or showing thin lines, which are often observable in plantations formed by the inexperienced. Such may look pretty on the ground under close inspection while the plants are small, but one should look forward for generations to come, anticipating what the plantation should be like when fully developed. Trees form outlines of their own, and should always be planted in masses.

In Blenheim Park one may see grand examples of planting, as carried out by the famous "Capability Brown," who, no doubt, could see in his mind's eye the work (consummately planned) which was to create such admiration years after the great planter had passed (but not forgotten) from the scene. We never seemed to become tired of gazing across the delightful landscapes at Blenheim. At Burleigh Park, near Stamford, the same class of planting was arranged, and though not of the gigantic type as at Blenheim, is very extensive and beautiful. In the Regent's Park Botanic Garden masterly examples are to be seen of shrub and tree arrangement, which of itself is a lasting tribute to the great Scotch landscape gardener, Mr. Marnock, whose masterly skill planned that beautiful garden, which is so justly admired. An evil (too often practised) is the huddling of shrubs or insignificant trees around the trunks of the giants of the forest, exhibiting thoroughly bad taste, absence of skill, besides frequently damaging the fine trees by torturing their roots. Large trees should stand clear and unfettered, showing all their proportions.

Even the gnarled roots (where they exist) should be left free and exposed. The planting of flowering plants in the "bedding" form are distortions sometimes seen, and are very objectionable. Masses of Snowdrops, Primroses, Periwinkle, and hosts of other flowering plants carpeting the ground where gigantic trees tower above them, is a sight which all can admire; but when art comes in, such as we have indicated, we have a burlesque.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Plants in the Open-air.—In cases where greenhouse plants are still standing out they should be placed under cover at once, for though a little frost will do no harm to such things as Camellias and Azaleas, both of which are almost hardy, the heavy rains we are now getting will make them too wet at the roots.

Chrysanthemums.—Although these are generally grown in pots when required for decorative purposes indoors, they generally do quite as well, or better, planted out, and those who are cultivating them in that way should lose no time in lifting them, or the plants will flag and suffer when brought into the house. In taking them up it is necessary to exercise care, and to secure as large a ball of earth with each as possible, and as soon as they are dropped into and pressed tightly in the pots, the next thing is to give a good watering to settle the soil, after which the plants should be stood close under a shady wall, and be kept syringed or damped overhead to preserve the foliage in a fresh healthy state.

Disbudding the Plants.—The flower buds of Chrysanthemums will now swell fast, and where fine blooms are desired, thinning out must be pursued, leaving only the central or biggest and most promising bud on each shoot; but though this plan of treatment is requisite when they are intended for exhibition purposes, it is not the best of the plants that are wanted for furnishing, as then it is desirable to have many blossoms to make a fine show. This being so, all that should be done with those required for the use last referred to is to remove any buds that appear crowded, and thus give those left plenty of room to develope and open, and to aid them in this, liquid manure should be given whenever the plants are dry at the roots.

Taking the Plants Indoors.—If the weather remains fine and mild the plants will be better outdoors for a week or so longer, but if an adverse change occurs they should be got in at once, and when under glass it is important that they be kept cool, with an abundance of air, or mildew will get hold of them, and spoil the foliage if the atmosphere remains at all close.

Cinerarias.—It is time now that these had their last shift by potting them into the sized pots they are to flower in, the most suitable soil being light fibry loam, leaf mould, and a little rotten manure mixed, in which they are sure to do well. As Cinerarias are damp loving subjects, the best place for them is a cold frame or pit, but as they are very tender they must be protected against frost by secure covering till they are removed into the house.

Primulas.—The most suitable situation for these is a light airy shelf up near the glass, when they can have a temperature of about 50° by night, in which degree of heat they will continue to grow and send up fine trusses of bloom.

THE FLOWER GARDEN.

Making and Repairing Walks.—Nothing adds so much to the comfort and convenience of a garden as well-made good sound walks, as, instead of being soft, dirty, and disagreeable as many are, they remain in a firm condition all through the year. To have them in this desirable state they must have solid foundations to start with, and these may be made with any kind of hard material found ready to hand for the purpose, the best, perhaps, being slag or clinkers from furnaces, as owing to their rough rugged surfaces, they grip hold of chalk put with them, and bind almost as hard as a rock. Failing the slag or clinkers, big rough stones or broken bricks will be found to answer well, but whatever is used must be filled up between, as it is impossible to have the walk right at the top if there is any looseness or shifting below, neither should water be allowed to soak through the surface, but be carried away by means of drains and gratings laid along the sides to take off the rain as it falls.

With the drains and bottom or foundation in, the next thing is to put on a layer of stony gravel of good binding quality, and on that, an inch or so of sifted or finer stuff to finish off with, when this is made perfectly level and smooth, the whole should be rolled down with a heavy roller, repeating the same operation again and again after rain, till the gravel gets well together and seems solid and firm.

Repairing and Surfacing.—Old walks that are discoloured, and much worn, may be repaired, brightened, and made in appearance equal to new, by just breaking up and turning the surface, and giving a thin dressing of new stuff, which should consist principally of very fine stones, as all else that is wanted is sufficient of the binding material to hold them together.

Lawns and Grass Verges.—Next in importance to having good walks, is the condition of lawns and verges, which, if uneven, are a great eyesore, and not only that, but are bad for cutting the grass. Turfing and Relaying: In cases where the hollows or inequalities are many, it is best to take up the whole of the turf, and after thoroughly leveling the surface by putting on fresh soil, or breaking down the hills and bringing them into the holes, to relay it again

Cutting the Turves.—For the work to be done properly, it is necessary to have all the turves of a size, and the same in thickness, and the thinner they are, so long as they are stout and strong enough to hold together, the better, as they may be beaten down regularly with little trouble or labour.

Taking out Weeds.—What disfigures grass plots almost as much as being unlevel, is, to have them full of weeds, especially such coarse usurpers as Plantains and Daisies that spread in great patches, and, if left to themselves, soon seed and cover the greater part of a lawn. To prevent this, the best way is to dig them out, which may easily be done by having a narrow spud-like tool with a bent stem to act as a lever, as by its use the weeds may be cut through just below the crowns, and lifted out of the ground without much disturbing the surface.

Killing the Weeds with Acid.—A quicker way, perhaps, of killing the weeds in lawns, is to destroy them with vitriolic acid, one drop of which popped into the heart by the aid of a stick will burn the weed up.

Beds and Borders.—Lifting and storing Dahlias: So long as the tops of these remain alive they may be left out, but directly they are killed down by frost they should be lifted at once and stored, the most suitable places for them being a cellar or shed, where the tubers ought to be buried in dry soil to keep them plump and sound till the spring. Gladioli: the best way of wintering these is to lift the bulbs or corms just as they are with the tops on, and put each one, or several together, in a pot, burying the roots with dry sand, and then standing them in a cool airy house or shed out of the reach of frost, and there keep them till March.

THE FRUIT GARDEN.

Gathering Fruit.—Although the late heavy rains have done much in enlarging the size of Apples and Pears, it is to be feared that such a glut of moisture will act very injuriously against their quality and keeping, as they are full of crude juice, which at this late season, with so little sun, cannot be converted into saccharine matter. This being so, the fruit should be left on the trees as long as it will hang, and as it is very backward this year in ripening, there is all the more reason for deferring the gathering. The proper time to pick the fruit is on a still dry day, when baskets padded with hay or other soft material should be used, and the Apples and Pears put carefully in and carried to the place of storage, where they ought to be sorted and laid singly on shelves that they may be looked over easily, and any defective ones taken out and used before they go bad.

The Vinery.—Those who have Grapes hanging will find it a most difficult matter to keep them sound, but with great watchfulness and care it may be done. The chief thing to attend to is the atmosphere, which must be maintained in a very buoyant condition without raising the temperature, as artificial heat soon causes the berries to shrivel. To avoid this evil, the way to manage is to have the pipes just warm, and at the same time the ventilators slightly open by night, as then any moisture arising from the floor of the house will be driven out instead of condensing on the Grapes as it otherwise would. If any of the berries show signs of decay they should be cut out at once before they contaminate others they touch.

Young Vines.—The weather has been so cold and sunless that these are very late in ripening, and to finish them off, dry artificial heat will have to be resorted to, which should be given by day, keeping a fair amount of air on at the same time, and the combined influence of the two will then bring about a hardening of the wood, and maturing of the buds, and greatly assist the rods in showing good crops of fruit.

Strawberries.—Instead of digging amongst Strawberries at this season, as is too often done, it is far better to take a hoe and draw some of the earth between the rows up to the sides of the plants, and then give the ground a good dressing of half-rotten manure, which will keep the frost out, and encourage fresh roots from the crowns.

THE VEGETABLE GARDEN.

Taking Up and Storing Roots.—The worst thing that can be done with Potatos is to pit them, as when covered up close under straw and a heavy body of soil they generate heat and begin to sprout; and not only that, but Potatos that have been pitted and are used soon after being taken out, always taste earthy and have their flavour and quality impaired, and those for seed become weakened through growing. The best way of managing with the last-named is to spread them very thinly on the floor of a dry airy shed, where they are safe from frost, and there keep them as cool as possible, and the same with those for cooking, but they must be screened from the light, as exposure turns the skins green and spoils them for table.

Beetroot.—As Beetroot is rather tender, and becomes injured by frost, it is not safe to leave it out much longer, but in taking it up care should be exercised not to break any more of the roots than can be avoided, or to bruise the skins, otherwise the Beet will bleed when being boiled, and lose much of its colour and flavour. The way to manage with the leaves is to wring them off and not cut them, and after that is done the Beet should be packed away in dry earth or sand to prevent shrivelling and keep it sound and good for the winter.

Carrots.—These require treating exactly in the same manner, and ought to be dug out at once, as they are growing again since the rain, and making fresh roots from the sides.

Cauliflowers.—These will be safe for the present if the plants are examined and have their leaves bent over the hearts of those turning in, but later on it will be better to lift them and lay them in by the heels in any old pit or frame, where they can be protected by night, as by managing in that way a supply may be kept up till very late in the winter.

Lettuces.—Any of these that are now getting large enough for use should be lifted with good balls and placed under cover of a frame, where they can be sheltered from frost and kept dry, as then they will afford a supply for a long time to come.

Endive.—This may be treated in the same way, or tied up where they stand, but if the latter it is better to put an inverted flower-pot over each, when, by excluding them entirely from the light, they blanch beautifully and are crisp and good in flavour.

Cabbages.—The best of all the Cabbage family to come in at this season of the year is Gilbert's Chou de Burghley, which everyone should grow, as the heads are large and tender and delicious when cooked, beating Savoys in every way, which vegetable Chou de Burghley is likely to oust from all gardens.

Spring Cabbages.—Where slugs are troublesome, a dressing of fine lime and soot mixed and sown over the ground will be found beneficial for these plants, and a frequent hoeing or stirring of the surface does much to keep the insects in check.

Wigandia caracassana.—This may either be propagated by roots in the autumn or from cuttings in the spring; but as cuttings are not produced very freely it is better to try with the roots, which may be treated the same way as Aralia papyrifera, but they do not start quite so freely, and require a little more heat.

NOTES ON PEARS.

It is with considerable pleasure that I look forward to the coming Conference to be held at Chiswick, and to which all interested in the welfare of this delicious autumn and winter fruit should not lose the opportunity thus afforded them of sending samples of any kinds, the names of which may not be known to them. I know of nothing more disappointing than to have charge of a collection of Pears, or even to have a tree or two of kinds, the names of which are not known to us, as in such a case one runs considerable risk of losing the fruit for the want of timely attention—at least until we have made ourselves acquainted with them; for some kinds of Pears go decayed in the centre, when kept in a cool place, before they show any symptoms of ripening externally.

With the early kinds of Pears, such as Doyenné d'Ete, Jargonelle, and Williams' Bon Chrêtien, we have simply to gather a few at a time, and place them on a shelf in any room or shed, when they will soon be fit for table; and the same may be said of such kinds as ripen during September and the early part of October, among which may be mentioned Beurré de l'Assomption, Brockworth Park, Flemish Beauty, Beurré d'Amanlis, and occasionally some of the October Pears will come in during that month, and *vice versâ*. It is almost absolutely necessary that all long-keeping kinds of Pears, that is to say, those that do not ripen for some weeks or months after they have been gathered from the trees, should be kept in a cool place free from frost, and to remove them from this cold room to the dessert-table is not the proper way to get such fruits appreciated; for those who have ever partaken of any part of this ice-cold fruit in the cold winter months will probably have experienced an attack of indigestion, if they had never done so before. Now, apart from the danger of these fruits becoming ripe before we are aware of it, it is necessary that we should know exactly when such and such kinds will ripen, so that we may place them in some warm situation to bring them forward a few at a time, according to the demand, as it is a well-known fact that the majority of Pears are better flavoured when used before they get dead ripe, as many when in that state are mealy and almost flavourless.

Our method of bringing the fruit forward for table use from this season onwards for three months is to have a shallow box lined with wadding and paper, and which holds two or three dozen fruits, over which we place a lid, and then put the box on the stage over the pipes in the latest vinery, where late Grapes are hanging and which is kept at a comfortable temperature from now onwards to the new year. From this box we draw our daily supplies. We have now in their ripening quarters fruits of Marie Louise d'Uccle, which, with us, is a prodigious bearer; but the flavour is not to be compared with that of the old Marie Louise, some fruits of which are also being brought on with Beurré Capiaumont, Jersey Gratioli, Flemish Beauty, Doyenné Boussoch, and Louise Bonne of Jersey, which will be followed by such kinds as Comte de Lamy, Seckle, Brown Beurré, and later gatherings of some of the former kinds, especially of Marie Louise, which it is impossible to extend over too long a season. These will be followed in turn by such varieties as Duchess d'Angoulême, Beurré Diel, Beurré Clairgeau, Thompsons, Van Mons. Léon Leclerc, which will carry us on through November, when such kinds as Passe Colmar, Beurré d'Aremberg, Glou Morceau, and Winter Nelis will carry us through December, after which Easter Beurré, Beurré Rance, and Ne Plus Meuris will carry us well nigh to the end of March, if in sufficient quantities.

It may easily be seen how necessary it is to make ourselves thoroughly acquainted with the habits of the kinds, and though no hard and fast rule can be laid down as to when this or that kind will be ripe, as the nature of stocks, aspect, and climate differ so much in different parts of the country, anyone who has made himself tolerably well acquainted with the leading kinds will soon master these little differences. Those who have not any quantity of fruit or a great number of kinds to deal with may make each kind extend over a considerably longer season by going over the tree and making two or three gatherings, laying the fruits from each gathering by themselves, and introducing them into any warm room, such as a shelf not a great distance from a fire-place which is generally in use, or a drawer similarly placed, and they are best wrapped up from air as much as possible.

It is too late now for anyone to avail themselves of this hint, as, by the time these notes are published the bulk of the Pear crop of this year will have been gathered in. The general test of fitness to gather is when the fruit will part freely from the tree, but this is not altogether a reliable guide, as some fruits of Marie Louise d'Uccle, with us, hang tenaciously to the wood when they might without detriment have been placed on the dessert table. Winter Nelis is also a kind that never, with us, parts freely from the wood; whilst Passe Colmer and Ne Plus Meuris, although equally as late, and the latter later in ripening, will part as freely as possible, some time before we care to gather in late-keeping kinds.

The best way to try the fruit to know if it is fit for table is to give it a slight squeeze near the footstalk, as it is less likely to disfigure the fruit there than when tried in the more fleshy part of the fruit. Intending planters may depend on the foregoing as being among the most reliable kinds to plant, and many of them will succeed as espalier and bush trees, as well as against a wall, which latter must be considered the home for the Pear tree in this country, as there are few kinds that are not benefited by such a position. Those who require good stewing Pears will find Catillac and Uvedale's St. Germain two excellent kinds, but doubtless the coming conference will bring several little known sorts prominently to the front.—*C. Warden.*

BASKET FERNS.

Where Ferns are used in baskets for the decoration and embellishment of the greenhouse or conservatory, there is generally a run on a few kinds, a sameness, as it were, which would appear to point to a lack of suitable sorts for this purpose, which really does not exist. The kinds usually employed, too, are by no means the best adapted or most worthy, and which, from their non-pendant habit of growth, cannot be admired so well when grown in baskets as if grown in the old style in pots. A plant under the eye is the one which generally commands the immediate notice of visitors, and needs none of the neck twisting and straining so often requisite where basket plants are in use in an endeavour to get a glimpse of their beauty. In order then to avoid this rather unpleasant sensation, the first thing to bear in mind is that of the position which they should occupy, and before deciding this, the following points should be duly considered:—1.—What place are they to furnish? If this be a small greenhouse, the basket should be so placed as to meet the eye on entering, and if of fully pendant habit, it should be raised sufficiently high to allow of plenty of head room, or if overhanging other plants it should be placed accordingly. 2.—Their habit of growth. If the plants are of close habited growth, twining its way through the net-work of the basket and clinging closely to it, they may be conveniently placed towards the front of the house, overhanging it may be, the plants on the front stage. In such a position and on a level with the eye they are seen to advantage and readily admired, not so, however, when such close growing kinds, as Davallia Tyermanni and D. Mariesii, are suspended 2 ft. or 3 ft. above ones head. Always have them within easy view so that they have not to be lifted down to be admired, then is it that basket plants of all descriptions are both pleasing and attractive.

Baskets of Ferns to become really good ornaments require, at first, a certain amount of judgment and discretion in making them, and also a fair knowledge of the dimensions of the plants when fully grown, respecting which much will depend on the kinds themselves and the temperature in which they are grown. With a view to assisting any who may have a desire in this direction I will briefly cite some of the most worthy Ferns suited either to warm or cool houses, and of which there are plenty of sorts sufficiently diversified in form to suit all comers, even should they require a basket Fern 7 ft. or 8 ft. across. I hope these dimensions will alarm no reader of the Gardening World, for possibly many amateur's greenhouses are only twice that size, and to monopolise it with one plant would never do. Certainly not! But even the smallest greenhouses may be catered for, and beautiful baskets of Ferns only the same number of inches across may be had in plenty.

Adiantum Farleyense.—Among Maidenhair Ferns or Adiantums there are several of great value for basket work, foremost among which is A. Farleyense, the veritable prince of the genus, a grand and telling plant when well grown, no matter what system is adopted. As a basket plant it is little known, though among the most valuable. I first saw it thus used in the Cambridge Botanic Gardens, where Mr. Lynch had evidently well calculated its worth. If besides a fair-sized plant for the centre of the basket some smaller ones can be afforded for the sides, the latter will be furnished at once, as it would if a fair specimen only was used.

Adiantum amabile.—The next best Adiantum is amabile, an elegant and most graceful Fern. The fronds are quickly and numerously produced, and altogether it is one of the most pleasing basket plants I know. Another and a fitting companion for the last-named is

Adiantum assimile, which, with the above-named, delights in a warm or temperate house, where they make quick growth. Then we have a really good plant in the British Maidenhair

Adiantum capillus-veneris, which furnishes a basket well. This is sufficiently hardy to be well grown in a cold house, though to keep it in presentable condition a cool greenhouse temperature may be best. These three last-named Adiantums have all rhizomatous growths, hence they are adapted for furnishing the sides of baskets; and considering that these rhizomes are so abundantly produced in these three plants, we only get the one half of their beauty developed when grown in pots as against that when grown in baskets, and where they have every facility for free development in all directions.

During the spring of the present year I basketed some plants of A. amabile—plants that had been starved in pots for two or three years past, though the pots were crowded with crowns. My first stroke was to cut the ball in halves. These I laid to the sides of the basket, and having well loosened the matted roots, I completed the operation by filling in with good soil. In a few weeks fronds in abundance were to be seen issuing from the sides of the basket, in itself a proof that such plants should not be imprisoned in pots where they are grown for their intrinsic worth and beauty. Pots are a grand commercial convenience which we cannot do without, still there is no reason why the culture of so many plants in pots, which are grown for what they are worth, should be adhered to in private gardens, in the case of plants which are better adapted for baskets

Adiantum Lathomii.—Another Adiantum which I must not overlook is Lathomii. It is not very common yet, but just take a glimpse of it, and you will easily see a charming companion for A. Farleyense in its elegant and graceful fronds. Passing from the Maidenhair Ferns, we have some good things among

Aspleniums and Davallias.—Of Aspleniums which do well in a greenhouse temperature the best are bulbiferum, Veitchi, and flaccidum. In the genus Davallia we get a greater variety, and for the most part they are essentially greenhouse subjects. The following may be employed for baskets:—Canariense and its variety, pulchella, elegans, dissecta, Mariesii, and Tyermanii. The last-named does best, perhaps, in a warmer temperature than the others; but one, the best of all this group, is D. Mooreana. This is the plant for a warm house, and one which will attain 7 ft. in diameter, and this as a basket plant. Yes! this is so, and within the limits of the size as seen by the writer in the late Mr. Joad's garden, at Wimbledon, some years ago. When seen of such a size it is not readily forgotten, nor can its value be over-estimated. Among newer introductions in the way of stove Ferns, we have a perfect gem for basket work in Messrs. Veitch's new Davallia tenuifolia Veitchiana, the elegant drooping habit of which is well shown in the accompanying illustration, kindly placed at our service by the Messrs. Veitch. Its fronds grow from $2\frac{1}{2}$ ft. to $3\frac{1}{2}$ ft. long, and are very finely cut.

Goniophlebium appendiculatum.—A very distinct Fern, too, is Goniophlebium appendiculatum, the rachis or mid-rib of which assumes a reddish hue. It is suited for the greenhouse. In

Microlepia hirta cristata we have another valuable basket Fern of easy growth. The arching fronds are of considerable size, and are heavily tasselled at the extremities, which give to the plant a graceful appearance. Of more frequent occurrence than many is

Nephrolepis exaltata, which is well suited to a greenhouse temperature; is of easy culture and of free elegant growth. Then in the genus

Pteris we get variety again, several of the best tasselled forms making excellent basket plants, and their cultural requirements are very simple. Give them a

greenhouse and soil such as most ordinary Ferns like, and see that they suffer not for want of water, and these will be all right. They are good for enduring hardships, and last well in rooms where gas is used. The same remark may also be applied to the Aspleniums above named.

PTERIS SCABERULA is a close, compact-habited, and elegant little fern, nearly hardy, which will furnish the sides of a basket quicker than any plant I know. In texture its fronds somewhat resemble the Litobrochias, and it soon spreads out over a large area when planted out. It will grow freely and well all the summer long in a close moist frame without heat, so that it should receive a good deal of attention from those who have not much heat at command. It is also beautifully adapted for cuttings for bouquet or button-hole purposes, and over the surface of the soil and a few bits around the basket, makes, when established, a really good basket plant, and a useful one, too, for many purposes.

With regard to their management, I may say that there is little difference between basket plants and pot plants. A moss lining will, however, be necessary in the former case to keep the soil together; and as to the most suitable soil, equal parts of peat and loam will suit all those mentioned, save the Lomaria, Woodwardia, and the crested Pterises, which will be better suited in loamy soil to which a fair sprinkling of sand may be added, making all quite firm. Wire baskets will do for the majority. The strongest growers, however, will need something stronger, all of which may be bought cheaply in various designs, either from ironmongers or horticultural sundriesmen.—*J.*

DAVALLIA TENUIFOLIA VEITCHIANA.

being hardily grown and of a suitable size, it is thus a very useful little plant. It is, in short, one of those cheap, good, and easily-grown plants which will satisfy the masses. A very familiar plant is

WOODWARDIA RADICANS, and which attains large proportions. This is a most handsome Fern, and one which, as a basket plant in the spacious conservatory, has few equals. Its fronds attain as much as 4 ft. or 5 ft. in length, probably more, even, than this, terminated by a bulbiferous crown, from which, in time, a new plant springs, which, in turn, is gifted with similar reproductive powers. A grand plant, this, for the large rockery under glass, where its huge fronds can be seen to advantage arching over some great stone with tropical effect, and the rapid growth it makes in a good deep soil is surprising. There is also a crested form equally good, and both are comparatively hardy.

Here, then, I have given a few of the best basket Ferns known to me, though those enumerated do not by any means exhaust the list, as this was not my intention. There are plenty of others, such, for example, as Lomaria Gibba, which, with a topping of Selaginella

BOTANICAL MARE'S-NESTS—CHIEFLY FUNGOLOGICAL.

(Continued from p. 92.)

Perhaps some of my hearers may say that the writers to certain gardening papers are less worthy of notice than writers to some of the literary and scientific papers, perhaps they are, so let us turn to a paper which is esteemed as an oracle of learning by some of the lesser booksellers, I mean the "*Athenæum.*" On the 11th March, 1876, this paper published an account of Professor De Bary's Potato discoveries: the article began by terming the Professor "a distinguished foreigner," and then said the "conidia of the Potato fungus, when shed, leave swellings on the branches," and that the zoospores are "provided with a cilium." Better, however, follows, for the bookseller's instructor said the "distinguished foreigner" on planting oospores or resting-spores in Potatos obtained "minute plants, which "conducted themselves exactly like zoospores." Could anything be more rich and ridiculous, planting oospores and obtaining minute plants conducting them selves not only like, but "exactly like" zoospores. These rare plants ought to be placed in the Guildhall Museum with the Lord Mayor's "marine plant" and moistened daily with turtle soup. One more sentence must be given, the bookseller's oracle says that on the "distinguished foreigner" experimenting with the plants just mentioned on the "moistened legs" of dead flies, the complete phases of their development "was watched," that is, the phases in development of the legs of dead flies. Thank Zeus I live in my own country, so am not a "distinguished foreigner" to be shown up as such to Englishmen in the *Athenæum.*

PROFESSOR DE BARY'S DISCOVERIES.

Professor De Bary has discovered several mare's-nests in reference to the Potato fungus; for instance in one of the Royal Agricultural Society's official reports it is said that the Professor "expresses sanguine hopes that he has at last discovered the certain nids or resting places of the oospores," but the Professor now confesses that he has never made any such discovery, the assumed discovery in the Agricultural Society's report is therefore a mare's-nest.

In 1874-1875 it was stated by a high authority before the British Association, that Professor De Bary had discovered an alternation of generations in the fungus of the Potato disease, and that the fungus passed part of its existence on Clover, in the style of the fungus of corn mildew on Barberry bushes. A few persons believed in this assumed discovery; nothing is too absurd for the gullibility of some people. No one believes in the Clover business now, and the discovery, or the report of the discovery, was an unmitigated mare's-nest.

In 1872 Dr. Alfred Carpenter reported to the *Times* on the discovery of a curious mare's-nest, discovered by himself; he said he had found that "the tuber was planted with the resting spore in its eye," as if a Potato (like Polyphemus) had only one eye, and this eye was naturally selected for assault by the knowing resting spore. In describing Potatos, Dr. Carpenter said they were like "highly-fed, richly-seasoned human beings, whenever fever gets hold of them they rot most rapidly." Dr. Carpenter, in a subsequent letter to the *Times*, solaced the readers of that paper by telling them that "the Potato disease may be prevented as certainly as typhoid fever or cholera may be prevented among human beings." It would, therefore, seem to be quite an easy job to stamp out cholera, typhoid fever, and Potato disease, but unfortunately the author (no doubt with the reticence common to great men) omitted to mention his easy mode of prevention.

THE COLORADO BEETLE.

In the *Times* report of the International Potato Show for 1878, it was said that the "farmers" of new varieties of Potatos get new forms "by mingling the pollen of the blossoms"; the female was dispensed with. In the same article it was said, that to avoid the introduction of the Colorado beetle from America, American Potatos were raised from American seed in this country, but "not imported direct," as if the beetles would fall off the seeds in some other country before reaching here, if the seeds were taken in a circuitous way. In a leader subsequently published in the *Daily Telegraph*, the above fallacies (with several others equally or even more absurd) were plagiarised and reproduced almost word for word, and published as original.

In 1872, the *Times* in reporting on the Potato disease said that the Academy of Sciences of France had arrived at the conclusion that the germ of the malady was due to the presence to two insects, the Aphis vastator (vast-tater, W. G. S.) and Eupterix picta.

But we need not go to the non-scientific *Times* for blunders, for only a week or two ago, one of the Agricultural papers published a letter, explanatory of the nature of the Potato disease; the writer said "it is well known the disease consists of animalcula *(sic)*—But how they come is a mystery, and how they can be destroyed is yet to be discovered."

Last year Mr. Laxton, of Bedford, succeeded in conjoining by grafting Potato stems and the stems of Solanum dulcamara. A leading horticultural paper in commenting on this, said, the graft had been made with Deadly Nightshade, and that nobody but Mr. Laxton would have thought of operating upon the "Deadly Nightshade." At the same time, another writer to the same paper in describing a disease of Cucumbers, said, "he was 'convinced' it was caused by a superabundance of gases, evaporating from unhealthy soil."

One more instance and I have done with the Potato. After Professor De Bary had made his premature attack on my views regarding the resting-spores of the Potato fungus, every little skirmisher thought he could safely discharge an arrow at me in the same direction; whenever I published anything about an oospore, someone, big or little (generally little) would be sure to start up and deny what I had said.

A Fossil Peronospora.

Soon after my notes on Peronospora infestans were published, I described what I modestly took to be a fossil Peronospora from the Coal Measures, a fungus with septate threads and possibly zoospores. Someone appears to have incited Professor W. C. Williamson, F.R.S., to cast doubts on some of my interpretations. The Professor's paper "Organization of the Fossil plants of the Coal Measures" was published in the *Philosophical Transactions of the Royal Society for* 1881. The author complains that I have shown what he terms "septæ" *(sic)*, near my "supposed oogonia." No vegetable bodies fall more readily from their supports than do oogonia from their supporting threads; the preparation I worked from was full of free oogonia. The professor commenting on these free bodies, writes:—"It was long doubtful whether or not these belonged to the supposed Peronosporites, but I have no doubt as to their doing so." I should like then to ask him how he explains the fact of so many oogonia falling from their supports if they were without what he terms "septæ." Oogonia always drop off at a septum, and the base of the septum necessarily forms part of the circumference of every free oogonium. The professor says, "that the plant is a fungus, seems probable; equally so that its relations are with the 'Saprolegnieæ." What a nice distinction! I wonder whether it would surprise Professor Williamson to learn that Peronospora is a close relation of the Saphrolegnieæ. But the worst mistake the professor makes, is, when he says that I described "oogonia containing oospores"; oospores are not mentioned in my paper, what I really described were "oogonia containing zoospores." All botanists know that between an oospore and a zoospore there is an enormous gulf. The gentleman who led Professor Williamson on to making critical remarks about my Peronosporites ought to have revised the proof-sheets; as it is, the Royal Society article contains ridiculous misprints and mare's-nests.

It is a curious fact in reference to this solicified Peronospora, that a writer on the longevity of seeds and spores wrote to one of the horticultural papers to say, "that possibly the antediluvian spores described by me, might wake up and grow if placed in water." This gentleman had but a vague idea of the age of the plants of the Coal Measures, to say nothing of their fossil condition. My original drawings of this fossil plant are in the Museum of Geology, Jermyn Street.

Myxomycetous Fungi.

Professor De Bary discovered an undoubted mare's-nest when he once taught that Myxomycetous fungi were animals rather than plants. We have all read the passage of arms between Mr. W. Saville Kent and Dr. M. C. Cooke on this subject. Professor E. Ray Lankester, however, thinks these organisms are really animals, for he tells us in *Nature*, vol. xxxii, 1885, p. 145, "the Mycetozoa" (as he calls them) "should in the opinion of the present writer (Professor Lankester) be included in the animal kingdom." He also adds "that the Mycetozoa are to be considered as animals rather than as plants is the opinion of no less an authority than the botanist, De Bary, who has done more than any other observer to elucidate their life history and structure." This remark shows that Professor Lankester is very badly acquainted with his subject, and Professor De Bary himself would be the first to tell him so. The magnificent and elaborate illustrated quarto monograph of Dr. Joseph Rostafinski is apparently unknown to Professor Lankester. Dr. Cooke has advanced good reasons for considering the Myxomycetes to be fungi, but I may venture to mention two other reasons. Can anyone mention a true animal with spiral vessels like some of the Myxomycetes, or an animal arising from tubular mycelium like Lycogala, one of the Myxomycetes? I think an animal springing from tubular mycelium would be a novelty worthy of the Lord Mayor's Museum. No doubt Professer Boulger was quite right when he said he told the members of this club that the Myxomycetes approached fungi in one direction and animals in another; many of the Myxomycetes apparently occupy an intermediate position between the animal and vegetable kingdom.

Corn Mildew.

We all know what corn mildew is, and Barberry blight; I believe the supposed connexion of the two to be a colossal mare's-nest. The nest is so large, however, that a large volume would not be big enough to describe it in all its bearings. I have given it a good many cuts elsewhere, so will pass it by on the present occasion, and only refer to a rather large mare's-nest, discovered by Dr. Alfred Carpenter, who wrote to the *Times*, in 1872, to say he had discovered that mildew (Puccinia graminis), smut (Ustilago carbo), and bunt (Tilletia caries) were all the same thing, and were "produced by various stages in the development of the Puccinia graminis." Another writer, Doctor (not Lord) Salisbury, maintains that the spores of corn mildew will grow on the human subject, and produce a disease known as "camp measles." If this be true, who can wonder at their growing on a Barberry bush, and producing Barberry blight!

One more mare's-nest about corn mildew. In a prolonged trial before the Lord Chief Justice, at the High Court of Justice, in April, 1877, an effort was made to recover £1,626 damages from a firm in the Manchester cotton trade for supplying mildewed goods. It was stated in sworn evidence that species of corn mildew (Puccinia graminis) and bunt (Tilletia caries) sometimes grow on cotton goods and cause black stains. One witness, an analytical chemist, in describing a fungus, said it "had no name." This was exceedingly curious, for nearly every contemptible fungus has a name—some have twenty or more. A still stranger fact was, however, mentioned by this learned botanical chemist, for he swore that the fungus "had no form from which to make a drawing." Fancy, a fungus without a form! There is no wonder that the professors had a difficulty in giving it a suitable name.

Some people will believe anything about corn mildew and the smut of corn, provided it is unreasonable enough. Sometimes "smut" is said to kill people. Here is an instance of death by "smut," copied as an "awful example" from another paper into the *Agricultural Gazette* for February 18, 1871:—"At Burley-on-the-Hill, about a fortnight ago, as a labourer was employed in threshing some corn, he became poisoned. It appears that he was employed in assisting, along with other men, in threshing Barley, which contained a quantity of what is known as smutty Barley. The dust from the same got down his throat and poisoned him. He went home and lay ill for eleven or twelve days, when death put an end to his existence on Saturday last." In this wonderful case it will be observed that the evidence is precisely similar with that advanced for connecting the fungus of corn mildew with Barberry blight. When the spores of corn mildew are placed on Barberry leaves, and rest there for "eleven or twelve days," the Barberry leaves perish from the effects of Æcidium berberidis. The ideas based on the death of the farm labourer and the blight of Barberry bushes are, in my opinion, barefaced mare's-nests.

Heterœcism in Parasitic Fungi.

During the last year or two botanists have heard a great deal about what has been termed heterœcism in parasitic fungi. By heterœcism is meant that certain fungi do not go through all their phases of life on one host plant, but like many parasites belonging to animals (as tape worms) the larva lives in one animal and the perfect condition of the parasite in another. As this heterœcism is a common, well-known, and proven fact in the life history of some parasitic animals, it possibly also occurs in the vegetable kingdom amongst fungoid parasites. I acknowledge that it is more than possible, it is probable, but being probable I maintain that on that very account we should be all the more cautious before jumping to conclusions; great and fatal blunders are commonly made over things that are "probable." The common mode of reasoning amongst some biological botanists is as follows: The idea is *possibly* true, *therefore* it is *probably* true, *therefore* it *must* be true, *therefore* it *is* true. Whilst acknowledging that heterœcism in certain fungi is *possible* and in others *probable*, I yet give it as my opinion that in the majority of published instances, heterœcism remains unproven, and the examples given in our text books are mere mare's-nests. De Bary's heterœcism in Corn Mildew is, as I think, a mare's-nest. The discovery attributed to De Bary, before the British Association, in reference to heterœcism in the potato fungus, is a phenomenal mare's-nest. The heterœcism discovered by Waldheim in the bunt of corn is a mare's-nest. The heterœcism discovered by the same writer in the smut of corn is also a mare's nest. It happens in some so-called heterœcismal fungi that there are growths called spermogonia, or male organisms; of late these spermagonia have become highly inconvenient to heterœcismalists, for some botanists go so far as to say they are not male organs at all. Spermogonia are great bug-bears to heterœcismalists, the latter gentlemen don't like them. Prof. Max Cornu has recently, in an extremity of mental anguish, proposed that the *meaning* of the word "spermogonia" should be altered. How rich and racy this is, advanced botanists cannot possibly make mistakes, their supernatural knowledge must never be under a cloud. In future, "black" may mean "white," "fat" mean "thin," "short" mean "tall," a "large number" mean a "small number," and so on, but philologists always object to alterations of this class.

(To be continued).

FRUITS, FLOWERS & VEGETABLES.

Microloma or Wax Climber.—I am glad to inform your South African correspondent, Mr. James Hall, that the beautiful Microloma you figured last week, is at present in flower with me. Mr. Hall has done well to call attention to it. I am interested to know whether it has been flowered elsewhere in Britain.—*James Wilson, jun., Florist, St. Andrews, N.B.*

Colchicum autumnale.—Well established clumps of these have been singularly effective during the autumn. Some years ago the roots were planted under an east wall in a good deep loam, and here they have become quite at home and flower freely, throwing up their huge naked flowers in September and later. I have the common rose-flowered and the white-flowered types, and the double rose and double white forms. Add to these the large pale rose-coloured form, known as maximus, and the fine single variety known as purpureum striatum, and a most useful group is furnished. Colchicums should be so planted as that they need not be disturbed, then they will flourish and do good floral service in their own good time.—*R. D.*

Strawberries in October.—At Perry Hall, near Birmingham, there is now to be seen a fine crop of ripe Strawberries. The variety is Vicomtesse Hericart de Thury. The plants now bearing were forced early in the season, after which they were planted out, and again lifted, potted, and placed on a shelf, where they are now fruiting freely, and bearing good fruit too, as this variety has done here for the last few years. Mr. George Mitchison is proud of his success, and well he may be, for to have good fruit fit for the table in October and November is a luxury that many would like to enjoy.—*A. O.*

Duke of Buccleuch Grape.—I am not going to condemn this noble looking grape, as I believe when its peculiarities become better known it will find more favour with grape growers than it has done yet. But I doubt very much if it will ever be grown to any great extent if it requires such special treatment as "J." recommends at p. 84, except in places where a house can be devoted to it, and those places are few and far between. It is a grape that will not keep very long, therefore, one or two vines of it would be enough, except in places where grapes are grown for market. I believe when first sent out it was said to be free to grow and fruit, I have found it to be a strong grower, but certainly not free to fruit. I think it should be grafted on a free stock, such as the Hamburgh, and treated strictly on the young rod system, then shyness of fruiting would be overcome. But I certainly differ with "J." when he says that no other grape can approach it for quality, surely such grapes as the Hamburghs, Frontignans, and Muscats alone are a long way ahead of it in every respect. That it is refreshing and luscious I agree; but juicy—well—I always think it rather watery, and badly-grown samples of it are not much better than a bag of sweet water.—*W. C.*

Dickson, Brown, and Tait's Eclipse Cauliflower.—This, in my opinion, is truly a grand cauliflower in every respect. Its heads are solid and as

white as snow, and very mild in flavour. I have given up entirely growing Veitch's Autumn Giant, which used to be my favourite, on account of it being so strong in flavour, and now grow no other than Eclipse for autumn supply. We have a nice lot of it just now coming in, and we find them very useful, as we have gathered our last peas, Dickson's First and Best, to-day, October 10th. Thanks to a strong heavy soil and plenty of manure we have had an unlimited supply of peas all through the summer. Anyone who may not have grown the Eclipse I would advise to give it a trial next season, they will be well pleased with it.—*W. C.*

Royal George Peaches.—I send for your inspection a fair sample of the Peaches I am now gathering from trees on the open wall; the variety is Royal George. We had 9° of frost last night and 12° on Saturday.—*P. W. Fairgrieve, Dunkeld Gardens, Perthshire, Oct. 12th.* [The samples received were in perfect condition, measured 8 ins. in circumference, and as highly coloured as any we saw in its season, the end of August and beginning of September. The flavour too, was very good for such a late crop.—Ed.]

Chou de Gilbert.—This remarkable production from Mr. R. Gilbert, of Burghley Park Gardens, in the way of an elongated Cabbage, with a large cluster of strong Sprouts eminating from its base, was exhibited at the show at Kensington on Tuesday last. It was also placed before the Fruit Committee of the Royal Horticultural Society, and a portion of the Sprouts were also put before them in a cooked state, which, I am told, were most delicious; in fact, much superior in quality to the Brussels Sprouts which were submitted with them in a similar state. It appears to me that the excellent quality of the Sprouts—as none of the main heart was cooked—is its distinguishing characteristic; if this be so, it is most desirable that before the subject is introduced into commerce, its type should be firmly fixed, for unless this is done, this new kind of winter greens—which naturally is closely allied to many existing varieties—will quickly pass into insignificance through so many of them coming in a manner lmost indistinguishable, which will not only be very disappointing but really vexatious.—*Kitchen Gardener.*

New Melon, Penrhyn Seedling.—At the conclusion of a committee meeting of the Manchester Horticultural Improvement Society, held on September 28th, a fruit of this new Melon was submitted to the judgment of the members present by Messrs. Dickson, Brown, and Tait, who are now sending it out. The committee present were Mr. B. Findlay (President), Botanical Gardens, Manchester; Mr. E. Griffiths Hughes, Victoria Street; Mr. W. Swan, The Gardens, Oakley, Fallowfield; Mr. W. Plant, The Gardens, Woodheys, Ashton-on-Mersey; and Mr. J. Briddon, The Gardens, Claremont, Pendleton; and all expressed their opinion that they had not tasted a finer flavoured or more luscious Melon in their experience. The raiser describes it as follows: "A grand early Melon, of strong constitution, and most prolific." The fruit is of a handsome oval shape, colour golden yellow, slightly netted, white-fleshed and of great depth, which can be eaten to the rind; of a luscious and exquisite flavour. Weight, four to eight pounds.

Lifting and root-pruning Peach Trees.—I read with much interest Mr. Warden's letter in your issue of the 3rd inst., p. 69, on lifting the roots of Peach trees, and would recommend everyone, amateur or gardener, to read it carefully, and if their trees are not doing satisfactorily, to prune and lift the roots as much as possible this year, and then next autumn, lift the trees bodily and replant them, keeping the roots near the surface. I consider 4 ins. of soil on the roots sufficient. We had three large trees here which used to make a tremendous quantity of wood, many of the shoots several feet long, and they used to flower well every spring but never set any fruit worth naming. Early in September of last year I took them in hand, with a determination to either kill or cure them. I had a trench dug about 6 ft. from the bole, then all the soil was worked carefully out with a fork to within 4 ft. 6 ins. of the stem, all the thick fibreless roots were cut off, the small ones were saved and laid carefully in some good soil, layer after layer, until the trench was filled up and made firm. Then, as Mr. Warden recommends, a basin was made round the trees and a thorough soaking of water was given; then we mulched them with rotten manure, kept the house rather close for several days syringing the trees every afternoon, they ripened their wood and plumped up their buds very well and I expected to have a moderate crop the following year. In the spring they were a picture with blossom, and while they were in full flower I had them gone over several times with a camel's-hair pencil, they set their fruit well, so well that we had hundreds to pull off, yet I was afraid they would drop a good many while stoning, after going through such a severe ordeal, and was prepared by leaving plenty on. But I am pleased to say they stoned well and exceeded my expectations, by finishing off a capital crop of good-sized and well-flavoured fruit. I have four other trees that I root-pruned in the same way, and which have this season borne a fair crop of fruit. I intend to lift all these this autumn, as the roots are far too deep to my liking.—*W. C., Lancashire.*

A Prolific Cucumber.—We commenced cutting in our first house of Cucumbers—a span-roofed house, 27 ft. long and 10 ft. wide, and planted with Telegraph, true—on April 1st. During that month we cut 342 fruits; in May, 425; June, 309; July, 213; and from August 1st to 12th, 70 fruits; making a total of 1,359 fruits. The plants were destroyed on August 12th to make way for late Melons.—*R. Gilbert, Burghley.*

Omega Peas.—We are now picking good well-filled pods from the above, which were sown on a sheltered part of a south border, on June 18th. At that time the ground was hard and dry, so that it had to be well watered, and after the peas came up, occasional soakings were given, also a good mulching of half rotted manure. *W. J. Ireland.*

Hardy Bedding Plants: The Golden Spergula.—"Scotia's" complaint with respect to the exceeding shortness of the summer bedding season, finds an echo even in the south of England, where late frosts prevail till the end of May, and autumn one's come, as this year, before September is out. In such case it is useless to plant out really tender things, in the expectation that the exceeding labour involved in the effort will be repaid. Some four months only of summer, and much of that period very dubiously summerish, so that with cold nights and ofttimes keen cutting winds, tender plants thrive badly, make poor growth, and seem only to reach their full perfection just at the moment when autumn frosts coming very prematurely lay them low, andd estroy all their beauty. With such climatic mischances, the bedder out finds his best course to lie in ignoring tender plants altogether, and utilising hardy, or at least, partly hardy things, such as will resist a few degrees of frost, and thus enable a good bedding display to endure from five to six months at least. Mr. Herring, Chalfont Park Gardens, some few years since, began to utilise that pretty hardy and rich yellow carpet plant—Golden Spergula. Writing with reference to it recently, he in mourning over the effect of early frosts, said, "what a gain it would be to us if we could obtain a red or rich coloured foliaged hardy plant, like the Spergula or that capital green plant, Herniaria glabra, to replace the tender Alternantheras." No doubt myriads of gardeners have had ample cause to say the same thing. Is there no such hardy plant to be found? Certainly, as grown at Chalfont Park, no yellow plant can be more beautiful or perfect as a carpet plant than is the Golden Spergula, for it is employed to form, not tiny dots, but good breadths, and forms with the green Herniaria beautiful contrasts. With a few more similar hardy carpet plants and other wondrous wealth found now in decorative plants and conifera, we may well ask whether these are not in the end far more satisfactory than are shattered tender bedders.—*A. D.*

American Blight.—In many old gardens, particularly where Apple trees are subject to canker, this formidable pest is generally to be found, and is always a source of great annoyance to those in charge of the place. In the gardens here were many very old cankered Apple trees, badly infested with the blight, which had found its way to younger trees in bearing order. The worst of the old trees were cut down, and the roots grubbed up and burnt, and as soon as the leaves fell from the remaining ones they were painted over (using ordinary paint-brushes) with neat petroleum, every stem and branch, great care being taken to work it well into all the crevices. Nearly all the trees were more or less affected with the blight, and this season we have detected it only on one or two trees, which are again having another painting of the petroleum. Some gardening friends, who were here last autumn at the time the painting operation was going on, gave their opinion that the petroleum would kill the buds, being too strong in its neat state; but such was not the case, as the trees, without exception, look well, and nearly all the established ones gave a nice crop of fruit, and more than that, they are far more healthy in appearance than they were in seasons before.—*W. J. Ireland, Headfort.*

Autumn Strawberries.—In many establishments a few dishes of Strawberries are required late in autumn, and after trying various plans, we find the most successful is to keep as many plants of the forced ones which ripen in April, and harden them off in a cold frame for a time, then they are potted and stood on the top of a low wall surrounding the outside vine border, where they get all the sun and light available. Here they are kept well watered, and are syringed in the evening after hot days. About August they commence flowering, and after the fruits are set they are thinned, leaving about twenty-four fruits to each plant. Then they are regularly supplied with doses of weak liquid manure until they commence colouring, when they are taken indoors, and stood on the vinery shelves close to the glass, where they receive an abundance of air, and colour much better than if left outside. The varieties which succeed best are Vicomtesse Hericart de Thury, and Amy Robsart, the latter a fine Strawberry, well suited for forcing, and a most prolific bearer. I forward you one or two fruits of each, kindly give your opinion of them.—*W. J. Ireland, Headfort.* [They were better coloured and better flavoured than any we remember to have tasted before in October.—Ed.]

Potting Home-grown Lilies.—Now is the time to do this, if not done before. I make a distinction between home-grown and imported Lilies. The latter have not yet arrived, nor can they until the first week in December or thereabout, and it would be very desirable if importers were not in any hurry to bring them sooner. To send them to London any sooner, I understand they must be cut down and dug up in the green state in Japan, and if that be so, it may be an additional item in the explanation of the query, "why do so many imported Lilies rot or die off?" The home grown have now as a rule died down, flower and stem—and it is important that the stems should be withered before commencing to re-pot. Once this has taken place, they should be shook out of the old soil and a fresh compost got ready at once. If the stem is not withered, neither it, nor the mop of stem-roots can be readily disentangled from the scaly bulb without pulling the latter asunder. To avoid this, when I pot early, say Lilium speciosum (in variety) L. pardalinum, &c., in August I cut the stem near the base, leaving the mop of healthy fleshy stem roots attached, and repot as they are. The reason is this, all Lilies, and they are in my experience the majority that throw out stem roots, use them for feeding purposes. In fact it is on these they mainly depend, except in the preliminary stages. If a Lily has not made basal roots before those commence action it will make none subsequently, and though it will flower the bulb will be lost. It was this idea that evidently induced a correspondent a short time since to recommend breaking off all Lily stem-roots when they appear, but all Liliophiles fell on him for such an iconoclastic suggestion. Nothing would be gained by doing that, as if the bulb had little or no basal roots made up to that time it would not then commence to do so, on the other hand I had fine blooms often that solely depended on stem-roots, and when the pot was turned over on the hand the bulb had decayed. L. speciosum and all its varieties, except the white one "Krætzer's Lily" increase rapidly, from below and above, and when healthy, often you have two or three bulbils among the stem-roots. A friable rich loam suits all, except adding peat for L. auratum. Casually, I may remark, that I have three varieties, from white to deep yellow of this grand Lily now in bloom. I find t judicious to put a handful of clean river or sea sand around the bulbs, and unless the soil is dry they will want no water at present.—*W. J. Murphy, Clomnel.*

Pachyphytum bracteosum.—It would hardly be correct to term this a hardy plant; but is has lived with me for seven or eight years, grown in pots in a cold house. The soil in the pots is allowed to become quite dry as winter approaches, and then it takes no harm, but it occupies the warmest portion of the house.—*Ino.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

HARDY PLANTS FOR FORCING.—All hardy plants that are to be used for forcing should now be potted up as soon as convenience will allow. In all cases where a regular supply of cut flowers is needed, these come in so useful, that they are indispensable. Many of the hardy plants are also invaluable for conservatory or general decoration, therefore we recommend that resources should be strained to secure a good supply. In making a selection it should be as varied as circumstances will allow; at the same time, preference should be given to a few of the most useful for general purposes, that is those that will come in either for cutting purposes or as plants for decoration.

The following are all useful plants for forcing:—Deutzias—D. gracilis is the best of this species, especially as a pot plant, though D. scabra and D. crenata flore pleno are both very useful for cutting from. These will generally force better if the plants have been established in pots for a year, as they do not make such vigorous growth when the roots are confined, and, consequently, the wood gets better ripened; however, D. gracilis will force well the first year if plants with short well-ripened growth are selected.

AZALEAS.—The varieties of A. mollis are the most useful, though the old yellow form of A. pontica is still a favourite with us; A. amœna, this is also a very useful species, plants that have been forced previously will come into flower much more freely than those that have not been used for forcing before.

SYRINGAS (Lilacs).—These are very desirable either for conservatory decoration or for cutting from, their perfume alone is sufficient to recommend them, giving, as it does, such a delicious reminder of "beautiful spring." The old Persian Lilac is still one of the best for forcing, Charles the X. may also be recommended.

STAPHYLEA COLCHICA.—This is very useful for cutting from, or for arranging with other plants, but it does not make a handsome plant to stand by itself, as the flowers are produced before the leaves are developed, its pure white flowers, however, render it a very desirable subject for early spring use.

HYDRANGEA PANICULATA GRANDIFLORA.—As a pot plant this is one of the best for forcing, it not only makes a very handsome plant, but the flowers are very durable, it will keep in good condition almost as long as H. hortensis, which is another very useful species, and too well-known to require any description; H. Thomas Hogg is also a useful species for forcing.

VIBURNUM OPULUS (Guelder Rose) is still a favourite with some, but we consider it may be dispensed with in favour of Hydrangea paniculata grandiflora, except where large plants are required for special purposes.

PHILADELPHUS CORONARIUS may also be included in the list, it has one great drawback, however, that is, that the flowers drop very quickly.

PRUNUS SINENSIS FLORE PLENO.—This forces well, and is very pretty as a pot plant, though not very serviceable for cutting from.

JASMINUM GRANDIFLORUM is another useful plant, especially the semi-double variety. Rhododendrons, Kalmia latifolia, Andromeda floribunda, are three of the most useful evergreen flowering shrubs.

LAURESTINUS is also very useful as a pot plant for winter use, as it flowers freely in a cool greenhouse, or even out of doors if the weather is not too severe; but with some protection the flowers come much whiter, and are therefore more serviceable.

HOTEIA (SPIRÆA) JAPONICA.—For early forcing we prefer imported clumps of this, as they are generally ripened off earlier in autumn than home-grown roots.

SPIRÆA PALMATA.—This is certainly one of the best plants of its class for pot culture, that is, if good strong clumps are obtained, and well managed. They will not come in quite so early as Hoteia japonica, as, if subjected to too much heat, they grow tall and weakly.

LILY OF THE VALLEY.—Imported clumps of these are generally the most reliable; or the single crowns, as imported, generally force well.

DIELYTRA SPECTABILIS should be included in every collection. It is unquestionably one of the most beautiful hardy spring-flowering plants, and when well managed in pots it is even more beautiful than when grown in the open border.

THE FRUIT HOUSES.

MELONS.—To ripen Melons satisfactorily in October and November, there should be provided suitable houses in which to grow them, and these should have a good supply of top and bottom heat (hot-water pipes) at command, together with a liberal supply of fuel with which to maintain a night temperature of from 65° to 70° (according as the weather is cold or mild), and 70° to 75° by day, running it up 10° with sun-heat, having a little air on at the same time. To attempt to grow Melons in the absence of such accommodation as I have indicated during such weather as we experience during late autumn must end in failure, inasmuch as the fruits grown under less favourable conditions must necessarily be deficient in size, colour, and flavour.

To attain these indispensable points, the temperature maintained in the houses during the ripening period of the fruits should be somewhat high, as indicated above, and dry and airy. These essential points can neither be acquired nor maintained in the absence of fire-heat in late autumn. Therefore, under these circumstances, the linings of frames in which Melons are grown, being made up after the end of September with a view to ripen or hasten the maturation of the fruit, is not only labour misapplied, but it is also calculated to thwart the very object that it was intended to accomplish—the quicker ripening and flavouring of the fruit, inasmuch as the steam or ammonia which arises in the frames and settles upon the fruits in proportion to the temperature produced, by the frequent making up of the linings with fermenting material, is tantamount to a humid and stagnant atmosphere, which renders the flavour of the fruit thus grown little better than that of a Turnip.

But witness the difference in the quality of fruits grown under conditions the reverse of these, namely, under the influence of plenty of light, top and bottom heat, and judicious treatment. We are like others similarly situated cutting daily, as we shall hope to continue doing for some weeks, highly coloured, and well flavoured fruits of Cox's Golden Gem, weighing from 5½ lbs. to 7 lbs. each, and Hero of Lockinge from 3½ lbs. to 4½ lbs. each. The supply of these will be supplemented by fruits of Golden Perfection and Blenheim Orange, which are swelling satisfactorily in the late houses, in which atmospheric moisture must be very sparingly distributed, supplying only sufficient to promote a genial atmosphere, as well as to counteract the otherwise parching influence of the highly heated pipes during the time the plants are swelling their fruit, especially on the mornings and afternoons of bright sunny days, but as soon as the fruits approach maturity, moisture, other than that arising from the application of water at the roots, when necessary, and which should be given in the morning, should not be distributed in the house, otherwise the flavour of the fruit would be impaired, more especially does this remark apply to the houses in which fruit of such thin skinned varieties as Hero of Lockinge are now ripe or ripening, in which case the fruits, unless a very dry atmosphere is maintained, are liable to suffer from damp settling about the stems.—*H. W. Ward, Longford Castle, Wilts.*

ORCHID NOTES AND GLEANINGS.

Winter Treatment of Vandas, &c.—In my paper, read at the Orchid conference in May last, when calling attention to the baneful effects of growing Vandas, Saccolabiums, Aërides, &c., too far from the glass, and keeping them too hot in winter, I said:—"In growing this class of plants, if the growers would but take the hint from the Dendrobes, which grow with them in their native habitats, and make the growing time of the Saccolabium to correspond with theirs, they would give their plants less heat and water in winter and more in spring and summer, and a better condition would come upon them. The excessive heat which is often given to Saccolabiums and Aërides, and given, too, in winter, and while they are so far away from what little light there is, stunts them, prevents their flowering, and makes it hard work for them even to live." The mischievous season being at hand, I here repeat those words, as it seems to me that they are calculated to awaken a very reasonable train of thought in the minds of those who have been in the habit of keeping their resting Dendrobes cool in winter, while they have been giving the greatest amount of heat at their command to the Saccolabiums, Aërides, Vandas, &c., which often come from precisely the same localities, simply because they have not so decided a fashion of showing that their work being finished they require a little rest, and that if the temperature and atmosphere be not managed so as to be conducive to this, they must either grow weakly and prematurely or die.

Nothing is of greater service to Orchid growers than a good hot moist house, for use when plants are growing, as it is not easy to injure any Orchid seriously with healthy moist heat when making its growth; but nothing is productive of more mischief, if the plants are kept permanently in such a house or left in it after the growths are finished. It is, therefore, in practice now generally resorted to, to use the East India house for growing plants only, and the Cattleya house for many East India things when they are not growing, and a further extension of this plan will be found to be beneficial.

Mr. William Lee, of Downside, Leatherhead, who has such a grand collection of Vandas, never thinks of treating them as other than intermediate house plants, and every year finds fresh East Indian things treated in like-manner at Downside, and with a never-failing good result. I would, therefore, ask all amateurs to examine well their Saccolabiums, Aërides, Vandas, and other plants of like growth; and which there is no other reason for including in the same house, at all times, than that they are alike in habit, and to keep only those which are growing actively and those which are supposed to require a high temperature, such as Vanda Sanderiana, Aërides quinquevulnerum, Aërides Huttoni, &c., in the East India house, and those which are not growing in a house of intermediate heat, or if not possible to move them, to keep the warm house well down in temperature and freely admit air during winter. In any case the plants should be brought well up to the glass, in order that they may get a good even temperature, and the greatest possible amount of light during the dull season. The cooler the plants are kept the less water will they require.—*James O'Brien.*

Zygopetalum Mackayii macranthum.—This is the finest form of that handsome old species Z. Mackayii. It was in Mr. Rucker's collection, where it was flowered out of an early importation, which seems to have been of a much finer strain than any since got over. In some gardens it was known as Z. Mackayii major. A bloom from a seven-flowered spike of the true plant comes to us from Messrs. Drummond Brothers, Rosebank Nursery, Wardie Road, Edinburgh. The flower is over 4 ins. in length, and 3 ins. in breadth, the labellum being 2 ins. across, and the handsome flat petaline segments nearly ¾ in. in width, these are bright emerald green, barred with brownish crimson, and have the appearance of painted glass when seen against the light. The labellum is white, veined with violet, and the flowers emit a delicate odour like that of some of the Hyacinths.

Dendrobium longicorne var.—I shall be glad if you will name the enclosed flowers for me, as I can get no reliable information about them here. How should the plants be grown?—*A. de V., Cologne.* [The flowers sent are those of a rather distinct form of Dendrobium longicorne, which is known in some gardens as D. Friedyanum. They are pure white, with the labellum closely netted with bright orange or Roman red. The growth of the plants is more compact than that of the usual run of D. longicorne. The Liverpool Horticultural Company imported a good lot of it this year, we believe. For the culture of all this section, see our issue for September 19th, p. 45.—ED.]

Masdevallia nycterina.—This species belongs to the Chimæra section, and was originally introduced for that plant, but when the true and more beautiful variety found its way across the ocean, M. nycterina had to give place to its more favoured relative. Although not very showy it is well worth growing, and does well suspended in either pan or basket, in which position its flowers are shown to the best advantage. I find if the flower stems are not picked off they will produce another crop of flowers. If looked at through a magnifying glass the markings will be found to be very beautiful. It does well in the cool house during summer, but likes more heat than is usually applied to Odontoglossums and some of the Masdevallias during winter, in fact, if not already removed into warmer quarters, lose no time in doing so.—*E. Dumper.*

HORTICULTURAL SOCIETIES.

Royal Horticultural Society.—*October 13th and 14th.*—The remarkably fine display of Apples and Pears made in the large conservatory, on Tuesday and Wednesday, left but little room for flowering plants, and, as a matter of fact, but few of the latter were sent. Of new plants, Messrs. James Veitch & Sons were the largest contributors; but Mr. T. S. Ware, with a fine seasonable display of hardy plants, and Mr. Campbell, of Cove Gardens, Gourock, with a most remarkable collection of Gladioli, shared the honours between them of contributing the greatest number of flowers. One of the most conspicuous of the new plants from Messrs. Veitch was that very distinct and beautiful-flowering shrub, Amasonia punicea, an introduction from British Guiana, and, therefore, requiring stove treatment. Its flowers, which are borne on stiff erect racemes, are remarkable for their rich crimson spreading bracts, from the base of which the pendulous tubular creamy yellow flowers are produced. It is a very attractive plant, an ornament to any stove at this season. Begonia, John Heal, is a novelty, a garden hybrid raised between the somewhat new Begonia Socotrana, and one of the tuberous-rooted section. It has an erect habit of growth, and produces numerous branching panicles of medium-sized flowers, of a bright shade of rose, suffused with crimson. It was awarded a First Class Certificate. Of several fine new hybrid greenhouse Rhododendons, two were selected for the award of First Class Certificates, viz., Minerva, a variety producing large trusses of finely-shaped flowers, of a novel shade of lemon-yellow; and Apollo, a very fine salmon-red. A most conspicuous plant in the same group, was a remarkably well-berried specimen of that most useful winter decorative stove plant, Callicarpa purpurea, to which a cultural commendation was voted.

Mr. William Bull, among other new plants, had an excellent specimen of the new Eucharis Mastersii, the medium-sized, stout, waxy white flowers and deep green foliage of which were much admired. It seems to be a free grower and bloomer, and for bouquet work is, we think, destined to supersede the old favourite, E. amazonica. Needless to say, it gained the distinguishing award for merit. Mr. W. Bealby, Roehampton, who always seems to have some good novelties to show us, brought up a plant of Ivy-leaved Pelargonium Alice Crousse, a charming variety with large trusses of large semi-double flowers, of a rich shade of magenta tinted with violet, and which also received a First Class Certificate. Mr. Hill, gardener to Lord Rothschild, Tring Park, exhibited a healthy specimen, with four flowers, of the lovely new Vanda Hookeriana, which received a cultural commendation. Mr. T. Sadler, gardener to C. Lambert, Esq., Oak Hill Place, Leigham Court Road, Streatham, showed a stand of a dozen of the most perfect blooms of Chrysanthemum Elaine that we have ever seen, and which, being shown so early, were a great attraction. The same exhibitor had also fine single blooms of the following Japanese varieties:—Peter the Great, yellow; Mons. Taurin, Madame Le Cervus, white; Margot, lilac and white; Flamme de Punch, crimson on the upper side, sulphur coloured beneath; and Comte de Germiny, nankeen-yellow—a very nice lot.

Mr. Forbes, The Gardens, Dover House, Roehampton, sent an attractive stand of Japanese Chrysanthemums, which included the showy M. Moussillax, deep crimson with a yellow centre; Brise du Matin, a rich rosy peach colour; and L'Ile des Plaisirs, reddish crimson striped and tipped with golden yellow, a large, compact and very fine flower, which gained a First Class Certificate. Messrs. Cannell and Sons, from their floral treasure house at Swanley, sent some fine cut blooms of Zonal Pelargoniums; single and double Begonias, the latter including a large double scarlet of fine quality, and named Léon de St. Jean; while of the former section the firm showed a variety named Earl of Bessborough, a flower of large size, bright orange with a faint shade of rose, which gained a First Class Certificate. Messrs. Hooper & Co., Covent Garden, in a small group of tree-flowering Carnations, had two pretty varieties in Chevalier, pale sulphur, with the tips of the petals striped with crimson; and Jean Naturelle, pale buff, shaded with dark red. Mr. Maurice Young, Milford Nurseries, Godalming, exhibited a very neat little erect-growing Ivy, under the name of Hedera Helix minima.

Mr. C. Edmonds, Hayes, Hillingdon, sent some plants of Tricolor Pelargonium, Mr. George Bryson, a robust growing and brightly coloured variety of the Mrs. Pollock type. From Dr. Duke, The Glen, Lewisham (Mr. Noakes gardener), came a specimen of Barkeria Lindleyana centeræ, the flowers of which are of a lovely rosy violet hue, with the lip a rich shade of purple; a cultural commendation was awarded. Mr. Cummings, gardener to A. H. Smee, Esq., had the pretty Cattleya speciosissima Ernstii. Mr. W. E. Boyce, Yerbury Road, Holloway, showed one of the new early flowering Japanese Chrysanthemums, Mandarin, a fine full flower, creamy white at first, but changing to pure white, and a new summer flowering variety, Pomponium, a neat and very compact flower, deep yellow, with a shade of reddish bronze.

Mr. T. S. Ware's showy group included, of early flowering Chrysanthemums, the superb Madame Desgrange, White St. Crouts, white, a good bushy-habited variety; Inimitable, an orange shade of bronze; Madame Jolivart, a good white; Albion, very pretty and a good-sized flower; Mr. Cullingford, a fine white; Fred. Pele, deep crimson; and Le Luxemburg, bronzy red. Dahlia Mrs. Hawkins, the new lemon-yellow coloured Cactus variety was also in fine condition for the season. For the lovers of autumnal Crocuses, Mr. Ware provided a pretty group, consisting of Colchicum autumuale, C. autumuale flore-plenum, C. autumnale album flore-plenum, and C. speciosum. Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C., showed a vigorous healthy specimen of Oncidium tigrinum, with four large branching spikes of flowers, for which he received a cultural commendation. Mr. H. B. May, Dyson's Lane, Edmonton, was awarded a Silver Banksian Medal for a very pretty group of small Ferns, admirably-coloured little Crotons, Dracænas, and other fine-foliaged plants of a character suitable for table and other decorations. Mr. Campbell's magnificent display of Gladioli consisted of fourteen dozen spikes of the highest quality, some of them having as many as fourteen perfect flowers open on a spike; they were all as clean, bright, and fresh as at any shows earlier in the season.

At the meeting of the Fruit Committee, Mr. R. Gilbert, Burghley, exhibited specimens of his new Chou de Gilbert, which, as we mentioned a week or two ago, is the result of crossing Chou de Burghley with the Brussels Sprout, and as shown is a large Cabbage, with a number of smaller Cabbages or exaggerated Brussels Sprouts springing from the axils of the lower leaves. It is an undoubtedly good new vegetable, and the Committee awarded it a First Class Certificate. If Mr. Gilbert can fix it to the type of the specimens shown, before sending it out, there is a good future before it. The same exhibitor also sent a new Melon, a round, handsomely-netted, green-fleshed variety, which he has called "Her Ladyship's Favourite."

Mr. Thomas Laxton, amongst other fruits, showed some nice specimens of his pretty September Beauty Apple, which also gained a First Class Certificate. We have not tasted it, but if appearance goes for anything, it should become a popular table variety. Mr. Pettigrew, gardener to the Marquis of Bute, Cardiff Castle, showed a large, handsome, well-swelled fruit of the Charlotte Rothschild Pine, the weight of which was not stated. Mr. C. Herrin, Chalfont Park Gardens, again showed some good bunches of the Chalfont Black Grape, a seedling from the Madresfield Court, with long oval berries; Late Prolific Raspberries, and very fine Cob Nuts. Mr. Howe, gardener to W. Tate Esq., Park Hill, Streatham Common, showed three bunches of Black Alicante Grapes, weighing in the aggregate 18½ lbs., cut from a vine bearing seventy bunches, of the average weight of 4 lbs. each.

Apples and Pears.—It was admitted on all hands that the show of these fruits was an unusually good one, and if we may judge from the amount of interest taken in the various exhibits by the visitors to the "Inventions," other than the regular *habitues*, the exhibition was a most useful and attractive one. Taking the Apples first, it may be noted that in the competition with collections not exceeding a hundred varieties, and confined to nurserymen, the Crystal Palace judgment was here reversed, the first prize going to Messrs. Bunyard & Co., Maidstone, the winners last week, Messrs. J. and G. Lane, St. Mary's Cray, taking second honours, and Messrs. Paul & Son, Cheshunt, the third, all showing very fine samples for the season. In the amateurs' competition for a collection not exceeding fifty varieties, Mr. Ford, gardener, Leonardslee, Horsham, came in first, beating Mr. D. C. Powell, gardener, Powderham Castle, Exeter, and Mr. Waterman, gardener, Preston Hall, Aylesford, all staging admirable collections. For a dozen culinary varieties, Mr. C. Ross, gardener, Welford Park, Newbury, was well first, showing excellent specimens of Tower of Glamis, Mère de Ménage, Annie Elizabeth, Cox's Pomona, Warner's King, Stirling Castle, Brabant Bellefleur, Lane's Prince Albert, Peck's Pleasant, Peasgood's Nonsuch, Hoary Morning, and Lord Derby. Mr. Powell was a good second, and Mr. Gray, gardener, Normanton Park, an equally good third. With six varieties, Mr. Miller, gardener, Northdown, Margate, came in first, and Mr. Rutland, Goodwood, second. In the class for a dozen dessert varieties, Mr. Rutland was well first with a highly-coloured lot especially fine being his Blenheim Oranges, Ribstons, and King of the Pippins, his other varieties being Nonpareil Russett, Melon Apple, Cockle Pippin, Brownless Russett, Cox's Orange Pippin, Adams's Pearmain, Mannington's Pearmain, and the Sussex Nanny Apple. Mr. Jacob, of Petworth, a cottager, had the best six varieties, fine specimens of Lady Sudeley, Ribston Pippin, Cox's Orange Pippin, Nanny, and Incomparabile.

The single dish classes, perhaps the most interesting and useful of all, brought out, generally, good competitions, and certainly a most admirable lot of produce. The Blenheim Oranges were a very good class, all the samples being good, and specially so those shown by Mr. Rutland, Mr. Goldsmith, and Mr. Gilmour, gardener, Seacox Heath, Hawkhurst, who secured the awards in the order named. Next in order came the delicious flavoured Cox's Orange Pippin, with which Messrs. Bunyard & Co. came in first with a remarkably handsome sample, the fruits being large and beautifully coloured. The next best examples came from Mr. J. Burnett, The Deepdene, Dorking, and Mr. A. J. Thomas, Sittingbourne, and good they were. The specimens exhibited in this class showed a considerable range of variation, both as to size and colour. There was also considerable diversity in these respects among the Ribstons, but no exception could be taken to the quality of the first prize specimens, from Mr. Folkes, gardener to T. F. Halsey, Esq., Gaddesden Place, Hemel Hempstead, or those from Mr. A. Smith, gardener, Warren Hill, Loughton, who came in second. Perhaps the greatest amount of variation was to be seen in the class for King of the Pippins, in which Messrs. Bunyard & Co. secured the first prize with large and finely coloured fruits; Mr. J. Bolton, The Gardens, Combe Bank, Sevenoaks, and Mr. G. Thompson, Croxby House, Hounslow, securing the other awards with exceedingly fine specimens. Of that admirable sauce Apple, Dumelow's Seedling, the finest examples came from Mr. Richards, gardener to the Earl of Normanton, Somerley Park, large fruits richly coloured on the sunny side; and the other prize-winning dishes from Mr. G. Thompson, and Mr. W. Dance, gardener, Gosfield Hall, Essex, were exceedingly good. Of Mère de Ménage there were only six dishes, but all good samples. Here the awards went to Mr. C. Ross, Mr. G. Richards, and Mr. S. Ford, in the order named. In the competition with Golden Noble or Waltham Abbey Seedling, all the prizes went to Golden Noble, which is distinguishable from the latter in its smoother and more globular shape, and pure golden colour, devoid of any traces of russett. Mr. Hudson, gardener, Gunnersbury House, Acton, who was first, had the variety in perfection, a very richly coloured sample. Messrs. Bunyard and Mr. Goldsmith were respectively second and third, the samples from the last named being a little greener. The best Cockle Pippins, an excellent little dessert Apple, came from Mr. Rutland, and in an excellent competition with Court Pendu Plat, the same exhibitor again came to the front with fruits of fine size and colour. The popularity of Warner's King as a culinary variety, was apparent in the thirteen admirable dishes of this variety which were staged. The first prize went to a grand sample from Messrs. Bunyard, which were not only large, but mellower looking than the others; Mr. J. Fincham, the Gardens, Nacton House, near Ipswich, and Mr. A. J. Thomas were respectively second and third. The best of six good lots of Alfriston came from Mr. Neighbour, of Bickley; and Mr. Rutland had the finest of three good samples of Gloria Mundi. That handsome variety, Peasgood's Nonsuch, was represented by eight splendid samples, and it must have been tough work for the Judges to

decide which were the best between the specimens shown by Mr. Miller and Mr. W. Roupell, so very fine were both. Lane's Prince Albert, a grand Apple, the merits of which are becoming more widely known, was well represented, and the raisers were beaten by Mr. C. Ross, and Messrs. Bunyard & Co.

The Pear classes were also well contested, the classes being well filled, and the samples good for the season. As in our next we shall give a detailed report of the Pear Conference at Chiswick, we refrain now from specially mentioning varieties, merely indicating a few of the leading prize winners. The best trade collection of fifty varieties came from Mr. A. J. Thomas, Messrs. Rivers, and Messrs. Bunyard; the best amateurs collection from Mr. Roberts, Gunnersbury, and the best twelve and six dishes respectively from Mr. Allen, Gunton. In the single dish classes the first prizes were taken as follows:—Doyenné du Comice, Mr. W. Allen; Beurré Superfin, Messrs. Bunyard & Co; Maréchal de la Cour, Mr. W. Allen; Marie Louise, Mr. R. Smith, Kenward, Yalding; Glou Morceau, Mr. C. Ross; Beurré Rance, Mr. R. Smith; Beurré Benoist, Mr. Rutland; Urbaniste, Mr. Thomas; Beurré Diel, Mr. Thomas; Pitmaston Duchess, Mr. Thomas; Winter Nelis, Mr. R. Silk; Beurré Bachalièr, Mr. W. Johnstone, Bayham Abbey; Passé Colmar, Mr. C. Ross; Fondante d'Automne, Mr. Allen; and Louise Bonne of Jersey, Mr. Thomas.

As usual, the trade growers contributed large and admirable collections, and Silver Medals were awarded to Messrs. Veitch & Sons, Messrs. Cheal & Sons, Messrs. W. Paul & Sons, and Messrs. C. Lee & Sons; while Bronze Medals were voted to Mr. S Ford and Mr. A. J. Thomas.

Vegetables.—Messrs. Sutton & Sons, Reading, offered a series of good prizes for collection of eight sorts of vegetables, and were rewarded with a capital competition. Mr. S. Haines, Lord Radnor's gardener at Coleshill, secured the first prize, with an uniformly good lot, which consisted of Sutton's Exhibition Brussels Sprouts, Rousham Park Hero Onions, Reading Perfection Tomatos, Autumn Giant Cauliflowers, Canadian Wonder Beans, Schoolmaster Potatos, and last but not least, a beautiful sample of Sutton's new Intermediate Carrot, a variety which must come prominently to the front, especially for exhibition purposes, being about a foot long, perfectly smooth, and of a good colour right up to the crown. It is a great improvement on the old Intermediate. The other prize winners were Mr. Meads, gardener, Beckett Park, Shrivenham; Mr. W. Pope, Highclere Castle, Newbury; Mr. C. J. Waite, and Mr. G. H. Richards, in the order named. A great attraction with the multitude was a gigantic French Pumpkin, weighing 219 lbs., shown by Mr. Simeon Jacobs, of Covent Garden, who was awarded a Bronze Medal.

National Chrysanthemum.—The first meeting of the Floral Committee of the above Society for this season, took place in the organ gallery of the Royal Aquarium, on Wednesday afternoon the 14th inst., and a very pleasant and interesting little exhibition resulted, a goodly number of Chrysanthemums being staged, as well as other subjects. The President of the Society, Mr. E. Sanderson, presided, and there were present in addition, Messrs. R. Ballantine, Vice-President; W. Holmes, Hon. Secretary; N. Davis, G. Stevens, R. Dean, G. Gordon, C. Gibson, J. Mardlin, T. Bevan, J. W. Springbett, J. Townsend, H. Cannell, E. Berry, M. Butcher, E. T. Kemp, and W. Swift. The committee having discussed and adopted certain rules affecting its procedure, then proceeded to make the following awards:—First Class Certificate of merit to Japanese Chrysanthemum Mandarin, an elegant variety with cream and pink thread-like petals, the pink deepening to rose with age; a valuable variety because blooming in September; a dozen or so of fine flowers of this was shown by Mr. N. Davis, Lilford Road Nursery, Camberwell, said to have been cut from two plants. Mr. Davis also had Simon Delaux, bright cerise-crimson, with buff reverse; Fleur d'Ete, bright pinkish lilac, a small and pretty reflexed Japanese; Rose Celeste, pale pink; Ete Fleur, magenta, white centre, the middle petal curled over so as to form a ball; Isidore Feral, gold and pinkish magenta, reflexed, and very pretty; and Margot, a very fine Japanese variety, of a bright soft pink colour, large and full, certificated last year. Mr. Davidson received a First Class Certificate of merit for Lackme, a fine and bold variety, having an orange centre, and handsome crimson petals. Hybrid Pompon, Mrs. Cullingford, pure white, very pretty and free; was commended.

Mr. W. E. Boyce, Yerbury Road, Upper Holloway, also received a First Class Certificate of merit for Mandarin, and the same award for Pomponium, a charming early variety, with yellow and orange-brown, full, and finely shaped flowers.

Mr. G. Stevens, St. John's Nursery, Putney, had a plant of Pompon Early White Perfection, which had been lifted from the open ground, with charming symmetrical white flowers, which was commended.

Mr. Forbes, the Gardens, Dover House, Roehampton, received a First Class Certificate of merit for Japanese Brise du Matin, deep yet bright pink, a superb flower with broad reflexed petals. He also had L'Isle de Plaisir, orange and chestnut-red, the reverse golden buff, a very good October-flowering variety (commended), and Mons. Mousillac, maroon-crimson, the reverse of petals buff, forming a ball-like centre; a fine and full variety, distinct for its earliness. This was also shown in excellent form by Messrs. J. Laing & Co., Stanstead Park Nurseries, Forest Hill, who also had Japanese Madame H. Cannell, pale pink, very pretty, but thin as shown.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, showed Roi de Precoces, a Pompon variety of a deep chestnut-crimson colour, a good decorative variety, and Japanese, Bouquet Esteval, lilac-purple.

Mr. R. Ballantyne, of Hackney, had some fine blooms of Mons. Delaux, crimson flushed with golden buff, and purple, flowers large, full, and fine.

Mr. Wright, of the Temple Gardens, received a First Class Certificate of merit for Ballé Narveraisse, a fimbriated hybrid Pompone of large size, creamy white, the flowers very full and like balls. He had also a rich cinnamon-red sport from the Japanese Orphée, and Colibra, bright maroon-crimson, flowers large and full.

Messrs. H. Cannell & Son, Nurserymen, Swanley, greatly helped the meeting by sending a large contribution, among them some very handsome new varieties of double Ivy-leaved Pelargoniums. First Class Certificates of merit were awarded the following:—Hoff Gartner Eichler, bright scarlet, large, full, and very symmetrical flowers; Madame Thibaut, rich deep pink, extra fine; and Furstin Josephine von Hohenzollern, rich carmine, large, double, and very handsome. Other fine varieties were Lang Son, rich bright carmine; Daniels' Bros., pink, flushed with purple, large; Gretchen Scuptz, purple; General Brière de l'Isle, pale scarlet; and Dr. A. Chipaut, pale pink, flushed with violet. The same award was made to Messrs. H. Cannell & Sons, for Pompon Chrysanthemum Fiberta, a very pretty bright yellow variety, good form, early and free; and for double Begonia Leon de St. Jean, rich bright rosy crimson, very large and fine. Primula sinensis fimbriata King of Purples, a fern-leaved variety, was commended for its colour.

The same firm had a basket of Begonia Earl of Bessborough, a very free-blooming apricot-coloured variety; flowers of double and single Begonias, and bunches of Chrysanthemums. Mr. Owen, Florist, Maidenhead, had bunches of Chrysanthemums. Mr. R. Dean, Ranelagh Road, Ealing, had flowers of Primula floribunda, to show its persistent character; and Mr. Boyce, cut specimens of Chrysanthemums.

QUESTIONS AND ANSWERS.

Book.—*L. D.*—There is no cheap book, of any real merit, which gives the information you desire. What we would recommend you to get is Mrs. London's *Amateur Gardeners' Calendar*, published by Warne & Co., at about 7*s.* 6*d.* We shall be happy to assist you at any time on subjects you may not quite understand.

Strawberries.—*North.*—We have not grown any of the varieties you name, nor have we seen them in any of the gardens that we have visited this season. The Blackberry, according to reports we have seen in American publications, is a remarkable bearer, and the fruits of fine size. You should try a few plants.

Names of Plants.—*M.*—Althæa frutex, commonly called Hibiscus syriacus.—*W. E., Glos.*—1, Habrothamnus fascicularis. 2, Erica melanthera. 3, Doodia media. 4, Eupatorium Weinmannianum. 5, Berberis Darwinii. 6, Cratægus pyracantha.

Carnations and Picotees.—*Coburn.*—Write to the Author, Mr. E. S. Dodwell, Stanley Road, Oxford.

Fruits to Name.—*S.B.*—1, Ribston Pippin; 2, Adam's Pearmain; 3, Golden Noble; 4, Hollandbury; 5, Gansel's Bergamot; 6, Beurré Bosc. *J. Wilson.*—1, Fondante d'Automne; 2, Styrian or Keele Hall Beurré; 3, Beurré d'Amanlis.

Coleuses.—*A.B.*—We are unable to identify your coleuses from leaves. The only way to get them named satisfactorily, is to take them to some nursery where a collection is grown.

Communications Received.—G. B.—W. S.—T. W. O.—R. G. W. H.—N. D. J.—E. J.—R. D.—W. C.—C. D.—J. Beddow—J. Propert—W. T.—G. F.—W. R.—A. O.—E. J.—G. F.—T. C.

TRADE CATALOGUES RECEIVED.

N. Davis, Lilford Road, Camberwell, S.E.—New Chrysanthemums, Japanese and early flowering varieties.

Richard Smith & Co., Worcester.—Plant List (Stove and Greenhouse).

J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.—Ornamental Trees and Shrubs, Roses, Forest Trees, Fruit Trees, &c.

James Cocker & Sons, Sunnypark, Aberdeen.—Descriptive Catalogue of Select Roses.

Ewing & Co., Sea View Nurseries, Havant, Hants.—Choice Collections of Dwarf and Standard Roses.

NOTICES TO CORRESPONDENTS.

Special attention is paid in the columns of The Gardening World, to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

LONDON SEED TRADE.

October 14th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a very slow trade at to-day's market, without any material change in values. The demand for Tares and Rye has almost ceased. Red Clover offers freely from the continent; but the rainy weather retards the marketing of the English crop. White and Alsike are unchanged. No change in value of Rye Grass, although demand is small. New Canary, of good quality, is now arriving. Hemp seed offers cheaper; Millet and Blue Peas unchanged; Linseed dearer.

COVENT GARDEN MARKET.

October 15th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	24 0	25 0	Plums, ½ sieve	1 6	3 6
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces ..per dozen	2 0	2 6
Cabbages ....per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	4 0	6 0
Anemone, 12 bunches			Marguerites, 12 bun.	4 0	9 0
Arum Lilies, 12 blms.	4 0		Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	..	2 0	— scarlet, 12 sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pinks, various, 12 bun.		
Camellias, 12 blooms.	4 0	8 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Pyrethrum, 12 bun.		
Chrysanthemums, 12 blooms	1 0	6 0	Rhodanthe, 12 bun.	6 0	9 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses (coloured)	1 0	2 0
Cineraria, per bunch			Roses (indoors), doz.	1 0	3 0
Cornflower, 12 bunch.	0 6	1 0	Roses, per doz. bun.	6 0	12 0
Cyclamen, 12 blooms.			Spiræa, 12 bunches		
Day Lily, 12 bunches.			Stephanotis, 12 sprays	6 0	9 0
Epiphyllums, 12 blms.			Stocks, 12 bunches		
Eschscholtzia, 12 bun.			Sweet Peas, 12 bunch		
Eucharis, per dozen	4 0	9 0	Sweet Sultan, 12 bun.		
Gardenias, 12 blooms.	2 0	5 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Tulips, per dozen		
Lapageria, white, 12 blooms	3 0	4 0	Violet, 12 bunches	0 9	1 0
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 0	1 6
Lavender, 12 bunches			— Parme	4 0	5 0
Lilium candidum, 12 blooms			White Jasmine, bun.	0 6	0 9
			Woodroffe, 12 bunches		

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsias, per dozen	3 0	9 0
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen		
Asters, per doz.	4 0	6 0	Heaths or Erica, var., per dozen	10 0	12 0
Azalea, per doz.			Hyacinths, per dozen		
Balsams, per dozen			Hydrangea, per dozen		
Begonias, per dozen	4 0	12 0	Ivy Geraniums, per dozen	3 0	6 0
Bouvardias, per dozen	9 0	18 0	Lilium longiflorum, per dozen		
Calceolarias, per doz.			Lilium lancifolium, per dozen	18 0	24 0
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Deutzia, per dozen			Petunias, per dozen		
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.		
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 0			

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6 Named HYACINTHS. PRICE in 6 sorts. 4/6

12 Named HYACINTHS. PRICE in 12 sorts, for glasses. 8/-

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Cheaper sorts, 6s. & 7s. 6d. per doz.

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TELEGRAMS.

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WE offer an immense assortment of Choice Flower Roots, including all the finest and best varieties of Hyacinths, Tulips, Narcissi, Lilies, Gladioli, Crocus, Irises, Anemones, &c., all at the most moderate prices.

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No. 1	Containing	1573	selected	roots	..	..	£2 2	6
,, 2	,,	1135	,,	,,	..	..	1 11	0
,, 3	,,	820	,,	,,	..	..	1 1	6
,, 4	,,	426	,,	,,	..	..	0 11	0

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No. 5	Containing	968	selected	roots	..	..	£4 4	0
,, 6	,,	696	,,	,,	..	..	3 3	0
,, 7	,,	503	,,	,,	..	..	2 2	0
,, 8	,,	277	,,	,,	..	..	1 1	0
,, 9	,,	156	,,	,,	..	..	0 11	6

FOR POTS, WINDOW BOXES, &c.

No. 10	Containing	771	selected	roots	..	..	£2 2	0
,, 11	,,	376	,,	,,	..	..	1 1	0
,, 12	,,	219	,,	,,	..	..	0 11	6

These collections are carefully arranged, and are made up from sound picked roots only; will be found the cheapest and best assortments ever offered.

Beautifully Illustrated Catalogue of Choice Flower Roots, Roses, Fruit Trees, Strawberry Plants, &c., &c., free on application.

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Bulb Merchants & Nurserymen,

NORWICH.

SHOWS.

Royal Horticultural Society, South Kensington.

SHOW of CHRYSANTHEMUMS and VEGETABLES on Tuesday and Wednesday, October 27th and 28th, in the Conservatory.

Visitors to the International Inventions Exhibition admitted free at One o'clock on October 27th.

National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND EXHIBITION, November 11th and 12th. Schedules (free) on application.

NOTICE.—Floral Committee Meetings at the ROYAL AQUARIUM, on October 28th, November 11th, 25th, and December 9th, at 2.30 p.m. precisely. (Regulations see Schedule).

WILLIAM HOLMES.

Frampton Park Nurseries, Hackney, London.

National Chrysanthemum Society's Catalogue, 6d. each.

CRYSTAL PALACE.—GREAT ANNUAL CHRYSANTHEMUM SHOW, Friday and Saturday, November 6th and 7th.

For Schedules apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace.

Sheffield and West Riding Chrysanthemum Society.

NOTICE TO EXHIBITORS.—The EXHIBITION of this Society will be held in the SHEFFIELD CORN EXCHANGE on Friday and Saturday, November 20th and 21st, instead of on the 13th and 14th, as originally fixed. Entries close on Saturday the 14th.

W. K. WOODCOCK, *Secretary.*

MESSRS. PEACOCK and FRIEND have the honour to announce that they will give a GRAND EVENING CONCERT at the Royal Albert Hall, on Wednesday, November 18th, at Eight o'clock, in AID of the FUNDS of NAZARETH HOUSE, Hammersmith.

Under the Patronage of
H.R.H. Field Marshal the DUKE of CAMBRIDGE, K.G., K.T., G.C.B., &c.
Prince Lucien Bonaparte.
His Excellency the Chinese Ambassador.
His Excellency the Spanish Ambassador.
His Excellency the Italian Ambassador.
Right Hon. the Lord Mayor, M.P.
Sir Spencer Wells, Bart.
Warren de la Rue, Esq., M.A., D.C.L., F.R.S.
And other distinguished Noblemen and Gentlemen, of whom a list will be published.

MADAME TREBELLI

and several distinguished Artistes have most kindly given their services.

Tickets, 10s. 6d., 7s. 6d., 5s., 4s., 2s. 6d., and 1s., at the Royal Albert Hall, and all Agents; or J. T. Peacock, Sudbury House, Hammersmith.

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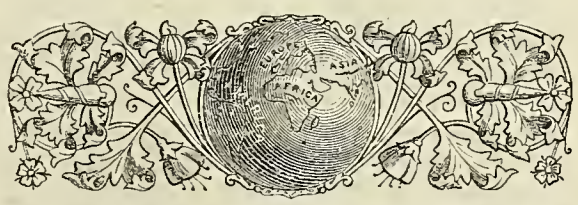

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 24, 1885.

THE PEAR CONGRESS.—The remarkable exhibition of Pears which was opened in the famed old gardens of the Royal Horticultural Society at Chiswick, on Wednesday, and which will continue open for another ten days, is probably the largest and most representative one of this popular fruit ever seen. It is not the less a remarkable show or gathering because brought together without any pecuniary encouragement; indeed, there is not an exhibitor, be his collection large or small, but who will suffer something in pocket because of the public spirit shown. That there would be seen such vast collections of Pears as was seen of Apples in the same place two years since was hardly to be expected. It is true we have an exceptionally fine Pear season, a fact upon which we are so fond of dilating that we somewhat overlook the damning fact that an exceptionally productive season means very many non-productive ones; hence our congratulations upon our present good fortune meets with a damper on reflection.

But we have a good, indeed, so good a season, that many growers hesitate not to term it a grand Pear season, and therefore we had justification in looking for what has proved to be a truly marvellous display. In one respect there is an improvement found on the Apple show, for there are fewer inferior kinds of Pears, as there are also fewer of unknown sorts, for these fruits are not so commonly seeded and grown locally as Apples are, whilst the comparative lack of constancy in cropping prevents the cultivation of other than fairly good varieties. Still the first thought which strikes the visitor to the Congress is, that we seem to have far too many kinds as it is, and that if the Congress Committee could, at one stroke of the pen, not only wipe out one half of the present kinds, but the trees which produced them as well, that body would render pomology useful service. But even then our ardour in this description of reform may well be tempered by the consideration as to how many of the kinds that seem to be in such a season as the present almost worthless, are, in many indifferent Pear seasons, really valuable.

Few, for instance, will care to regard just now with any favour the Hessle, or more popularly the Hazel, of our market orchards, though without doubt far more of this hardy, though by no means excellent, Pear is grown around London than any other kind. Then there is the hardy and free-fruiting Swan's Egg, and the not less robust and productive Beurré Capiaumont, with some other small kinds, but still hardy and very productive. All these make a poor show on the table alongside of the huge fruits produced on walls, espaliers, and Quince-worked bush trees; but there are more seasons when these humble kinds prove profitable than there are when they do not, hence we must be careful indeed how we deal with Pears when not merely the pruning-knife but the axe and saw are applied literally to the trees.

It may be rank heterodoxy to make the assertion, but it does seem as if we were making more fuss about Pears as ordinary fruits than they merit. Unlike Apples, we cannot use them for tarts, puddings, dumplings, sauce, jelly, preserve, and many other ways. We can employ them only for dessert uses, except those huge fruits which are so admirable when stewed. But it is an undoubted fact that the unfitness of Pears for so many ordinary culinary purposes renders these fruits less profitable and less essential to our comfort and welfare. Then they are somewhat evanescent in usefulness, for, as Mr. Warden pointed out last week, no sooner are many kinds ripe than they are gone beyond use. We have comparatively few kinds which keep good, really pleasantly good, after Christmas, and most of these are sparse bearers, or need a wall to produce them.

On the whole, it must be admitted that delicious as a good Pear may be whilst it is good, yet that in competition with the Apple there is hardly any comparison to be instituted in general value and usefulness. If evidence of this were wanting, we should see it first in the fact that myriads of good Apples will grow where good Pears will but die or fail to crop; as also in the second fact that in common gardens and orchards to one Pear tree we see a dozen Apple trees growing. Whilst Apples are the fruit of the million, Pears are chiefly the luxuries of the wealthy, for only by costly culture can high-class Pears be obtained. We

are, after all, in Pear culture, brought down to the common-place query, Can the culture of good Pears be made to pay? Of course we do not here refer to any ordinary free-bearing orchard kinds, such as in Pear seasons find their way into the markets for a few weeks in great abundance. We should like to know what may be the cost of production of a bushel of Marie Louise, Beurré Diel, Doyenné du Comice, or other superior kinds this year but spread over a series of years, for if we get good crops only once in four or five years we must carry the cost of production over the whole of those years, and not over that of the present season only. Really the crux of extended Pear culture must be found in the item of expense. The unhappy result to the grower of Pears for sale, when crops are produced so intermittently, is that whilst when scarce he could get a good price for his fruits, the moment a good season comes which favours everyone else as it favours him, then the markets are glutted and the returns are miserably disappointing.

Without doubt, exceptional soils and situations are favourable to the production of fruits, but those favoured positions are limited. Very likely many of the grand fruits shown at South Kensington last week would to the grower have been a loss if sold at one shilling each, and yet no one can hope to see such a price as that paid; indeed, it is undesirable that any hardy fruit should be so scarce that such prices should be rendered necessary. If we cannot obtain Pears, good luscious Pears that are worth eating, at something like a reasonable cost, we must never hope to make their culture popular or profitable.

The promoters of the Congress, whilst doing something useful to correct nomenclature, and perhaps gather up some interesting information respecting soils, situations, stocks, and culture, may well find their efforts most worthily directed to an endeavour to solve the problem involved in profitable culture. We can ensure quality on pyramid or bush trees now fairly well by the simple plan of working on Quince stocks; but still there is, with many of the better sorts, a want of greater hardiness in the blooms, and capacity to ripen without the aid of walls. Probably the greatest of all problems is found in how to protect the blossoms during the treacherous month of April. If we could master that difficulty, without materially adding to the cost of production, a great deal would be achieved, and Pear produce on existing trees would be doubled, whilst twice the present number of trees would soon be planted. Our earnest desire is to induce the Pear Congress Committee to get something practical out of the gathering. It will be but poor consolation to learn (as, perhaps, we may) that such another gathering may not be possible for another ten years. We should very much prefer to learn that new methods or practices would soon enable such a gathering to be held every two or three years at least.

GARDENING MISCELLANY.

Exhibitions for Next Week.—*Tuesday* and *Wednesday*, Chrysanthemum Show in the Conservatory at South Kensington, and Exhibition of Vegetables. *Wednesday*, meeting of the Floral Committee of the National Chrysanthemum Society, at the Westminster Aquarium.

Sheffield Chrysanthemum Show. In consequence of the flowers being so late in the Sheffield district, the date of this exhibition has been altered from November 13th and 14th to November 20th and 21st.

The Lord Mayor's Banquet.—The floral decoration of the Guildhall on Lord Mayor's day, has, we hear, been entrusted to Mr. B. S. Williams, of Holloway.

Aloe in Flower.—In Mr. Somerville Gurney's garden at North Runcton, King's Lynn, there is a large Aloe in flower for the first time. It was brought from Vesuvius in 1815, and its flower stem measures 24 ft. in height.

Manchester Horticultural Improvement Society.—The first meeting of the session will be held in the Memorial Hall, Albert Square, Manchester, on Thursday evening next, when the election of officers, &c., will take place, after which a *resume* of the work of the past session will be given by Mr. Bruce Findlay (president). Chair to be taken at 7.30.

Mr. Wilson's Experimental Garden.—Those of our readers who have had the pleasure of visiting Mr. G. F. Wilson's most interesting experimental garden at Oakwood, may be interested to know that a series of illustrations, taken in the garden by a good artist appear in the current issue of *The Graphic*.

Vallota purpurea magnifica.—The New Plant and Bulb Company, Colchester, have succeeded in importing a small stock of this fine bulb, and are now sending it out. In the size, form, and brilliant clear scarlet colour of its flowers, it is certainly the best of the Vallotas. It is a tall grower, and when it gets well established it will form a very stately plant.

The Rose Shows of 1886.—The Metropolitan exhibition of the National Rose Society, will be held at South Kensington on July 6th, and the Provincial show at the Botanic Gardens, Birmingham, on July 15th. The following Provincial Rose show fixtures have also been announced—Farningham, June 30th; Reigate, July 1st; Tunbridge Wells, July 2nd; Eltham, July 3rd; Sutton, July 7th; Hitchin, July 8th; and Wirral, July 10th.

Registered Telegraph Addresses.—Messrs. R. Smith and Co., Worcester, "Smith, Worcester"; Mr. B. S. Williams, Holloway, "Williams, London"; Mr. B. Field, Swan Place, Old Kent Road, S.E., "Floriculture, London"; Messrs. Thomas Perkins & Sons, Northampton, "Paragon, Northampton"; Mr. R. Tucker, The Nurseries, Farringdon, Berks, "Tucker, Farringdon."

Gardeners' Royal Benevolent Institution.—We understand that Baron Schroder, The Dell, Egham, has been elected a Vice-President of this Institution, in the place of Edmund Wilder, Esq., deceased. As the fifth annual card collection will close on the 1st of November, it is desirable that all cards that have not been sent in should be returned to the Secretary, Mr. Cutler, 20, Spring Gardens, S.W., as soon as possible, as upon the result of the collection in a great measure will depend the number of pensioners that can be added to the list in January.

New Ivy-leaved Pelargonium.—Last week we called attention to the splendid new Ivy-leaved Pelargonium, Alice Crousse, and have now the pleasure to record the appearance of another truly grand variety, which comes from Mr. Robert Owen's Floral Nursery, Castle Hill, Maidenhead. It is one of a batch of seedlings raised by Mr. Owen, of which one very fine variety has been named Souvenir de Charles Turner, and certificated by the Floral Committee. The new-comer is semi-double, having two rows of broad flat petals, the pip measuring 2½ ins. in diameter, while the colour is of a rich shade of rosy cerise; a decided acquisition.

Decorative Ferns.—In the admirable group of decorative plants shown by Mr. H. B. May, of Edmonton last week at South Kensington, we noticed some made up specimens which showed how to utilise to the best advantage for decorative purposes, some of the species which do not make nice small plants by themselves, but which in combination with others are all that can be desired. Take for instance Pteris hastata, in a small state it does not make a nice table plant, but grown in the same pot with Pteris argyrea, the combination is most pleasing. Other pots were made up of Pteris argyrea and P. cretica, and of Doryopteris palmata, and Adiantum cuneatum, and few things can be more beautiful for room or table decoration. The hint may be useful to some who may want to make a change.

A New Book on Roses.—Mr. Samuel Ryder, junr., has written, and Messrs. Ryder & Son, florists, Sale, Manchester, are now publishing at the modest price of sixpence, a handy and trustworthy little manual on the cultivation of Roses in the garden, and in pots under glass. In his introductory chapter, Mr. Ryder impresses upon his readers the sound axioms that if success is to be obtained in floriculture, it is to be attained only by effort; and that all flowers, and especially the Queen of flowers, must have constant attention, if they are to be grown well. Bearing these primary points in mind, the author proceeds to discuss in a practical manner the preparation of the soil, the selections of a site for the Rose garden, the best sorts of Roses to plant, and how to plant them. In another chapter he dilates upon the various forms of Rose Trees. He does not recommend the standard, preferring the dwarf or bush Rose Trees as the most natural and rational form. The various classes of Roses are also dealt with, and the subjects of pruning and propagating are very sensibly handled: after which we have a few concise instructions on growing Roses in pots, which will prove acceptable to many an aspiring amateur; and brief, but instructive, remarks on exhibiting Roses, and a calendar of work for each month. We commend Mr. Ryder's little work to the notice of our amateur readers, who will find many useful hints in its pages.

ODONTOGLOSSUM HALLII MAGNIFICUM.

Odontoglossum Hallii is distributed over a very wide range, from Peru along the Cordilleras, and each importation seems to differ in character from the others. Probably out of the whole of the importations received into this country, no variety has been equal to that which we here illustrate, and which flowered in the collection of H. M. Pollett, Esq., of Fernside, Bickley, Kent. The sepals and petals are clear yellow, blotched with brownish crimson, and the labellum, which forms the grandest feature in the flower, is pure white, blotched with the nearest approach to scarlet which an Odontoglossum gives. The crest, too, gives additional attraction to the flower, it having bright yellow with occasional crimson lines. It is a grand and showy Orchid, and very easy to manage in a cold house.

The plant which flowered with Messrs. James Backhouse & Son, of York, in 1866, and which was figured in the *Botanical Magazine*, seems to approach Mr. Pollett's variety, and was probably obtained from the same locality. Since that time, several batches have been received from other localities, and flowered; but none of them are equal to those of the old importation. The variety with yellow ground to the labellum is often called O. H. xanthoglossum, and that with a white lip, O. H. leucoglossum.

All the varieties do well in a cold house, and are assisted in producing their flowers by being suspended as soon as the spikes appear. In fact, it is a good plan to suspend any of the rare Odontoglossums while making their flower-spikes, as they all like such treatment, and the chances of their getting injured by insects or slugs are greatly reduced by isolating them in this way.—*James O'Brien.*

A NEW REMEDY FOR MILDEW, RED SPIDER, &c.

The fungoid and insect enemies of plants are forces so opposed to the gardener that they have to be combatted vigorously, or the gardener has to rue his neglect. Of the former, mildew is one of the most formidable. It is a scourge which crops up everywhere, and few plants escape its ravages, and they sometimes, as in the case of Roses, are often very destructive. The nostrums which have been employed to combat them are innumerable; but most of them have proved so useless that gardeners, as a body, have come to regard nearly all as equally unreliable. A scientific amateur, early in the present year, announced in the columns of one of the gardening journals that he had discovered a perfect remedy for mildew—viz., "Sulphide of potassium." This communication so arrested my attention, knowing the thoroughness and reliability of the writer, that I determined to put this new remedy in the hands of a number of trustworthy gardeners, in order to test its efficacy. So far, the reports I have received are altogether in its favour, no case of failure having yet reached me. I therefore feel that I am justified, in the interests of the gardening community, in drawing the attention of every horticulturist to this seemingly valuable boon; for in addition to its undoubted efficacy, it has the merits of being extremely cheap and easy of application. And, further, not only is it destructive of mildew at the same time that it does no injury to the most delicate foliage, but it seems to be equally effective in destroying red spider and aphis; and if further experiments confirm

the very decided opinion of some observers on this point, there is every reason to believe that it will prove to be as useful in combating "club" in the Cabbage tribe and other plant ailments. Whether club is due to a fungus (the German notion), or to insects (a moot point at present), there can be no doubt of its hurtfulness, and any real remedy for it will be warmly welcomed by everyone.

Fortunately in one respect, but unfortunately in another, I cannot speak from personal knowledge of the value of sulphide of potassium, for I have neither had mildew nor club this year in my garden. But I have had such reliable testimony from trusted correspondents as to its value, that I have no hesitation in asking gardeners everywhere to test its qualities, and report upon its merits or demerits, as their experience may justify. And here I may say that I have no interest whatever in drawing attention to the subject, other than the interest which every gardener must always feel in whatever may prove beneficial to his fellow gardeners—amateur or professional.

One correspondent has pointed out that sulphide of potassium is a reliable remedy for the green mossy growths on the tiled floors of greenhouses and conservatories, where their presence is at present too often a disfiguring feature. Indeed, it seems to me that this chemical is likely to prove itself in the near future a veritable gardener's friend. No one can at present appraise its utmost value; and as it seems to be in no way hurtful to the foliage of the most delicate of our ornamental plants if used in proper proportions—$\frac{1}{4}$ of an ounce to a gallon of water—it behoves every one to experiment with it tentatively on everything.

But here it is perhaps as well to say a word of caution. There is more than one quality of sulphide of potassium; there is the ordinary article of commerce—mostly made in Germany—and there is the carefully prepared substance which I have been in some degree instrumental in distributing. The latter is manufac- by Messrs. Philip Harris & Co., of Birmingham, and this I am assured, on the best authority, contains a much larger proportion of *soluble* sulphur than the common kind, and I am of opinion that to the solubility and amount of the sulphur its success is due. I have no desire to advertise the wares of one manufacturer more than of another, but I think this is a case where the special attention paid by the manufacturers in question, in making a substance likely to be a substantial boon to a community in such a way as to give the best practical results, justifies the mention of those, to whose care and enterprise the community are indebted for the extra qualities of the substance under consideration.

I saw a letter this morning from one of our most eminent practical gardeners, written spontaneously, in which he states that two dressings of the sulphide of potassium solution in his hands entirely eradicated mildew on Cucumbers and Roses. Were I at liberty to publish the name of this gentleman, it would carry conviction to the minds of everyone. I urge every gardener to give this new remedy a trial and then to report the result. If my friends discovery is as valuable as many who have tried it believe it to be, it is one of the most important of modern times, so far as the gardener is concerned.—*Edward W. Badger, Mosely, near Birmingham, Oct. 21st.*

HYBRID RHODODENDRONS.

What a remarkable collection of these Messrs. Veitch & Sons had at South Kensington on the 13th inst. They illustrated the newest things in this way that this spirited firm has produced. When anyone compares the size, substance, and rich colouring of the flowers seen in these new forms, and those which characterised the original types of R. javanicum, and R. retusum from the Java mountains, then something like an accurate idea can be formed of the advance which has been made. The collection shown by Messrs. Veitch & Sons, though limited in numbers was strong in newer varieties. Two of them were awarded First Class Certificates of Merit, viz., Apollo, a great beauty, pale but bright orange with a dash of buff; pip and truss very fine. This variety shows in a remarkable degree the great developement in regard to size and stoutness of texture which characterises the more recent seedlings. Equally fine is Minerva, which, like Apollo, is very large and bold in the flowers, with finely formed segments; colour bright yellow, faintly tinted with the most delicate red; extra fine.

The deepest coloured variety was Duke of Connaught, a dull red, but a very good and showy variety, though not so bright as Cardinale, a late introduction, large and bright; quite a tiny plant of this, not more than 4 ins. in height was seen bearing a fine truss of flowers. Crown Princess of Germany is of a buff ground, flushed with bright cerise on the edges, very distinct and good. Queen Victoria is in the same way but paler, and very pretty. Princess Frederica is pale canary buff, the segments very narrowly edged with pink. Duchess of Connaught is clear pink, with the colour a little deeper on the edges of the segments; distinct and very good. Maidens Blush is of a delicate blush, with a decided edging of pink to the segments; lastly, Princess Alexandra is of a most delicate blush, very chaste and pretty.

Odontoglossum Hallii magnificum.

THE MOVEMENT OF PLANT ORGANS.

The opening lecture of the Ealing Microscopical and Natural History Society, was delivered recently by the Rev. G. Henslow, who took the above subject for his text, and gave a very interesting and instructive address. Movement, said the lecturer, was formerly considered to be a distinguishing characteristic of animal life, but this view had long ceased to be held, since many plants, more especially among the microscopic fungi and algæ, were in a constant state of movement. The first organic movement specially described was that of the radicle. Everyone is familiar with the bean or pea, and know that they consist of two halves, which when germination takes place, becomes the two first leaves, while the rudimentary stem known as the radicle passes down into the earth. Its power of movement is very remarkable; it will pass over, through, or around almost any obstacle, and in one case of which a drawing was shown, the root of a radish had tied itself into a complete knot. The effects of moisture in determining the movement of plant roots was dealt upon in some detail, and the common idea that roots go in search of water was shown to be erroneous. The upward movements of the plant stem was next described, and the "banding around" movement by which a plant stem climbs was fully described. Some of the various methods of climbing by leaf and tendril were then referred to, and one remarkable instance of a Virginia creeper which lifted up a water bottle in the course of its climbing was narrated. The effect of gravitation in determining the direction of movement in a growing plant was also discussed.

Mr. Henslow next went on to speak of the movements of leaves under varying conditions of light and temperature, and explained that in those cases in which the movement resulted in closing, the probable explanation of the change of position was to be found in the fact that in the altered posision the upper surface of the leaf was protected from the injurious effects of cold resulting from radiation. The complicated and beautiful movement of the leaves of the comman clover in folding at night were minutely described, and also the folding together of the leaves of the sensitive plant (Mimosa pudica), and of the wood sorrel (Oxalis acetosella). In some plants it was also stated that a periodic movement of the leaves took place, for example in the Indian plant known as Hedysarum gyrans, in which a peculiar movement of the leaves takes place every few minutes. Some of the movements may be induced by touching as well as by change of temperature, as for instance in the case of the sensitive plant. The folding of the leaves may be truly called a sleeping of plants. Professor Henslow then proceeded to describe an investigation in which he had been engaged during the present year, and of which the results had recently been published by the Linnean Society. He had observed closely the method in which the leaves of plants were folded while yet in the bud, and had, by a long and careful examination, discovered that the plan of folding was the same as in the plants previously described, and as a result of these observations he had been led to infer that the object of this folding was to protect the delicate upper surface of the leaf from the injurious effects of cold resulting from radiation, especially during the night. The folding together of some leaves was so close that it was impossible to separate them without injury. When once the leaf-bud had unfolded, the leaves did not re-fold in the same manner, but a lesser degree of folding was to be observed until the midrib had become so thick as to prevent anything but a partial folding taking place. The lecturer suggested that the members of the Society should make further observations in the same direction.

Professor Henslow then went on to describe movements which take place in flowers, and particularly mentioned a flower known as the fly catcher, in which the flower encloses any small insect which may happen to come within its clutches. The holly-leaved Berberis was also described, in which the stamens move towards the centre of the flower and assist the fertilisation by throwing the pollen upon any insect which may visit the flower. The movements by which some plants bury the seed vessel were then described, and the case of the Cyclamen specially noticed, in which the seed is found to possess the power of absorbing nutriment direct from the soil after it has been buried, only those seeds which have been thus treated attaining full

development. This only takes place in the case of plants in their natural state, and not when under cultivation.

A vote of thanks to the lecturer terminated the proceedings.

THE BEAN WEEVIL.

Having received, in the early part of the present year, a packet of seed Beans, a large portion of which were infested by Bruchus rufimanus, I determined to sow a quantity of the damaged seed in order to ascertain the true extent of the mischief wrought by the beetles. I therefore selected twenty Beans, three of which had each been perforated by three weevils, five by two, and twelve by one only, and sowed them under the most favourable conditions for their growth and general welfare. In about a fortnight the young plants appeared, seemingly in no way the worse for the injury received by the seed. The growth was strong and vigorous, and the condition of the plants all that could be desired. When the time for fruition came round, however, a great change took place. The blossoms were scanty and small, the foliage faded and withered, and in several cases the plants died off without producing a single pod.

The first three plants or those raised from seed pierced by three weevils, were naturally the least productive. One of these was altogether barren, while the remaining two bore but three pods between them, none of which arrived at perfection. The next five, grown from seed tenanted by two beetles only, were slightly more fruitful, bearing in all six pods, of which five reached their full growth. Two of these five plants, however, were barren. Upon the remaining twelve, the seed of which had but one perforation, I counted twenty-three pods, not more than ten of which arrived at maturity. Only one plant of this latter group was entirely unfruitful. It will thus be seen that the twenty plants bore among them but thirty-two pods in all, of which less than one-half came to perfection. The Bean in question, I should mention, was not one of the most freely-bearing varieties, six pods being the average yield of each plant. The difference, however, between the produce of the infested seed and of that sown at the same time, which was free from the weevil, proved beyond question that the presence of the beetle is highly prejudicial, not to the germinating qualities of the seed, which appeared to be uninjured, but to the reproductive capabilities of the adult plant.

A striking feature in connection with the above experiment was that the plants raised from weevilled seed, with one single exception, altogether escaped the attacks of Aphis rumicis, from which scarcely another plant in the garden was free. From this I infer that the sap of the weakened plants was of too deteriorated a character to satify the fastidious taste of the "colliers." —*Theodore Wood, in Entomologists' Monthly Magazine.*

SCOTTISH GARDENING.

Garden Memoranda.—Having seen a little more of the doings of my friends this season than usual, it would be discreditable both to myself and those visited if we did not learn something from the mutual exchange of thoughts and ideas. When I had paid my first visit to Parkhall, which was in the early part of the summer, I was so much struck with the extensive scale on which fruit culture is conducted under glass, that I made up my mind to revisit the gardens before the season closed, to make a few notes on the quality and general value of the stone fruits. Circumstances threw me a month later than I had planned; but the loss in one sense was gain in another. Driving along the brow of a hill leading to our destination, a scene of beauty presented itself, which I think would be difficult to surpass in any agricultural district, even in bonny Scotland! The wide fertile district stretching away east, north, and south, and bounded all along by the glittering river Forth, widening as it wends its way to the Firth of the same name, and the woods and hills beyond give a grand character to the whole picture; and which compels me to admit, that my best conception of an exquisite landscape was before my eyes. On the low ground, not far from our route, is the main road from Edinburgh to the north, passing through a district teeming with historic scenes of many conflicts, where the names of the Grahames and Wallace are yet familiar, and where the numerous hosts of warriors passed to Bannockburn—

"As far as e'er the eye was bourne
The lances waved like autumn corn."

To "tame their hardy northern foes" (but did not). No one can regret the change which has taken place since the fiery onslaught of "fierce Southerns" and "hardy Scots," so vividly described by Scott. To witness such a land of beauty and industry, demands the admission that this is in reality a bonny Scotland.

Arriving at Parkhall, I met my quiet, sagacious, and estimable friend, Mr. Murray, whose skill and perseverance (backed by a most considerate and liberal employer) has raised the place to a high position in the records of modern horticulture. We began our inspection and discussion (lasting over some hours) by entering the nearest of the two span-roofed vineries, each measuring 100 ft. long, by 25 ft. wide: these are chiefly for late Grapes. The vines are planted on each side, and are allowed to make all the wood and foliage which is consistent with the free admission of light and air—for the future well-being of the vines. The kinds are such as are generally grown to supply a winter demand, and specially well done is Gros Colmar. It has here larger and handsomer bunches than are generally seen; and the foliage, which is generally found of a brown and scorched-like hue at the close of the season, is here large, of leathery texture, and of a dense green hue. The Alicantes are superb. Gros Guillaume has bunches remarkable for their compactness, fine colour, and large berries. The latter is always deemed of special excellence when found so uniform in the bunches, as it often shows numerous small berries, but not so at Parkhall. Lady Downes was here of special merit, with berries and bunches large, and covered with a dense bloom. These are not lightly cropped vines, to create sensational Grape-growing, but are giving a heavy return for the length of rod under crop; and it would be difficult to find vines anywhere in a more satisfactory condition. Mr. Murray is not a "beaten track" man; and though he has seen many of the finest Grape-growing establishments in England and Scotland, yet he pins his practice to no one's coat-tails, and to this, I think, much of his success is due. The time has come when horticulturists must think and act for themselves, if they expect to rise even to the medium standard of fame.

Leaving these lofty and handsome structures we pass to the larger range, forming three sides of the vegetable garden. The houses are wide and roomy, well-proportioned for the purpose for which they were erected, and well heated and ventilated; these are items of great importance, as well as being truly economical where good results are desired. False economy is the ruin of gardening in many places, and the "penny wise and pound foolish" policy has by no means become extinct even in liberal Scotland. We enter a Peach-house some 85 ft. long by 13 ft. wide and 14 ft. high. Peaches in pots are numerous, as well as trees trained on trellises in front and up the back wall. Much of the pot system has been given up throughout the country because of repeated failures and the extra labour of watering, &c. I must confess to being not very affectionately disposed towards pot-work where it can be dispensed with, not that I ever had to complain of non-success with this system, but chiefly upon economical grounds; as by a proper system of feeding, ripening, cleansing, judiciously watering, resting, airing, &c., successful growing of stone fruit can be done and is done, of which fact there is ample proof at Parkhall. But the requirements indicated must not in the most minute form be neglected; once or twice a "half-watering," a bad attack of insects (black fly especially), the late opening of ventilators, so that a shock from burning heat is given, bringing forth red spider, cold driving in volumes through ventilators which had been left too long fully open, and air not reduced or shut off from the front, are some of the evils which have to be combatted with, and if untutored "helps" are in charge of such trees, and the only reparation which can be given by them for neglect is, "I clean forgot" "or I didna ken," soon puts an end to pot-culture of stone fruits. But such is not likely to occur at Parkhall, for under the vigilant eye of Mr. Murray, success has gone hand in hand hitherto, and we trust "sae will it yet." Though our visit was late enough to see the fine crops noted in early summer at perfection, they were by no means at an end.

The favourite Peaches in this house seemed to be Stirling Castle, Crimson Galande, Royal George, Dr. Hogg, Alexandra Noblesse (a superb Peach), and Prince of Wales. This is a good kind, and becoming a general favourite, but not likely to displace from general collections the first three old favourites. The Nectarines in this house which appeared to give the greatest satisfaction for general purposes are Lord Napier, a capital kind, which has been well abused by some (it appears to me great audacity for anyone to denounce either fruits, flowers, plants, or vegetables because they have no knowledge of their requirements and the absence of skill or means prevents them from attaining success), Rivers' Orange, Elruge, and Victoria. These kinds, I think, are good everywhere, whether in the hands of a novice or an expert. The latter is a great cropper and grows to a good size.

The next house we entered is 50 ft. long and 18 ft. wide, well filled with standard trees kept thin of wood to let sun and air enter their centres, thus colouring the fruit and giving it flavour. Though I go in for training, yet I would adopt this system did circumstances demand it, and would have no fear of the results. There is a difference in having a tree filled up with wood like a brush and keeping one thin, where the Peaches may hang as if roped, exposing the greater portion of the fruit to sunlight. I observe in a contemporary that two combatants, worthy of each other's steel, are in conflict over this system. They may sheath their weapons as they are both right, but only under certain conditions of management. Among the best managed examples of standard Peaches planted out in borders under glass I ever saw were at Hardwicke House, under the management of Mr. D. T. Fish, nearly twenty-five years ago. The fruits were of immense size and in great numbers, proportionate to the size of the trees. If I recollect rightly, the shoots seemed to be well thinned out and left long. Such trees do well under any system of management.

With Peaches there were numbers of Plums, grown mostly as pyramid bushes, and the kinds which hold the first position here are Rivers' Prolific, a great and early fruiter; Kirke's, a grand old sort; and Gages in variety. The old Greengage is still one of the best; but all are valuable when well grown and properly ripened, but as they do not all behave alike, a variety of treatment must be accorded. Strong growers can easily be checked by root-pruning, and weakly kinds assisted by stimulating them with manure. Jefferson's and Coe's Golden Drop had their usual good characters well maintained. Plum growing at Parkhall is attended with much success.

The next house we enter is a structure 90 ft. long by 18 ft. wide, set apart chiefly for the growing of Peaches and Nectarines in pots. Among the best Peaches are River's Early, Early Alfred, this kind I know nothing of, but it is well spoken of at Parkhall; Royal George, Early Leopold, Stirling Castle, Gladstone, which is said to be of much excellence, and Barrington; such kinds as these command a good succession. To do this well anywhere, one must have a variety of kinds, early, mid-season, and even late sorts are not without value in such a structure. While one can always admire large trees on the "extension system," the great objection to them is the want of variety and succession. Figs are almost the only kinds of fruit which one can freely adopt the extension system with fairly, but they too should be blacks and whites. The Brown Turkey and white Marseilles being the favourites with most people. Still there are a goodly number of kinds which are valued much, and they are well represented in the Fig houses at Parkhall. The Nectarines in this 90 ft. long house, in pots and trained on a back wall were mostly past, but those which were highly spoken of were Victorias, and those grown in pots were more highly flavoured than the trained trees on wires; withholding water at the right time has much to do with the flavour of some kinds. In the next house which is 50 ft. long, the Darwin Nectarines were of extra merit. Pineapple Nectarine holds about the highest position of merit on the whole place; this kind is much valued by most people who have tasted well grown kinds. —*M. T.*

(To be continued.)

North of Scotland Horticultural Association.—The following is the programme for the present season of this association, the head-quarters of which are at Aberdeen:—November 20th, "Climbing Plants"

Mr. James Connon, East Seaton; "Dinner-table Decoration," Mr. J. M'Kay, Westwood. December 18th, "The Lessons and Experiments of the Year 1886." January 15th, 1886, "Should Science or Practice obtain most Prominence in Discussions on Horticultural Subjects?" Science, Mr. A. Robson, 18, Market Street; Practice, Mr. J. Henderson, Wellwood. February 19th, "Rose Propagation," Mr. A. Innes, Ruthrieston; "The Construction of Fruit and Kitchen Gardens," Mr. J. Forrest, Haddo House. March 19th, "The Origin and History of a Few of the More Interesting Cultivated Plants," Prof. Trail, Aberdeen University. April 16th, "Formation of Hardy Fruit Tree Borders and Management of Trees," Mr. P. W. Fairgrive, Dunkeld Gardens. May 21st, "The Action of Light and the Colour of Flowers," Mr. J. Taylor, Clashfarquhar; "Peas," Mr. R. Farquhar, Fyvie. June 18th, "An Hour Among the Lichens," Mr. G. Murray. The secretary is Mr. William Reid, 8, Hadden Street, Aberdeen, and the meetings are held on the third Friday in each month, at 198, Union Street.

Tuberous Begonias.—These are now very popular; the varieties are endless, and some of them extremely fine. Messrs. Ireland & Thomson have some particularly fine varieties set aside for propagation, the flowers immense, and of the brightest red, the deepest crimson, and the most lovely yellow colours. Being so little trouble, in ordinary circumstances so free from insect pests, and lasting so long in bloom, there can be little wonder expressed at their coming rapidly into popular favour. Some of the double ones are very showy, but lack the grace of the single ones, being too stiff.—*Scotia.*

The Amateurs' Garden.

THE GREENHOUSE.

Taking up and Potting Hardy Plants.—To have a good stock of plants to make a greenhouse gay and keep up a succession of bloom, it is necessary to make use of some hardy plants, and among these none are more showy and useful than Rhododendrons and Azaleas, which lift with large balls without feeling much check, and flower profusely if well set with buds. The best kinds of Rhododendrons to get, are those that are early, of which there are many that come in naturally about March, some of them, such as R. altaclarense, R. Nobleanum, R. caucasicum, and the numbers of seedlings from them are very brilliant and fine, and produce a striking effect in a house.

Among the Azaleas, the A. mollis varieties are the most desirable as they have large blossoms of various shades of colour, and are dwarf and compact in their habit, but one thing against them is, that they lack the sweetness of scent of the old Ghent varieties, which are very fragrant, especially some of the yellows, which are highly perfumed. The soil most suitable for potting these plants in, is good fibry peat, but they succeed well if grown in peat and loam mixed.

After potting, the plants may be plunged out-doors, or better still stood in a cold pit or frame, there to remain and come slowly on till they are ready to flower. Lilacs, Guelder Roses, and Wiegelias, are also valuable for pot culture, but to have them good they must be taken up at once, so as to give them time to form fresh roots before they bloom, when they will stand without flagging, and last long in perfection.

Begonias, of the tuberous-rooted class will now be fading, and to give them every chance of ripening off properly, they should be kept dry, and stood on a shelf at the back of the house up near the glass, or in a light airy pit or frame till their tops die away naturally, when they may be stored for the winter in any frost-proof cellar or shed.

Violets.—Although not showy in pots, the delicious perfume the flowers exhale commends them for the greenhouse, and if a few plants are taken up and removed there they will flower profusely, and continue on for months to come. Those who desire to have blossoms for picking will find that the plants will do best in frames, but the frame to receive them must be prepared, and made up by having some rough littery stuff at the bottom, and on that a good layer of half-rotten dung, the top being finished off with light sandy soil, and the plants lifted and put in it with large balls at such a height as to bring their heads well up to the glass. This done, the next thing is to water so as to settle the soil about the roots, after which the lights should be put on by night, but as Violets are impatient of confinement, it is necessary to give them plenty of air whenever the weather is favourable, or they draw and become weak in the crowns.

THE FLOWER GARDEN.

Frost, Wet, and Wind have played sad havoc in the flower garden, and as most tender things have been made shabby or destroyed, they should at once be cleared away, and the beds and borders rendered neat and tidy, and prepared for winter and spring plants, both of which ought now to be got in, that they may have a fair chance of becoming established before sharp weather begins. The things most suitable for producing a cheerful effect during the dull season immediately before us are the variegated shrubs, of which there are many having bright foliage that quite light up a place. Among the best of these may be mentioned the gold and silver Hollies and Yews, Euonymus, and Aucubas, and to contrast with these and others of like character dark-leaved plants are telling if judiciously used. The positions where they show off to the greatest advantage are the centres of beds, where they can be surrounded with Daisies, Forget-me-nots, Violas, Hyacinths, Tulips, or other hardy flowers, and a grand display made. As most of the plants last named are liable to suffer from wet, it is advisable to raise the beds high before planting, that the rain, when it falls, may pass quickly away instead of making the soil sodden and rotting the roots.

Arranging the Colours.—The colours and shades of Hyacinths and Tulips are so many that it is best to have them mixed, as then more variety can be had in a small space; but the Daisies, Forget-me-nots, and Violas should be arranged in lines or broad bands, in which way they are very pleasing and harmonise well.

Planting in Borders.—In cases where spring-blooming plants are planted in borders, the most satisfactory plan of having them is in clumps or masses, placing three Hyacinths or Tulips triangularly at about 6 ins. apart, and Narcissus, Daffodils, Crocuses, Snowdrops, Scillas, and other small bulbs a little closer, with strong patches of Daisies, Forget-me-nots, Violas, Anemones, Stocks, and Wallflowers between, behind, or in front, according to height and the room at command.

Lawns and Walks.—Worms are now becoming a nuisance on lawns and walks, which must be frequently rolled to keep them in order; but on lawns worms may to a great extent be got rid of by giving the turf a watering now and then with lime-water, which should be done when the ground is wet, as then they are near the surface and turn out at once, when they may be swept up and carried away and destroyed.

Transplanting Trees and Shrubs.—It is getting full late now for the removal of evergreens, but it is just the time for transplanting all kinds of deciduous shrubs, which, if taken up carefully, are sure to succeed, as they will be able to make fresh root before winter sets in.

THE FRUIT GARDEN.

Vineries.—The glut of rain after such a dry time, has been very trying for Grapes, which, unless closely watched, and every attention given to drying and airing the house, will mould and rot; but by frequently looking over the bunches and cutting out any that are decaying, and keeping a slight warmth in the pipes, with the ventilators just open at the same time, the fruit will remain sound and good for weeks yet to come.

Apples and Pears.—As this is the season for planting Apples and Pears, it may be of use to many to give a list of a few of the best kinds to grow, and starting with the last named first, I should advise the following to be got, all of which are given in the order of their ripening:—Jargonelle, William's Bon Chrétien, Beurré d'Amanlis, Beurré Superfin, Louise Bonne, Compté de Lamy, Marie Louise, Doyenné du Comice, Glou Morceau, Général Todtleben, Bergamot Esperen, and Josephine de Malines. The Glou Morceau, Bergamot Esperen, and Josephine de Malines should, if possible, have a west or east wall; but the others will do well as pyramids, cordons, or espaliers, the two last mentioned modes of growing and training being well adapted for small gardens, as the trees may be planted along the sides of walks, or other positions where they occupy but little room, and as the sun gets full access to the fruit it colours up fine and comes a good flavour. For walls, or where there is much space to cover, the trees should be on the Pear stock, but where they are wanted small they must be got on the Quince, as that stock has a dwarfing effect, and brings the plants quickly into bearing.

Apples.—These are so numerous that many good ones must be left out of a short list, but for all that it is better to have several of a sort than to grow numbers for the sake of variety. Among dessert kinds, Kerry Pippin is the first to ripen that is worthy of notice, and next comes King of the Pippins, Ribston Pippin, Cox's Orange Pippin, Blenheim Orange, Mannington's Pearmain, and Court Pendu Plât. For cooking, Keswick Codlin, Lord Suffield, Cox's Pomona, Peasgood Nonsuch, Waltham Abbey Seedling, Blenheim Orange, Mère de Ménage, Tower of Glammis, Warner's King, Ecklinville Seedling, Bedfordshire Foundling, Alfriston and Dumelow's Seedling. The most suitable stock for small gardens, or where the trees are required dwarf and in the best form, is the paradise, which stunts the heads the same way as the quince acts on the Pear; but for orchards, to plant as standards, the Crab or Seedling Apple are the best, and on these all the varieties grow freely, if the soil suits.

THE VEGETABLE GARDEN.

Saving Seeds.—Although it is as well to buy the greater portion of seeds required in a garden, there are some that give little trouble to save, and among these ripe and hanging now are Scarlet Runners, the pods of which should be picked before sharp frost comes and injures the Beans. The way to treat them when gathered is to lay them in some light airy place to dry when they may be shelled and put away till wanted for use.

Onions.—If Onions are not roped and hung up, no time should be lost in doing it, as when lying together, even in small quantities, the air does not circulate among them sufficiently to keep them from rotting. When tied up in bunches or roped, the best place for them is an open shed, where they should be hung on nails driven into the walls or rafters, as frost does not injure them, and the cold prevents them from growing.

Celery.—This has made great progress, and all the plants should now have a piece of matting run round them and tied, so as to keep them close and compact, when they will be ready for earthing-up at any time, and the soil may be put to them easily and quickly without fear of its going into the hearts. Any that is fully grown, and likely to be required for use soon, should be banked up high, that it may be blanched thoroughly before it is dug.

Cauliflowers.—Veitch's Autumn Giant is invaluable at this season of the year, as heads continue to turn in grandly; but as we may now get sharp frost any night, they should be protected by bunching the leaves together or bending them down over the hearts, and the doing of this will answer a double purpose, as the heads will be kept white and good. The best way of wintering young plants is to pot them singly in small pots in rich light soil, and standing or plunging them in a cold frame, where they should have their heads close up to the glass, and be kept with plenty of air whenever the weather is favourable. Managed in this way they keep sturdy and strong, and go out in the spring without feeling a check. Those who have hand-lights to spare may plant out under them at once, and prick or dibble in under a south wall any plants left over, as they will live there if the winter is mild.

Lettuces.—Any Lettuces that are now getting forward should be lifted at once and put under cover of old lights, where they can be protected from frost and kept dry, and any young ones that are to come on in the spring ought to be planted on a warm sunny border in ground that is rich, as their quality depends on the quick growth they make.

Hoeing Among Crops.—Nothing does so much good at this time of year as a gentle stirring of the surface among growing crops, as not only does the hoe let air into the soil and thus favour healthy root action, but it destroys slugs and other insects that feed on the plants and lurk under the clods.

Peasgood's Nonsuch Apple.—At the Pear show at Chiswick, Mr. Austen, Witley Court Gardens, Stourport, exhibits a specimen of this handsome and most valuable Apple weighing 23 ozs., and which was an ounce heavier when gathered. It is a beautiful specimen, and certainly the largest we have seen.

APPLES FOR VILLA GARDENS.

"Nonsense!" I fancy I hear some one remark "why you can buy them far cheaper than you can grow them." True, but when it comes to quality the grower turns matters in his favour, and there are many fruits that are really only good from the tree, and the marketing even spoils their appearance and flavour. The culture of these trees is as simple as possible, when received from the grower, just shorten all the coarse roots, and plant them as recommended, each week in the core of Pears. Plant the trees as shallow as possible, and as firmly as can be done, and to ensure fertility in a limited space, lift, and not prune half the trees the third year after planting, and the rest the fourth, so that a portion are always established, and the result will astonish the operator.

As in the case of Pears, I would not advise any very late Apples, though they keep better stored in an upper room than Pears. The whole of the kinds here enumerated are suitable for Cordon, Espalier, Bush, or pyramidal trees—except where noted—and as the very prolific kinds will make but little wood they need not be root pruned or lifted. They are all preferable on the Paradise stock, getting them budded close to the ground if possible, and if set with fruit buds and planted before Christmas many would carry a crop the first year.

Cox's Orange Pippin on Paradise Stock.

Dessert varieties.

July, August.—Mr. Gladstone, a free bearer; prune slightly, as it bears on the points. Devonshire Quarrenden, very handsome and fertile. Sugarloaf Pippin, an enormous bearer on either stock.

September, October.—Kerry Pippin, rich flavour and fertile. Yellow Ingestrie, a children's fruit, very prolific. Worcester Pearmain, handsome, and good when fresh from the tree.

November, December.—Cox's Orange Pippin (see fig.), the best as a small tree, and for flavour; several of this should be planted. King of Pippins, very prolific. Ross Nonpareil, russety and delicious.

This list may be extended by adding the following to come in after Christmas, Adams' Pearmain, Reinnette du Canada, and Sturmer Pippin.

Cooking Apples.

August, September.—Early Julian, yellow, most prolific. Duchess of Oldenburg, very handsome and fertile. Lord Suffield, good for a warm place, most useful. Cellini Pippin (see fig.), very prolific and handsome.

October.—Domini, Keswick style, fine. Pott's Seedling, very large and prolific. Grenadier (true), best of all the codlins. Stirling Castle, an enormous bearer, and as good on the free stock as the Paradise.

November, December.—New Hawthornden (see fig.), wonderfully productive, large, and useful. Small's Admirable, a good bearer and keeper. Lord Derby, the finest Apple of its class, most prolific. Winter Peach, most productive. Warner's King, the largest and best as bush or pyramid.

January.—Lane's—Prince Albert, enormous bearer, and very fine on either stock.

Add for very late fruit, Annie Elizabeth, Dutch Mignonne, and Alfriston.—*Geo. Bunyard, Maidstone.*

New Hawthornden on Paradise Stock.

TYNINGHAME.

Picturesquely situated on an eminence in the midst of an extensive and beautifully wooded park, through which flows lazily the broad winding waters of the Tyne, three miles in a north-easterly direction from Prestonkirk and the East Linton station (close by) on the Great Northern main line of railway, twenty-one miles south of Edinburgh, and one mile westward from the German Ocean, is Tyninghame, the commodious baronial East Lothian residence of the Earl of Haddington. The mansion, in the Tudor style of architecture, with its small tapering towers, chimneys, and minarets, presents a graceful though imposing outline to the approaching visitor, particularly so should he happen to be directing his footsteps from the north or south confines of the park. It is well sheltered, as it needs to be, from the fury of the north and east gales coming from the sea, by stately avenues of spreading Beech, &c., of venerable growth, and which, together with the plantations and fine specimen trees of Oak, Beech, &c., which adorn and diversify the outline of a very pleasing landscape, harmonizes well with the character of the place, which, in a circumscribed space, is rich in a variety of quiet, beautiful, and rugged scenery—scenery through which I shall now endeavour to take you, my readers, in imagination.

It was my good fortune to be accompanied through the pleasant scenes of which I write by the best and most interesting of guides, who was not only well versed in the geographical position of the place and the names and history of the objects of interest within the line of vision therefrom, but also possessed a good knowledge of trees, wild flowers, and, indeed, everything that is beautiful in nature; so that I shall be the better able to explain the objects on the way as they present themselves. Proceeding eastward from the vicinity of the mansion by way of the "Farm Avenue," at the top of which, on high ground, and within a short distance of the said mansion, is situate a lofty obelisk, commemorating the memory of one of the present noble earl's ancestors and predecessors in the title, whence, through this grand avenue, composed mostly of Beech, a glimpse of the sea (to which it leads from the house), sparkling and scintillating in the sunshine, is caught. Proceeding in a northerly direction from the "Farm Avenue," which is nearly a mile in length, through a Fir wood, I am directed by my companion to look

"Through opening vales and see hills on hills arise;
New objects vary still, and still surprise."

Enquiring as to the name of the silvery-foliaged tree forming quite a plantation within a few dozen yards of the German Ocean, my guide said it was the Sea Buckthorn (Hippophæ rhamnoides). The salt spray, with which it is frequently washed, has no injurious effect on it. It makes a capital shelter, and is one of the few trees that will flourish in such close proximity to the sea, and the bright orange-coloured berries with which the individual Willow-like shoots are studded are very effective when contrasted with its silvery leaves. A little further on, in a north-easterly direction, we reach "Whitberry Point," a kind of promontory, whereon has been considerately fixed a large stone double seat, having, as a protection from the wind whichever way it listed, a high back or division and two ends of the same more durable than comfortable-to-sit-upon material. However, on it we rest a while to contemplate the surrounding scene. Far below us is the sea, lashing itself against the shelving rocks. "There!" said my friend, "see how the water dashes with tremendous fury against that jetting rocky prominence in the distance,

"And how it bubbles and seethes, as it hisses and roars,
And the spray of its wrath to the welkin up-soars."

Having crossed "Whitberry Point," we climbed "Ravensheugh." From this elevated position panoramic views of great extent and beauty are obtained. That, said my guide, is the Bass Rock (at which point the waters of the Firth of Forth mingle with those of the German Ocean), some two miles out from the land; and on which, in days gone by, there was a prison, supposed to be one of the principal State prisons of Scotland; but now, remarked my kind guide, the Rock is the home of "Solan" Geese. About two miles round the coast, northward from Ravensheugh, are to be seen the ruins of Tantallon Castle, once a stronghold of the Douglases. It is built on the very edge of the rocks, and though now, as already stated, in ruins it was at one time one of the strongest Castles in the kingdom. Berwick Law, about three miles from Tantallon, is also a conspicuous object in the distance. On a clear day the towns and villages along the coast of Fife can also be plainly seen from here (Ravensheugh); as also can the Isle of May, about fifteen miles out from the land.

Cellini Pippin on Paradise Stock.

Leaving Ravensheugh, we direct our footsteps in the direction of Garleton Walk. This being flanked on either side in the most natural way by large Rhododendrons, Laburnums, &c., is a charming walk, one mile in length, and leads to Binning Wood, one of the finest woods in the county: it was planted in the year 1707. The trees are principally Beech, Oaks, Limes, Firs, and other trees are also abundantly represented. Making a slight detour westward from Garleton Walk we proceed by pleasant and interesting paths to Ivy

Cottage, whence we started a few hours earlier, stopping, the while, to pluck a wild rose from the banks of a murmuring brook.

In the afternoon, in order to see as much of this delightful place as the time at my disposal would admit, we crossed the park to a nicely-wooded knoll, known as "Moss House Point," where the river Tyne takes a sharp, though graceful, bend before mingling its pellucid waters with those of the German Ocean a little further down, (the home of the Tyne—hence Tyninghame). Passing on the way thither, to the right, nestling in the shade of Yews and other trees, are the ruins of an old Kirk, having substantial iron gates suspended from the arched doorways, wherein rest—as the monuments testify—the remains of a long line of ancestors, and to which number of monuments an addition recently has been made of one of the present house of Tyninghame; who, while in the early summer of his life, and in the service of his Queen and country, met with his death in the ill-advised Soudan campaign.

From Moss House Point a good view is obtained of Dunbar, five miles off, and of Donne Hill, a little to the west of the town, where Cromwell defeated General Leslie in 1650. The prospect northward from here is, like those already mentioned, a very pleasing and varied one, showing to the best advantage Tyninghame House in the background, and southward thence, the Lammermoor Hills. Descending "Moss House Point" at the opposite side, we take a circuitous homeward journey through the "Fir Links," where the walks wind in and out, and where the writer would fain have longer stayed, had time permitted of his doing so. Therefore we turn westward, by a straight walk leading to the Park, in the direction of the house, and the thousands of rabbits which, under the influence of the evening sun, were feasting on the rich East Lothian grass, in the confines of the park, and troubled themselves very little about our presence. "There," said my friend, pointing to the remains of hundreds of uprooted large forest trees in close proximity to Mr. Inglis' house (Ivy Cottage), "is evidence of the severity of the gale which visited this part of East Lothian from the north-east a few years ago;" adding, that the simultaneous fall and crash of so many large trees was something terrific, and such that the inmates of Ivy Cottage are not likely soon to forget. —*H. W. W.*

(To be continued.)

Cellini Pippin at Chiswick on Paradise Stock.

THE BOTANICAL GARDENS, BIRMINGHAM.

These gardens were established in 1829, the first curator being Mr. Cameron, who resigned his position in 1847. He was succeeded by Mr. Catlin who held this appointment till 1868, when the present curator, Mr. Lathom, was appointed, and it must be gratifying to him to know that he has held this position to the entire satisfaction of successive committees for 17 years. Mr. Lathom is certainly to be congratulated on the admirable condition in which everything is kept; and anyone visiting these gardens and coming in contact with Mr. Lathom, will find in that gentleman a thorough botanist and experienced practical horticulturist, ever willing to enlighten anyone on matters appertaining to the profession, and his kind genial manner has made for him a host of friends both far and near. The society which owns these gardens has had many severe trials, but, thanks to the energy of those entrusted with its management, it is now established upon a firm basis. Great improvements have been made and carried out satisfactorily of late years under the practical superintendence of Mr. Lathom. A splendid lot of new houses have been completed within the last year, the erection of which was entrusted to Mr. Henry Hope, of Birmingham, and they do him credit. They comprise the exhibition hall, 54 ft. by 40 ft.; a corridor, 98 ft. by 19 ft.; a recess to the corridor, 54 ft. by 21 ft.; four stove and greenhouses, each about 35 ft. by 24 ft., besides an entrance corridor and offices necessary for general use. This valuable addition of glass is what was sadly needed, the old houses being very much crowded. Mr. Lathom is now better able to class the innumerable species and varieties of plants under his charge—which is no small one. They possess an undoubted scientific value, and have always been maintained in a scientific spirit, and form a very useful study and recreation to the numerous visitors, and especially to the inhabitants of Birmingham, who have no accommodation for the growing of exotics, and who are thus enabled to inspect this fine collection at their own convenience.

The grounds are extensive, beautifully undulated, and easy of access, being of close proximity to the town. They contain many novelties of sterling merit. All round gardening is well done, Mr. Lathom giving the public a treat in the various styles of bedding, which are scientifically and practically carried out; he has evidently studied the plants best suited to give a good floral display. The various flower-beds are well designed, all kinds having the proper places devoted to them, and consequently are seen to the best advantage. I should think the most fickle-minded could find something to suit his taste, if he cannot, he must be difficult to please. To return to the contents of the various houses, the following faint description will at once give an idea of the extent of the collection.

The large conservatory, built about thirteen years ago, is a fine house 66 ft. long, 60 ft. wide, and 30 ft. high, contains some large specimens of Camellias, amongst them the following varieties, C. reticulata, imbricata, Lady Hume's Blush, alba plena, fimbriata, Comtessa Lavinia Maggi, Countess of Orkney, Jubilee, Mathotiana alba, Valtevaredo, Madame A. Verschaffelt, and many others; large Palms, such as Chamærops Fortunei, C. excelsa, a fine plant, 25 ft. high; Sabal umbraculifera, Latania borbonica, Seaforthia elegans, Areca Bauerii, Kentia Fosteriana, Phœnix reclinata, Corypha australis, Areca sapota, &c. Of tree Ferns some grand specimens of Cyathea medullaris, Alsophila excelsa, Cyathea Smithii, Dicksonia antarctica, Cyathea princeps, Dicksonia squarrosa, Cyathea dealbata, Dicksonia Youngii, Alsophila capensis, Cyathea spinulosa, a noble hybrid tree Fern (Dicksonia arborescens + D. antarctica), which partakes of the character of both parents, and is a most vigorous grower; Alsophila australis, Cibotium regale, C. spectabilis, C. Schiedei, large masses of Gleichenias, Lapageria rosea and alba, on the roof, flowering finely; Woodwardia radicans crispa, a valuable and distinct Fern; here is also another hybrid tree Fern (Cyathea princeps + Alsophila excelsa) intermediate between the two parents, and a most vigorous grower, also raised here. Of Platycerium alcicorne there are two grand specimens; of Dasylirion aerostichum, a large plant; and of Marattia elegans, fine specimen.

From the conservatory is entered a house erected for the Victoria regia some thirty-five years ago, it is 60 ft. long, and 40 ft. wide, and the tank is now occupied by Nymphæs. Here are some fine specimens of Thrinax elegans, Cycas revoluta, Phœnix sylvestris, Macrozamia Denisoni, Kentia Wendlandii, Phœnix rupicola, Latania rubra, Dracæna lutescens, D. draco, Sobralia macrantha, Heliconia pulverulenta, very fine indeed; Alsophila aspera, Cyathea funebris, Callicarpa purpurea, Allamanda Schottii and nobilis, Aristolochia ornithocephala, Gloriosa superba, Pandanus Veitchii, Medinella magnifica, Monsteria deliciosa, Musa Cavendishii, Crinum amabilis, Pandanus graminifolius, Ficus religiosa, F. indica, Imantophyllum miniatum, Gymnogramma, Adiantum, and other Ferns.

Returning through the conservatory we enter the

new range of glass by a corridor, the roof of which is to be used largely for climbing plants; already there are established strong plants of Lapageria rosea, and L. alba, Tacsonia van Volxemii, Cobæa scandens variegata, Mandevillea suaveolens, Rhynchospermum jasminoides, Clematis indivisa, Exogonum purga, Myrsiphyllum asparagoides, Fuchsia, Solanum jasminoides, Bignonia grandiflora, Tea Roses, &c. Here is a fine specimen of Dicksonia fibrosa, large masses of Dendrobium speciosum, a collection of British Ferns and varieties; the old Salvia splendens in large plants, is now very gay; also S. Bethelli; Pleroma Knuttsiana, with its larger purple flowers, is a grand plant for flowering at this season, and plants from spring struck cuttings are now very gay; here is also a large lot of Azaleas for winter and spring flowering; Camellias, Rhododendrons, Luculia Pinceana, and many other greenhouse plants.

From the corridor we pass into the main entrance. Here are two stoves and two greenhouses, in the first stove we find a large collection of Orchids, including: Cattleyas, such as C. Dowiana, C. Gaskelliana, C. gigas, C. gigas Sanderiana, C. intermedia, now flowering; C. labiata, C. labiata Warnerii, C. Mendelii, C. Mossiæ, C. Percivalliana, C. Trianæ, Lælia purpurata, L. anceps, L. purpurata, &c. Of Dendrobiums, there are good specimens of the following; Dendrobium clavatum, D. crassinode, D. Dalhousianum, D. densiflorum, D. chrysotoxum, D. Devonianum, D. Falconerii, D. fimbriatum, D. fimbriatum oculatum, D. moschatum, D. nobile, D. Parishii, D. primulinum, D. thyrsiflorum, D. Wardianum, and others. Zygopetalum intermedium, a large plant of a good variety is now flowering; Cypripedium Schlimii, C. longifolium, C. Spicerianum, C. Sedeni, C. Haynaldianum, C. insignis, are all flowering; and also a good established plant of Vanda Sanderiana, with fine large flowers; Vanda cœrulea, Odontoglossum grande, Pleione lagenaria, P. Reichenbachiana, are flowering; there are also here fine masses of Cœlogyne cristata, Cypripedium Boxallii, C. villosum, various Oncidiums and other Orchids. Amongst Ferns we note Gymnogramma Pearcei, Davallia Mooreana, Nothochlæna sinuata, Elaphoglossum rubiginosum, also the curious Ceropegia Sanderiana in flower. From this house we enter a hot stove, where Dipladenia Brearlyana, D. insigne, D. regale have been flowering most profusely for the last two months; Nepenthes grown in pans are suspended from the roof; N. albo-marginata, N. ampullacea, N. Hookeriana, N. Veitchii, N. Mastersiana, very fine; N. Rafflesiana, N. phyllamphora, and other species and varieties, altogether a large collection; Aërides, Vandas, Angræcums, Crotons of the best varieties, Dracænas, Anthurium Warocqueanum, A. Veitchii, &c.; Diffenbachia imperialis, a noble plant seldom seen; the pretty little Fern, Actiniopteris australis, Maranta, and other plants. From here we return through the first stove and enter the greenhouse, which is gay with Fuchsias, Pelargoniums, Celosia plumosa, Abutilons; we here note the pretty old Watsonia corymbosa, flowering; Begonias, Salvia patens, Petunias, Valotta purpurea, Early flowering Chrysanthemums, &c.

In the warm greenhouse is a large collection of Stapelias, grown in pans, and suspended from the roof; Poinsettias, Euphorbia jacquinæflora, Centradenia floribunda, Clerodendron Kæmpferii, a showy plant too seldom seen, has been gay with flowers for more than two months; Centropogon Lucyanus, Thyrsacanthus rutilans, Lasiandra macrantha, a grand flowering plant; Gesneria insigne, a beautiful plant at this season; Linum trigynum, Epiphyllum, Gesneria zebrina; we also notice here that terrible stinging plant, Jatropha urens; Asparagus tennissimus, A. plumosus. Amongst Ferns, Gymnogramma Lathomii, a beautiful hybrid raised here between G. schizophylla and G. decomposita; Niphobolus augustata, Thyrsopteris elegans, and a collection of T. officinale is being formed here.

In a north house is a large collection of Masdevallias and other cool Orchids. M. racemosa Crossii, M. rosea, M. erythrochete, M. bella, M. Estradæ, M. Schlimii, M. radiosa, M. polysticta, M. triangularis, M. Houtteana, M. Davisii, M. Veitchii, M. trochilus, M. Shuttleworthii, M. Reichenbachiana, M. Lindenii, M. Harryana, M. Roezlii, M. tovarensis, M. chimæra, M. chimæra Wallisii, M. coriacea, M. ignea, M. maculata, M. peristeria, M. zanthocaulis, M. zanthina, &c.; Odontoglossums, Dendrobium infundibulum, &c. Here we noted amongst Ferns Pellœa intramarginalis, P. flexuosa, P. cordata P. atro-purpurea, Lepicystis sepulta, L. squamata, Nothochlæna canariense, Woodsia polystichoides Veitchii, Lastrea marginalis cristata, L. fragrans, Cheilanthes elegans, and C. tomentosa.

In a small span-roof Orchid house we saw Lælia anceps, L. anceps alba, L. autumnalis, L. harpophylla, L. purpuracea, L. superbiens, showing a strong flower spike; Cattleya Lawrenciana, showing flower, and other species; Odontoglossum phalænopsis, O. vexillarium, Cypripedium Pearcii, flowering; Dendrobium carinifulrum Wattii, a pretty white flower with yellow throat; also a good collection of Stanhopeas.

In a large span-roof stove near here were some good plants of Phalænopsis, including: P. amabilis, P. grandiflora, P. Luddemanniana, P. Sanderiana, P. Schilleriana, P. Stuartiana, and P. violacea. Odontoglossum Roezlii, a very fine plant of Dendrobium macrophyllum giganteum, and other Orchids. Good plants of the best varieties of Ixoras, Dichorisandra mosaica, and other plants. In Ferns there were Platycerium stemmaria, P. biforme, P. Willinckii, Onychium auratum, &c.

In a cold frame under a north wall are some fine plants of Todæa hymenophylloides, T superba, T. Fraserii, Trichomanes radicans, Hymenophyllum demissum, and other filmy Ferns. In conclusion let me advise any of your gardening friends who should be in this part, to visit these gardens, and I will guarantee they are well repaid for their visit.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway, London, N.*

BOTANICAL MARE'S-NESTS—CHIEFLY FUNGOLOGICAL.

(Concluded from p. 92.)

Formation of Cork.

In speaking of the disease called "scab" in Potatos, I have shown that the mare's-nest about the "formation of cork" seems to make the Potato tuber capable of mental discrimination. A Potato has got "eyes," and so may possibly "see" an invading fungus, unless it has unfortunately got one of Dr. Carpenter's resting-spores in its eye; but fungi are, as far as I know, all devoid of eyes. A botanical teacher, in a published list of the fungi of West Cornwall, whilst writing of the common cellar fungus, named "Zasmidium cellare," has taught us that sometimes it (the cellar fungus) "pays its unwelcome visits to country cellars; but only where good old wine is kept." Here we seem to have a very knowing old fungus, with an acquired and aristocratic taste for "good old wine" only. No south African sherry, British port, Tarragona or prime gooseberry will suit this refined old epicure; possibly he confines his attention, in Cornwall, to "comet port" and "Château Yquem." The discrimination may be true of the Cornish Zasmidium, but the fungus certainly has a poor relation round London, who is content with a cellar containing the publican's mystic "fourpenny"—in fact, to such straits is this plebeian London Zasmidium occasionally driven, that he sometimes hangs out in the subterranean London dairies, and contemplates the mixture of the minimum of milk with the maximum of water. Publicans court the presence of the Zasmidium, and when the dusty fungus is backward in coming forward, the London publican cunningly manufactures a spurious Zasmidium out of old spiders' webs, dirt, and sawdust. This artificial fungus is then dexterously twisted round the necks of a few bottles, containing stuff called "port" (five minutes in bottle) and placed in the publican's window as a proof of the age and superb quality of the wine. Some outcast scions of the Zasmidium family hang about the roofs of the London sewers. There are vulgar as well refined members of even the fungus tribe, but the discovery of a discriminating fungus in Zasmidium cellars is an appalling mare's-nest.

A "Very Rare Plant."

The Algæ are not to be beaten by the fungi, even if the latter do sometimes live upon them as parasites, and so produce lichens. At a meeting and excursion of the Penzance National History Society, in 1882, a well-known botanical authority directed the attention of the members to a "very rare plant" in Towednack Church. "Thirty years ago," said the instructor, the plant was all over the walls, and being of a sky-blue colour, it gave a peculiar colour to the interior." This wonderful "plant" was evidently an early member of the Blue Ribbon Army, as well became a well-bred water-borne Alga. A good deal of this "rare plant" was, said the teacher, destroyed in past times by dry-rot. Fancy a watery Alga dying of dry-rot! The botanical instructor concluded his lesson by saying the Alga in question "was only found in churches, and nowhere else; and he left it for others to explain what it did before churches existed." If this discrimination is a fact, it would be interesting to learn whether the discriminating Alga here referred to confines itself to the churches belonging to any special denomination, or whether some of its congeners at times furtively appear in dissenting chapels, or the meeting-houses of the Plymouth Brethren. The name of the Alga referred to is Oscillatoria cyanea. Water probably helps the oscillation of the Alga, as the "good old wine" helps the oscillation of the Zasmidium. How the Alga lived "before churches existed" it is difficult to say. Perhaps some advanced evolutionist, as Mr. Grant Allen, will help us to clear up this point, whilst we denounce the discovery of a discriminating Alga as a rank mare's-nest.

Fungi in Churches.

Fungi occasionally find themselves placed in churches as distinguished visitors, for amongst the so-called "decorations" of a London church (not far from Old Street), during a harvest festival in 1882, an enormous fungus, measuring 4 ft. by 3 ft., played an important part. This fungus was not a magnificent fragrant and edible Sparassis for which one might feel truly thankful, but a hideous, flabby, fungoid growth teeming with disease-germs, and peeled from the top of a filthy sewer in Old Street, St. Lukes, where it was found by a workman. From the foul London sewer the reeking treasure was transferred to the Church, and the dim religious light pouring through the stained glass windows flickered fitfully over the frowzy fungoid monster. After the "thanksgiving service" was over, the workman returned for his treasure, and placed it once more temporarily in the sewer for safety. He refused a moderately large sum of money for its purchase, but announced his intention of selling it to the authorities of the British Museum. A fungus named Polyporus sacer is worshipped in West Africa as a fungoid god. There is an example in the British Museum, its assumed divinity is of course of mare's-nest; the supposition that there is anything like pure christianity in many "harvest thanksgivings," especially the one where the frowzy fungus figured, is, as I think, a mare's-nest.

I have no record of a "discriminating" lichen, but no doubt Dr. Schwendener, or some of his minor satellites, could mention many. A good many persons, of whom I am one, look upon the Schwendenerian hypothesis as a prodigious mare's-nest; but I am content to leave this nest, its numerous rotten eggs, and its army of blow-flies in the hands of the Rev. James Crombie. If ever a single egg belonging to that nest gets hatched, after the punishment bestowed by Mr. Crombie, I shall be greatly surprised.

Fungoid "Discoveries."

In bringing these notes to a conclusion, I will very briefly mention a few fungoid "discoveries" which I set down as unmitigated mare's-nests. The subjects would occupy too much time to discuss in detail, but as many of them are taught as facts in our text-books and in our schools, I here enter my protest against them.

The first is that a fungus named Polyactis cinerea is one condition of a fungus found under Peziza. The assumed connection is all "moonshine."

That the fungus named Peziza amorpha causes the disease of larches; the supposition is all "moonshine."

That a fungus named Nectria ditissima can cause "canker" in fruit trees: the supposition belongs to the same species of "moonshine" as the last.

That the disease of Vines called Anthracnose is caused by a fungus named Phoma uvicola. The fungus is extremely common in the United States, where the disease called Anthracnose is unknown. Dr. Max Cornu's discovery, that the Phoma causes the disease, must therefore be all "moonshine."

That a slightly abnormal form of the common Claviceps of Ergot is a totally different fungus, and a parasite of Ergot. This idea is pure "moonshine," and (as I esteem it) a cruel satire on Professor de Bary, as the bogus parasite is called after him, by the name of Barya.

That the little sclerotium from which the commonest blue-mould fungus, Penicillium crustaceum, springs, is a truffle. Dr. Oscar Brefeld made this mistake, and no doubt soon found it out to be one, and repented of

it. The simple unthinking gudgeons of this country, however, at once swallowed the bait, and got hooked. Now the blunder appears as a fact in many of our text-books; it is taught in our science classes. The idea that blue-mould rests in the condition of a truffle is all "moonshine."

That the ascus condition of Aspergillus proves any alliance with the genus Erysiphe. There is a slight resemblance, but the supposed structural identity is "moonshine."

Here I shall conclude without venturing upon an attack of what is called the Heterœcism of the Uredines. "Moonshine" is so prevalent in this subject, that many of the writings of heterœcismalists can only be classed among the ravings of lunatics. No one who has not made a study of the subject can conceive of the idiocies that prevail in the teachings of the heterœcismalists. Any person who ventures into this realm of maddening "moonshine" without the possession of a strong mind, will probably ere long find himself in a padded room of a lunatic asylum. There is hardly any good botanist at the present time who will venture upon treading the foggy labyrinths of this subject, and persons having the largest experience with fungi are the most horrified at the absurdities and contradictions that pass muster for facts. No one heterœcismalist quite agrees with his fellow, each one is pugnacious and has ideas of his own; each one claims to be right and sets down the rest as wrong. One authority is repeatedly expressing surprise at the blunders of another authority and all the set are constantly inventing new names for the fungi they study, not only new specific names but new generic names and names for new species. One teacher (to suit his theory) lumps five or six species into one; another (to suit a different theory) splits one of these species into five or six; many of the names are in duplicate, and the supposititious facts that answer in one laboratory do not answer in another. In his most recent essay on this subject, Mr. Plowright names one of his new species of Puccinia, as P. perplexans. Now if a master with the massive heterœcismal intellect of Mr. Plowright is perplexed with his own familiar Puccinias, how much more must his juniors be perplexed. The instructors who originally taught the supposititious facts regarding heterœcism, look on at the turmoil from a distance while the minor discoverers of "mare's-nests" and "moonshine" struggle on in a hideous delirium of mistakes, and (as Bismarck once said) "fry in their own fat." Heterœcism, or dimorphism, is quite possible, or indeed probable, amongst parasitic fungi. When we get facts instead of fudge, heterœcism will no doubt be accepted.—*W. G. Smith.*

THE EXTENSION SYSTEM OF VINE GROWING.

I HAVE often been asked by non-practical readers of the various horticultural journals what is meant by this system, and I have been obliged to confess that I was not very certain on the point. The vine at Hampton Court may be said to be cultivated on this system, so may that at Cumberland Lodge, and Achmore, in Perthshire; all these vines are greatly extended. I have shown them vines here with from ten to twenty fruiting canes from one root. This may be said to be extension, but not so from first planting, inasmuch as after the vine had made a year's growth it was cut back to 3 ft. or 4 ft. from the ground, in order that three or more fruiting rods might be run up to occupy the house, or part of it, as the permanent fruiting canes, for unless this cutting back takes place, there must be a vine planted for every 3 ft. or 4 ft. of the house, which is not always desirable.

My own opinion, founded on experience, is that two or three rods from one root is a very suitable arrangement, unless the house is small and a great variety is desired. The first person to my knowledge who planted a vine, and from infancy grew it on the extension system, was the late Mr. Kay, of Finchley, father of the present very excellent Grape grower of that name at Finchley. He planted a Black Hamburgh vine on one side, and, midway between the ends of a large span-roofed vinery, trained it up one side and down the other, and ripened it to the length of something like 16 ft.; from this single rod he took laterals at proper distances towards each end of the house, where they may be seen to this day. This vine was planted in 1854. Mr. Kay said to the writer that he could have filled the house much sooner by planting a number of vines, and made a greater profit out of the house from the Grapes, but as he grew plants for market in the house, there was no loss by adopting the system here described.

When I planted the houses here in 1870, I planted over 600 vines, one half to form the permanent vines; they were all from eyes struck the same season, and never were in pots, but grown on pieces of turf. They all ripened about 16 ft. up the side of the span houses. One half I cut back to 3 ft. from the bottom, and run up three rods from each; these are now the permanent vines, the other half I did not cut back, but allowed them to bear fruit for two years, and then removed them. I may add that from these vines, struck and planted in 1870, we cut more than £500 worth of Grapes in 1871, and I am unacquainted with any system of extension that would have suited my purpose better than this. I think I have made the method I adopted plain, and I shall be obliged to the modern extensionists if they would teach me a better system, and make their meaning as clear.—*Wm. Thomson, Tweed Vineyard, Oct. 8th*, 1885.

FRUITS, FLOWERS & VEGETABLES.

The Tropæolums as Decorative Plants.—Your interesting account of the "Flame Nasturtium," growing on the Harrow School Sanatorium, reminds me of the uses I put the Tropæolums to many years ago, when I took charge of a newly planted place of six acres, designed by the late Mr. Milner, an eminent landscape gardener. It often happens where large plantations of shrubs are made, however skilfully the work may be done, some losses will occur, and the result is not seen until what I may call the test month (May) comes and goes. I have often seen shrubs, the appearance of which has been of a hopeful and promising character up to May, when suddenly they began to assume a less promising aspect, and in the course of a short time, show positive evidence that the sap that had been stored in the cells and tissues of the plants was exhausted. Amongst the shrubs more particularly under notice, were some well-formed specimens, including a Thuya orientalis, this was planted in a very conspicuous place, at the entrance and on the margin of a fine broad gravel drive or road. Seeing that this shrub was doomed, and it being bedding out time, instead of taking it up, I formed a circular bed around it, making up with good soil, and planting three good strong plants of Fire-ball Tropæolum. The bed was also planted with white Pelargoniums, edged with blue Lobelias, the Tropæolums soon covered the tree, being carefully trained so as to regularly cover the surface, and in due time the result was a most brilliant spectacle, about 4 feet through and 7 to 8 feet high, thus continuing until it was destroyed by frost, the plants lay hold and cling so tightly that they are scarcely, if at all, disturbed by strong winds should they occur. There are many fast growing plants that may be similarly treated with a corresponding effect, and if nicely done, will add to the beauty of garden scenery. —*G. F., Lewisham.*

Lapageria rosea.—I enclose you some leaves of Lapageria rosea, which I consider are very fine. They were taken from a specimen planted out twelve months last May, in a north house, at Barford Hill, Warwick. The plant is flowering very freely, and the strong shoots are clothed with splendid foliage.—*Alfred Outram.* [Very fine indeed, six inches long and four inches wide, of a deep green colour, and of the substance of leather.—*Ed.*]

Chou de Burghley.—This appears to me to be a vegetable specially suited to certain localities. Here, in the moist climate of South Devon, when properly cooked it is most delicious. It was sown and planted out at the same time as the Broccoli, and is just now turning in. The Cook informs me that it requires from thirty to forty minutes boiling. I find Enfield Market Cabbage and some Nondescripts growing amongst it, nevertheless, those that come true—that is, like the plants which Mr. Gilbert exhibited a few years ago—make an excellent change from the common Cabbage. I may remark that all the Broccoli family come very good and of superior flavour here—*G. Baker, S. Devon.*

Callicarpa purpurea.—This grand but much neglected old plant was, I see, shown at the Royal Horticultural Society's meeting last week by Messrs. Veitch & Sons. I have before drawn attention to the usefulness of this plant, especially as it is so ornamental at this season of the year, and continues so for a very long time. In the Botanical Gardens, Birmingham, Mr. Lathom grows it very successfully; in one of the intermediate houses there are several specimens, some of them standards with stems nearly 4 ft. high, and some fo the racemes are the same length, and covered with clusters of bright glossy deep violet-coloured berries, which literally bear the shoots or branches down with their weight, and so render the plant very graceful and attractive. The plant is easy of culture, and should be more frequently grown for decorative purposes than we see it. It is, I believe, a native of the East Indies, and requires a little warmer temperature than an ordinary greenhouse.—*Alfred Outram.*

Colchicums.—Of the many visitors to the conservatory of the Royal Horticultural Society at South Kensington, what proportion of them noted the collection of Colchicums—autumn-flowering Crocuses—which Mr. T. S. Ware sent from Tottenham? They were very fine, and as far as we can say it of the Colchicums, richly coloured. There was first of all the common type, C. autumnale or roseum, with its double rose and double white varieties; these are all very free, and on this occasion bulbs were seen producing five and six blossoms. The two double varieties are particularly good, and they are much more lasting than the single forms, and therefore especially worthy of cultivation. C. speciosum is a very fine type, with large bright lilac-rose flowers of great beauty; this also is a very desirable form to cultivate. But beautiful as this is, it had to take the second place in comparison with C. speciosum rubrum; it is impossible to overpraise this beautiful form. It produces large rich reddish lilac blossoms, deep in colour, and very fine. With these were the charming Crocus speciosus, with its lustrous bright purplish lilac flowers; a most charming species. We have them flowering in the open air at the present time, and have been blooming for some days past. Really, these autumn-flowering Crocuses are well worthy of being cultivated. They grow well in a good free sandy loam, and they should be planted deeply and allowed to be thoroughly established, but in suitable spots where they will not be in danger of disturbance.—*R. D.*

Grapes from the Tweed Vineyards.—Visitors to the Pear show at Chiswick, will find in the tent in which the Scotch fruits are staged, samples of two of the varieties of black Grapes grown in quantity by Messrs. Thomson & Sons, viz., Gros Colmar and Lady Downe's Seedling, of unusually good quality, being large in bunch and berry, and beautifully coloured considering their proportions. The same firm also exhibits some of the famous vine manure, which has done so much to maintain the fertility of the vines at Clovenfords, and of the merits of which, many other growers seem to be rapidly becoming familiar.

Aralia papyrifera.—This may be propagated from roots. When the plants are taken up in the autumn care should be taken to secure all the strong roots, and that they are not bruised in taking them up. In preparing the roots for propagating they should be cut in lengths of about 2 ins., these should be laid in dry sand for a few days, after which they may be taken out and put in pans or boxes, which should be well drained and filled nearly to the top with light sandy soil, the cuttings may be laid on this, and then well covered with sand, very little water should be given; the pans may be placed in any position where there is sufficient warmth to induce growth.—*H.*

Berried Aucubas.—Into how few gardens can one go and find berried Aucubas; and yet these plants, always of great value as hardy decorative subjects because of their handsomely-marked leaves, can be had in winter and spring, studded over with handsome red berries, by simply growing a male plant among or near them. The original Aucuba japonica, introduced from Japan in 1783, is diacious, that is, a plant having only pistils or stamens, but not both, and requiring the intervention of another to become fertile. Thus the old blotched-leaved variety is a female plant, and it may be remarked that it was at first treated as a greenhouse shrub, but it was afterwards found to be very hardy, and will stand the shade and drip of trees better

than any other evergreen. Then, when Mr. Fortune brought home to this country the male plants, by the fecundating powers of which the old female species now produces its beautiful berries, many seedlings, male and female, have been obtained, some with handsomely-blotched leaves and also variously marked; but it would appear that all the male forms are destitute of variegation. But beautiful as many of the new variegated forms are, they have not surpassed in beauty the old type. By growing a few plants in pots in a cold house, and among them a male plant also, they can be had handsomely berried and valuable subjects for winter and spring decoration. We recently saw, in an old-fashioned kitchen garden, a number of plants of the variegated Aucuba, of great size, that were laden with berries, and this had been brought about by planting a male form near them. This is a practice that should be much more extensively carried out.—*R. D.*

Duke of Buccleuch Grape.—Your correspondent "W. C." says he is "not going to condemn this noble looking Grape," and ends his article by saying "I always think it (the Duke) rather watery, and badly grown samples of it are not much better than a bag of sweet water!" If this is not condemning the Duke, it is at least "damning it with very faint praise." I cut some of the Duke to-day (Oct. 17th,) and nothing could beat it for richness, combined with a juicy freshness, totally free from the watery condition that "W. C." writes about. This remark applies not only to the large and properly swelled berries, but also to the few which did not take the second swelling, but remained about the size of ordinary Forster's Seedling berries, and which I presume would come under the category of "W. C.'s" "badly grown samples." This peculiarity of not properly setting its berries can in a great measure be overcome by attention during the time "the Duke" is in flower, a shake or a brush over with a feather will ensure a proper "set." Berries 5 in. in circumference have been measured by the writer, and when such is the case, I maintain that no other Grape can approach it for quality—not even "Hamburghs, Frontignans, and Muscats," which "W. C." says "are a long way ahead of it in every respect." By the way, it appears new to me that "luscious" and "watery" mean the same thing. "W. C." admits that the Duke is "refreshing and luscious," but always thinks it "rather watery. I may remark that the Duke was not sent out as a late keeper, and yet I have cut it on the 1st of January. It has not only proved itself a strong grower, but a free fruiter in many places, and as "W. C." remarks, "when its peculiarities become better known, it will find more favour with Grape growers than it has done yet"; though he somewhat inconsistently goes on to say that if it "requires such special treatment as 'J' recommends, it will never be grown to any great extent." There is one thing certain, and that is that "the Duke" has been unjustly condemned by some who have not given it a fair trial, though it must be admitted that others have honestly tried to grow it, and have not been eminently successful. But that it is "watery" I utterly deny, except when you may happen to come across a shanked berry. Perhaps "W. C.'s" "badly grown samples" were shanked ones? Then I admit they are "watery," though even then superior to other grapes, in that they are bags of "sweet water," and not of sour.—*J.*

The Gardeners' Calendar.

THE KITCHEN GARDEN.

Taking up and Storing Roots.—No time should now be lost in proceeding with this operation, selecting for the work a fine day, when the ground and foliage are dry. The first to require attention is the Beet crop, which should be stored away out of the reach of frost, and where, at the same time, the roots are not likely to become too dry, as is the case when they are packed closely together in sand in a dry shed. In order to preserve their freshness the roots should be packed in damp material, which will not tend to absorb the moisture from them, and for this purpose the following is the most simple and effectual method. The roots should be taken up before they get injured by frost, and with care, avoiding breaking or wounding them, and taken to a dry border under a south or west wall.

An opening should be taken out at the end of the border, 12 ins. or 15 ins. deep and about the same width, and the digging of the ground be proceeded with. When the trench is filled and the ground has been levelled in the ordinary way, the soil should be cut straight down the whole width of the border, and two or three rows of Beetroot placed perpendicularly in the opening thus formed, and the digging be again proceeded with until the roots are all covered, burying the crowns about 1 in. under the surface of the soil. The operation is thus continued somewhat after the mode of transplanting young forest trees from the seed beds in nurseries, until the work is completed. The leaves, which should not be removed from the crown, will afford sufficient protection to the roots from several degrees of frost, but in the event of its being very severe, a protection of dry litter or Fern will be necessary. In the spring, before the roots show signs of growth, they should be taken up, the leaves with a portion of the crown cut clean away, and the roots laid in again as indicated above. The roots will thus keep fresh and of a good colour.

Carrots, with the exception of cutting off the top close to the crown at the time of taking them up, may be treated in the same way as Beetroot, if wintered in this way there need be no fear of fermentation ensuing, as is so frequently the case where a bulk of them has been put together, sometimes to the entire loss of the crop. Where Parsnips are not grown in large quantities, or where the ground is not required for some special purpose, they are best left during the winter in the open ground in which they have been grown, in which position they will require no protection whatever from frost, further than covering a sufficient piece for present use, so that in the event of severe frost there will be no difficulty in taking up the roots for use. Salsafy and Scorzonera may be wintered also in the same way, and will, like the Beetroot and Carrots, be found superior in flavour and appearance to those which have been wintered on the dry shed and sand principle.

Ordinary Work.—Before the seeds on the Asparagus begin to drop off, the stems should be cut off close to the ground and removed to the rubbish-heap, saving a few of the best-berried stems for seed, which should be tied together and hung up in a dry shed or stokehole in readiness for cleaning during inclement weather. This done, the weeds should be removed from the surface of the beds, and then 2 ins. or 3 ins. thick of the loose surface soil should be drawn into the alleys, and the beds covered with 3 ins. or 4 ins. thick of the shortest and best manure that can be had from the manure-yard, where, in many places, it is specially retained for this purpose. Late plantings of Lettuce in the open should be taken up with good balls of earth attached to the roots, and be transplanted carefully into cold pits and frames specially reserved for this purpose, and well watered immediately after planting with a view to re-establishing them in their fresh quarters, where they should have abundance of air given them on all favourable occasions.

Autumn-planted Cabbages should now have some soil drawn up to them; the earthing up of late plantings of Celery and Leeks should also be proceeded with when the plants are sufficiently dry to admit of the work being done. Cabbages, Broccolis, winter greens, &c., should be divested, when the weather is dry, of all useless and withered leaves that would otherwise be likely to become offensive through decay. Their removal will enable the stems, through being more fully exposed to light and air, to become hardened, and therefore better able to withstand severe weather.—*H. W. Ward, Longford Castle.*

THE PLANT HOUSES.

Keeping the Houses Clean.—Now that the dull days of November are approaching, it will be necessary to see that plants are so arranged as to secure all the light obtainable, and it will be a great help if the glass is washed occasionally, and all inside walls white-washed. It is surprising what a difference it makes to plants if these matters are carefully attended to, and, although washing glass, &c., is not pleasant work, yet it will be labour well applied, especially where flowering plants are concerned; another matter which requires careful attention is

Ventilation.—In all cases where air is given it should be done before the temperature has risen too high, and in such a manner as to avoid a direct draught. Most of us know from experience what a cold draught will do for ourselves, and it is our opinion that plants are equally susceptible to damage from the same cause.

Solanum hybridum compactum.

The Fires.—Although a little fire-heat will be an advantage in most cases, care must be taken that too much heat is not given, especially in dull foggy weather as it will only induce plants to make weak and sickly growth.

Watering.—Although water must now be used very sparingly, yet plants should not be allowed to become too dry, and when water is given they should have sufficient to penetrate through the balls. In cases where the hot-water pipes are under the stages, the plants are apt to become dry at the bottoms when the surface appears to be moist, therefore, it is necessary to examine them from time to time, and to see that they are properly wetted through when this is the case. If plants that have been potted firmly are found to be very dry at the bottom and moist on the surface of the pots, it will be a good plan to stand the pots in water for a short time.

Chrysanthemums.—As these come into flower, note should be taken of the most useful sorts, if this is done as the different varieties come into flower it will be a good guide as to the time of flowering; all plants that are required for stock should be re-labelled, if this is done while the plants are in flower it will afford an opportunity of correcting any that may happen to be wrongly labelled.

BERRIED PLANTS FOR WINTER DECORATION.

There are very many useful plants that are not often met with which deserve to be much more generally grown than is the case, as apart from the bright appearance of the plants when well set with berries, they last such a long time, and can be used when most flowering plants would be very quickly spoiled. The plants enumerated below are among the most useful, though, perhaps, the list does not include all that deserve to be grown :—

Solanum capsicastrum.—This and the hybridum compactum variety are decidedly the most popular, and, perhaps, the most useful of all berry-bearing plants for general purposes. There are various methods of treating these useful plants, but success depends a good deal upon circumstances. The planting-out system is a good one, where the plants can have a sheltered position, and where the soil is good, so that the plants can be taken up with good balls in the autumn ; but there is always a danger of the plants losing their leaves after being lifted from the ground, therefore we think the best plan is to grow the plants on in pots. The system practised by many of the large growers is to propagate the plants from cuttings early in the spring. Propagated this way, they make dwarfer and more compact plants than seedlings, and generally set their berries better.

It is during the autumn that the plants require the most care. Plants that have been grown on freely in a house or pit should be placed out of doors, say about July, and should remain out until the plants have set their berries, or at least until they are well in flower ; and if the weather should be unfavourable they may be taken indoors, but should have plenty of air circulating through them. After they are well set, the plants should be regularly supplied with liquid manure, and frequently syringed to keep off red spider and other insects.

Skimmia japonica.—This though quite hardy, is one of the most useful plants for pot culture. If good plants are obtained, they will do good service for several years, as the plant is of very slow growth. The best way to treat them is to plunge the pots in the open ground in the spring, and allow them to remain until the berries are ripe in the autumn ; the only attention they will require will be to water them occasionally in very dry weather.

Aucubas.—The old form of A. japonica, when well berried, is a very useful plant ; but there are other varieties which produce finer berries and in larger bunches. A. longifolia is one of the best forms we have seen.

Pernettya mucronata.—This is another useful hardy plant for decoration ; there are many very pretty varieties, the colour of the berries varying from white to almost black.

Laurestinus.—This may seem out of place in this list, but we lately saw a batch of small plants in Messrs. Hugh Low & Co's Enfield Nursery, which were bearing such a profusion of their bluish purple berries as to give the plants quite an attractive appearance. The plants had been grown in pots, and were certainly quite a novelty in their way.—*H.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

Bolleas and Pescatoreas.—These Orchids, when seen in a thriving and healthy condition, I have reasons for saying are objects of envy to most Orchid growers. According to some authorities, they do not continue to grow satisfactorily after a period of from eighteen months to three years. Having had the pleasure of growing and watching the behaviour of a healthy batch for more than five years, I can write with a certain amount of confidence and authority about them, and say that they have not deteriorated ; on the contrary, as now they require more space than they did two years ago. There was a small imported piece of Pescatorea Klabochorum, purchased in June, 1880, that almost refused to grow the first two years ; now it is a very healthy plant with four strong growths. We are seldom without Pescatorea flowers ; they bloom more or less at all seasons of the year. The Bolleas flower only once a year, in the summer. As regards treatment, no Orchids give us less trouble ; they are all grown in pots or perforated deep pans in an intermediate house, and are kept wet and well shaded during the summer months, and never allowed to get dry at the roots at any time. During the winter the old leaves become somewhat rusty in appearance, and in foggy weather, when we are depending upon artificial heat to keep up the requisite temperature, the young leaves are attacked with black spot, but they soon grow out of it in the spring. Any feeling of aridity or dryness in the atmosphere is fatal to the well-doing of this class of Orchid. The atmospheric conditions of a warm rock fernery would suit them better than a Cattleya or East Indian house, as nowadays more air is given to Orchids than to Ferns. The former house is too airy, the latter too warm.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

Orchids in flower at Mr Cypher's—Call at Mr. Cypher's any day when it suits you, and if you do not find some choice gem in flower in the orchid way I shall be very much surprised. On the 19th inst. I found several good plants in flower of Ærides Rohanianum, with spikes long and arching, and the flowers much varied in colour ; the charming Dendrobium Dearii, a pure white flower lasting for weeks in perfection, grand for any purpose ; several plants of Cypripedium Spiceriannm ; some plants of Cattleya Sanderianum with giant flowers, deeply coloured, and very good forms ; Vanda insignis, very pretty and distinct. Very fine and ever welcome is Dendrobium formosum giganteum, a most valuable Dendrobe and a flower of sterling merit ; this is represented by several good plants ; Odontoglossum Roezlii alba and O. grande, which still holds its own. These are only a few of the good things which attracted special notice in a flying visit, many more are promising to follow in quick succession.—*J.*

Pleione lagenaria and P. maculata.—Some grand specimens of these pretty Indian Crocuses are in bloom at Mr. Martin's, Blockstow, Woodmancote, who grows them up to their best. Mr. Martin uses large shallow pans for them, and these are suspended near the glass in a rather cool house. The plants are now lovely cushions of pink and white flowers, densely set over the leafless bulbs.—*J.*

Cattleya labiata, autumn-flowering variety.—A fine sample of this rare old plant is just now in bloom with Mr. Hill at Lord Rothschild's, Tring Park. It is reassuring to the possessors of this plant that its value steadily rises. The two good ordinary plants in Mr. F. C. Wilson's collection, sold by Mr. J. C. Stevens on October 15th, were bought by Sir Trevor Lawrence at thirty-one guineas and thirty-two guineas respectively. It was curious, too, to note at the same sale how every good and well-grown plant went apparently up to its full value, while poor specimens were very coldly received.—*J.*

Vanda cœrulea.—A very good variety of this charming Vanda was lately in flower at Messrs. Ireland & Thomson's, Craigleith Nursery, Edinburgh. The flowers were large and the colour a deep shade of lavender, much exceeding the ordinary pale colour one so often sees. This is an Orchid that always suffers very much from any attempts to depict it, as nothing can convey an adequate idea of the beautiful semi-transparent look of the flowers. The plant referred to was not large nor particularly vigorous, so I should imagine that when grown into a larger and stronger specimen, the flowers will be correspondingly larger and more beautiful. Messrs. I. & T. disposed of the plant shortly after my visit, I believe, so someone has the opportunity of feasting their eyes on a fine sight the next time it flowers.

Lycaste Skinneri alba.—This chaste and beautiful Orchid was lately seen to perfection in Mr. Buchanan's collection of Orchids at Oswald Road, Edinburgh. Mr. Buchanan, who is a great lover of all kinds of plants and flowers, is especially fond of Orchids, and among them none are more appreciated than is Lycaste Skinneri alba. The plants were all in splendid health ; evidently Mr. Grossart knows how to treat them.

Odontoglossums.—Of this class of Orchids Mr. Buchanan has a great variety. Of course, O. Alexandræ and O. Pescatorei are in the greatest numbers, and some very fine specimens are to be seen. Huge spikes are making their appearance, and as most of the varieties are the very best, a treat is in store for anyone fortunate enough to call when they come into bloom. Mr. Buchanan is delighted to see anyone who appreciates the beauties of nature in his Orchid houses, and at all times a visit is repaid by a glimpse of some "fairy form" or lovely hue belonging to one or other of the beauteous members of the Orchid family.—*Scotia.*

THE PEAR CONGRESS.

Visitors to Chiswick during the next ten days, will find on view there a most remarkable collection of Pears, perhaps the most representative collection that has ever been got together in this country, and which will certainly repay a visit from anyone interested in the cultivation of this much appreciated fruit. It is true that as a result of the long continued summer drought the fruits staged by the whole of the 108 exhibitors, with some few exceptions, must be classed as small, the number of dishes staged, some 6,254, provide a fund of interest that cannot be easily exhausted. It was not to be expected that a display of Pears, however large, would take the eye so much as a corresponding display of Apples, the former being almost uniformly devoid of the rich and pleasing colours of many of the latter, and which can always be relied upon to make an Apple show attractive. The exhibition of Apples held here two years ago taxed to the utmost the exertions of Mr. Barron and his staff to arrange the hundreds of samples sent in in something like order, but the record is beaten by the Pears, the quantity to find room for being greatly in excess, and involving an amount of labour and worry, that few even of the exhibitors can have any idea of. The Great Vinery is filled to repletion, as also are two marquees, and it is not unlikely that by the time all are unpacked (as was not the case on Wednesday afternoon) still more staging will have to be put up.

As at the Apple congress, Mr. Barron has adopted the plan of arranging the collections in counties, and the fruits from Middlesex and Kent, the two counties which contribute the greatest numbers will be found in the Great Vinery. At the Apple show, Kent took the lead, but on this occasion the home county, Middlesex, stands at the head of the poll, which can hardly be wondered at when we say that the Chiswick collection alone numbers 212 varieties. As regards quality, however, the palm undoubtedly belongs to Jersey and Kent, Messrs. Jushua Le Cornu & Son, of St. Helier's, sending some 95 dishes, including the largest fruits in the exhibition ; while Mr. Haycock, gardener to Roger Leigh, Esq., M.P., Barham Court, Maidstone, and Mr. Thomas, of Sittingbourne, Kent, send samples of all the leading kinds, of a high order of merit. As when we left on Wednesday the arrangements were not completed we defer till our next our observations on the varieties exhibited, merely contenting ourselves by recording to-day the names of such of the exhibitors as we could ascertain, and the extent of their collections.

Middlesex contributing the greatest number, we take that county first, and here, besides the Royal Horticultural Society's large collection, we note some 130 dishes from Messrs. James Veitch & Sons, Chelsea ; 81 from Messrs. C. Lee & Son, Hammersmith ; 30 from Mr. Woodbridge, Syon House ; 24 from Messrs. W. & E. Wells, Hounslow ; 50 from Mr. Roberts, Gunnersbury; 34 from Mr. Hudson, Gunnersbury House ; 24 from E. H. Watts, Esq., Devonhurst, Chiswick ; 14 from Mr. R. Dean, Bedfont ; 40 from E. M. Nelson, Esq., Ealing ; and 14 from Mr. Sanderson, Duke's Avenue, Chiswick.

Kent is represented by about 100 sorts from Messrs. G. Bunyard and Co., Maidstone ; 96 from Mr. Haycock ; 70 from Mr. Thomas ; 52 from Mr. Thomas Bunyard, Ashford ; 24 from Mr. W. Divers, Weirton ; 50 from Mr. C. Davies, The Mote Park, Maidstone ; and 24 from Mr. T. W. Sanders, gardener, The Firs, Lee.

Surrey.—In this county, Mr. Cummings, gardener to A. H. Smee, Esq., The Grange, Hackbridge, takes the lead with 110 varieties ; Mr. W. Shepherd, The Gardens, Glenhurst, Capel, Dorking, has 65 ; Mr. Coombes, Sheen House, Mortlake, 24 ; and Mr. W. Roupell, Roupell Park, 20. Mr. Burnett, The Deepdene, Dorking, has also a good collection.

Herts.—The largest collection here comes from Messrs. William Paul & Son, Waltham Cross, about 150 varieties ; Messrs. T. Rivers & Son, Sawdridgeworth, have 88 ; Messrs. Paul & Son, Cheshunt, 80 ; and Mr. J. C. Mundell, gardener to Lord Ebury, Moore Park, Rickmansworth, 60 sorts.

Berks.—Mr. C. Ross, Welford Park Gardens, Newbury, contributes 27 dishes ; Mr. C. Howe, Benham Park Gardens, 24 ; Mr. G. Allen, Ramsbury Manor, Hungerford, 18 ; and Mrs. Owen Knox, Ardmillan, Caversham, Reading, 14.

Bucks.—Mr. Turner, Slough, shows 102 dishes ;

Mr. Smith, gardener to the Earl of Rosebery, Mentmore, 50; and Mr. Miles, Wycombe Abbey, 40 dishes.

WILTS.—Mr. Miller, Rood Ashton, sends 60 sorts; Mr. Ward, Longford Castle Gardens, 37; and Mr. C. Warden, Clarendon Park, 20.

SUSSEX.—Messrs. J. Cheal & Sons, Crawley, show 54 sorts; Mr. Breese, gardener to Lord Leconfield, Petworth, 50; and Mr. Rust, gardener to the Marquis of Abergavenny, Eridge Castle, 36.

HANTS.—Mr. Wildsmith, Heckfield Place, has 90 dishes.

DEVON.—Messrs. R. Veitch & Son, Exeter, contribute 111 sorts; and Mr. Garland, Killerton, 30.

LINCOLN.—Mr. Ingram, gardener to the Duke of Rutland, Belvoir Castle, sends 50 dishes.

CHESHIRE.—Messrs. F. & A. Dickson & Sons, send 50 dishes; and Messrs. James Dickson & Sons, 32.

GLOUCESTER.—Messrs. John Jeffries & Son, Cirencester, contribute about 80 dishes.

NOTTS.—Messrs. J. & R. Pearson, Chilwell, send 65 sorts, mainly orchard varieties.

WORCESTER.—Messrs. Richard Smith & Co., St. John's, Worcester, show samples of 82 varieties.

DORSET.—Mr. W. G. Praguell, gardener, Sherborne Castle, has 110 dishes,

BEDS.—Mr. T. Laxton, Bedford, has 64 varieties grown in the northern part of the county.

NORFOLK.—Mr. Colville Brown, The Paddocks, Swaffham, contributes 42 dishes.

RUTLAND.—Mr. J. Grey, gardener, Normanton, sends 27 dishes.

ESSEX.—Messrs. Saltmarsh & Son, Chelmsford, have 80 dishes.

LANCASHIRE.—Mr. Hathaway, gardener to the Earl of Lathom, Lathom House, Ormskirk, sends 37 dishes; and a smaller number comes from Mr. Winkworth, gardener to R. Brocklebank, Esq., Childwall Hall, Liverpool.

YORKSHIRE is represented by 40 sorts from Mr. Hall, gardener to Lord Bolton, Bedale; and 30 from Mr. H. J. Clayton, Grimston Park, Tadcaster.

HEREFORD.—Mr. Denning, gardener to Lord Chesterfield, Holme Lacey, has 66 varieties; and Mr. Coleman, Eastnor, also sends a collection.

FROM SCOTLAND come good collections from Elliston Gardens, St. Boswells; Mr. Dunn, Dalkeith; Mr. Smith, Oxenford Castle; Dr. Robertson, Errol; Mr. MacHattie, New Battle Abbey; Messrs. Ormiston & Renwick, Melrose; and Mr. Day, Galloway House, Garlieston.

IRELAND is represented by only one collection of 27 sorts from Mr. J. F. Unthank, Templeville, Limerick; and of

FOREIGN COLLECTIONS there are only two, the largest coming from M. Louis Leroy, of Angers.

HORTICULTURAL SOCIETIES.

National Chrysanthemum, *October 19th.*—The autumn general meeting of this flourishing Society took place at the Old Four Swan's Inn, Bishopsgate Street, E.C., on Monday last, E. Sanderson, Esq., President, in the chair, and there was a very full attendance of members. The Hon. Secretary, Mr. W. Holmes, reported that sixteen Societies had become affiliated, which was regarded as a very encouraging sign. Twenty-two new members were elected, making a total of 295, a marvellous growth in point of numbers since the Society assumed its national character. The Hon. Secretary also reported that the floral committee had held one meeting at the Royal Aquarium, when a number of Chrysanthemums and other things were staged, and he anticipated that these meetings would be highly successful. The experience gained at that meeting taught him that it was essentially necessary that some rules should be framed to guide the proceedings of the Floral Committee, and suggested the appointment of a sub-committee to draw up the same. This committee was appointed, consisting of the President, Vice-President, Hon. Secretary; and Messrs. Dean, Davis, Springbelt, Stevens, and Langdon, to meet an hour previous to the next meeting.

The Hon. Secretary alluded to the correspondence, which had taken place in the gardening papers, relative to offering prizes for late Grapes at the exhibition of late Chrysanthemums in January next; and after full discussion it was agreed that the Society could not offer prizes, but if any subscriptions were sent in for this special purpose, the Hon. Secretary should be empowered to arrange classes according to the amount received. After the transaction of some routine business the meeting closed with hearty votes of thanks to the Officers of the Society.

Obituary.

PLANT lovers in general, and Orchid growers in particular will learn with regret of the death in Austria on the 14th inst. of the famous traveller and plant collector MR. BENEDICT ROEZL. Some fifteen years ago, the name of Roezl was a household word in the horticultural world in connection with the vast quantities of orchids and hosts of new plants which he sent to this country, but of late years he has been living a retired life, and only occasionally paid visits to this country. Mr. Roezl was born about 1823, and commenced his gardening career at Tötschen in Bohemia, subsequently going to Medica in Galicia, to Baron Von Hügel's garden in Vienna, to Count Lichtenstein's place at Telsch, in Moravia, and then to M. Van Houtte's at Ghent. Here he stayed five years and then went to Riga in Russia, whence he returned to Ghent for another two years. In 1854 he commenced that remarkable career as a collector, by which his name became famous. His first journey was to Mexico, where he started a nursery and sent home many fine plants. He also introduced the culture of Ramie into that country, and invented a machine for extracting and cleaning the fibre. While exhibiting this machine at Havanna, Mr. Roezl had the misfortune to lose his left arm. Subsequently, he travelled to Mexico, and then made visits to Havanna and Cuba; which were followed by trips to California, including a journey through the Rocky Mountains and Sierra Nevada, and to Central America, visiting Panama and Ocaña in New Grenada. The Sierra Nevada was visited again, and excursions made in succession to Panama, San Francisco, Washington territory, South Carolina, Bonaventuro, in Choco; Antiagua, and down the Magdalen River to Colon and Panama. Thence followed trips to the Colorado territory, New Mexico, Sierra Nevada again, Sierra Madra, Panama, La Guayra, Caracas in Venezuela, St. Thomas, Havanna, Vera Crux, and other places too numerous to mention here. On one of these journeys he forwarded, in all, to London no less than eight tons of Orchids alone. Of the great number of good new plants which he sent home we have not space here to dilate upon, suffice it to state that for all time his name will be identified with some of the finest plants that adorn our houses. During his wanderings he was robbed no less than seventeen times of all his possessions, and few men had so many hair-breadth escapes, or took so little notice of them after they were over.

WE record with sincere regret the death of M. EDMOND BOISSIER, which took place at his home Valleyres, Switzerland, on the 25th of September. M. Boissier was in his seventy-seventh year. He was a corresponding member of the Académie des Sciences, France, Foreign member of the Linnæan Society of London, Member of the Royal Academy of Sciences of Madrid, &c., &c. M. Boissier was a man of great influence in Switzerland, much beloved by all who had to do with him, and the author of many scientific works, which will be standard resources for reference. His collection of plants was one of the most interesting in Switzerland.

CARNATION and Picotee growers will learn with much regret that an old and much respected member of their fraternity, Mr. SAMUEL BROWN, Crompton Road, Handsworth, Birmingham, passed to his rest on the 16th inst. Mr. Brown had passed the allotted span of man, having attained the age of seventy-one years, for more than forty of which he had been known as a zealous and successful cultivator of Carnations and Picotees, a faithful friend, and a warm-hearted man.

ON the 19th inst., at the residence of her son, Mr. Bruce Findlay, Botanical Gardens, Manchester, Eliza, widow of Mr. Alexander Findlay, of Peterhead, Aberdeenshire, aged eighty years.

QUESTIONS AND ANSWERS.

MITHRIDATE MUSTARD.—Can any of your readers tell me where I can get a packet of seeds of Thlaspi arvense, commonly called Mithridate Mustard, or Field Penny Cress.—*A. H.*

ALNWICK SEEDLING GRAPE.—Can any of your readers tell me the weight of the heaviest bunch of this Grape that has been grown. Have any been shown over 3 lbs.?—*W.P.R.*

NAMES OF PLANTS.—*P. Q.*—Quercus coccinea.—*W. J. G.*—Cratægus orientalis.—*J.C.F.*—1 Saponaria officinalis.—2 not recognised.—3 Artemisia abrotanifolia.—*T.N.R.*—1 Salvia, not in flower.—2 Justicia splendens.—3 Begonia parvifolia.—4 Hedera Helix arborescens aurea—5 H. H. arborescens marginata.—6 H. H. arborescens argentea.

NAMES OF FRUITS.—*J. Propert.*—2 and 5 not known; 6, Beauty of Kent; 7, Duke of Devonshire; 9, Pearson's Plate; 35, Dumelow's Seedling. *J. Beddow.*—Apples: 29, Nonpareil; 36, Hanwell Souring. Pears: 1, Josephine de Malines; 2, Susette de Bavay; 3, Beurré Rance; 4, Winter Crassane. *C. D.*—2, Winter Hawthornden: 5, Winter Strawberry; 6, Hollandbury; 7, Rymer; 8, Court of Wick; 10 and 11, Beauty of Kent; 12, Yorkshire Greening. Samples small and inferior. *W. B.*—General Todtleben. *J. Souza.*—Your Pear is the Bishop's Thumb, one of the oldest varieties grown, and a good dessert fruit.

ERRATUM.—At p. 102, col. A., for £150 "per week," read £150 "per year"; and in the article on the late International Potato Show, p. 100, the word "croppers" in the last paragraph but one should read "cookers."

COMMUNICATIONS RECEIVED.—A. O.—G. N.—G. F. W.—J. T.—W. S.—A. J. M.—W. D.—W. G. S.—M. T.—A D.—H. W. W.—W. E. G.—B. & S.—E. W. B.—E. M.—L. & Co.—M. P.—G. R. Simpson.

TRADE CATALOGUES RECEIVED.

KEYNES, WILLIAMS, & Co., Salisbury.—Descriptive Catalogue of Roses and Grape Vines.

B. GILBERT, Dyke, near Bourne, Lincolnshire.—Scarlet double Anemones, choice hardy spring-flowering Bulbs, Plants, &c.

BENJAMIN FIELD, F.R.H.S., Swan Place, Old Kent Road, S.E.—Horticultural Soils, Manures, Sundries, and Berkshire Pottery.

LONDON SEED TRADE.

October 21st, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report no business doing at to-day's market. The demand has ceased for Rye and Winter Tares. Red Clover still offers freely from continent; but crop in America is evidently short, as shipment of yearling American seed has recently been made to New York. White Clover and Alsike unchanged. No change in values of Rye Grass. Bird Seeds and Blue Peas neglected. Dutch Linseed dearer.

COVENT GARDEN MARKET.

October 22nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	24 0	25 0	Plums, ½ sieve	1 6	3 6
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces .. per dozen	2 0	2 6
Cabbages .... per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

POTATOS.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	4 0	6 0
Anemone, 12 bunches			Marguerites, 12 bun.	4 0	9 0
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	..	2 0	— scarlet, 12 sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Pinks, various, 12 bun.		
Camellias, 12 blooms.	3 0	6 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Pyrethrum, 12 bun.		
Chrysanthemums, 12 blooms	1 0	6 0	Rhodanthe, 12 bun.	6 0	9 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses (coloured)	1 0	2 0
Cineraria, per bunch.			Roses (indoors), doz.	1 0	3 0
Cornflower, 12 bunch.			Roses, per doz. bun.	6 0	12 0
Cyclamen, 12 blooms.			Spiræa, 12 bunches		
Day Lily, 12 bunches.			Stephanotis, 12 sprays	6 0	9 0
Epiphyllums, 12 blms.	1 0	2 0	Stocks, 12 bunches		
Eschscholtzia, 12 bun.			Sweet Peas, 12 bunch		
Eucharis, per dozen	4 0	9 0	Sweet Sultan, 12 bun.		
Gardenias, 12 blooms.	2 0	5 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Tulips, per dozen		
Lapageria, white, 12 blooms	3 0	4 0	Violet, 12 bunches	0 9	1 0
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 0	1 6
Lavender, 12 bunches			— Parma	4 0	5 0
Lilium candidum, 12 blooms	—	—	White Jasmine, bun.	0 6	0 9
			Woodroffe, 12 bunches		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsias, per dozen	3 0	9 0
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen		
Asters, per doz.	4 0	6 0	Heaths or Erica, var., per dozen	10 0	12 0
Azalea, per doz.			Hyacinths, per dozen		
Balsams, per dozen			Hydrangea, per dozen		
Begonias, per dozen	4 0	12 0	Ivy Geraniums, per dozen	3 0	6 0
Bouvardias, per dozen	9 0	18 0	Lilium longiflorum, per dozen		
Calceolarias, per doz.			Lilium lancifolium, per dozen	18 0	24 0
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen			Mignonette, per doz.		
Cockscombs, per doz.	3 0	6 0	Palms in variety, each	2 6	21 0
Cyclamens, per dozen			Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Deutzia, per dozen			Petunias, per dozen		
Dracæna term. doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Rhodanthe, per doz.		
Epiphyllums, per doz.			Spiræa, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Stocks, per dozen		
Ferns, in var., doz.	4 0	18 0	Tropæolums, per doz.		
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 0			

CARTERS' CHEAP BULBS

FOR PLANTING IN LARGE MASSES IN

SHRUBBERIES, BEDS AND BORDERS.

	Per 1,000.	Per 100.	Per doz.
HYACINTHS, Red, White and Blue	160/-	18/-	3/-
TULIPS, Double or Single, Mixed	40/-	4/6	8d.
NARCISSUS, mixed border varieties	25/-	3/-	6d.
GLADIOLUS BRENCHLEYENSIS, vivid scarlet, extra large	60/-	7/6	1/3
GLADIOLUS BRENCHLEYENSIS, Good Bulbs	45/-	5/6	1/-

	Per 100.		Per 100.
Narcissus, Poeticus	3/-	Iris, mixed Spanish	2/6
Daffodils, single ..	3/-	Anemones, double ..	4/-
Crocus, mixed ..	1/6	Anemones, single ..	3/6
Crocus, yellow ..	1/6	Star of Bethlehem ..	3/6
Crocus, blue	1/6	Ranunculus, Persian	2/6
Crocus, white ..	1/9	Scilla, pale blue ..	3/6
Crocus, striped ..	1/6	Scilla Siberica ..	4/6
Jonquil, Campernel	6/6	Snowdrops	2/6

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IN COLLECTIONS—CARRIAGE FREE.

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No. 1	Containing	1573	selected	roots	.. ..	£2	2	6
,, 2	,,	1134	,,	,,	.. ..	1	11	0
,, 3	,,	820	,,	,,	.. ..	1	1	6
,, 4	,,	426	,,	,,	.. ..	0	11	0

FOR GREENHOUSE OR CONSERVATORY.

No. 5	Containing	968	selected	roots	.. ..	£4	4	0
,, 6	,,	696	,,	,,	.. ..	3	3	0
,, 7	,,	503	,,	,,	.. ..	2	2	0
,, 8	,,	277	,,	,,	.. ..	1	1	0
,, 9	,,	156	,,	,,	.. ..	0	11	6

FOR POTS, WINDOW BOXES, &c.

No. 10	Containing	771	selected	roots	.. ..	£2	2	0
,, 11	,,	376	,,	,,	.. ..	1	1	0
,, 12	,,	219	,,	,,	.. ..	0	11	6

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Dwarf Roses, hybrid perpetual, in splendid variety, fine plants, per doz., 10s. 6d.; per 100, 63s. Carriage Free.

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Bulb Merchants & Nurserymen,

NORWICH.

SHOWS.

Birmingham and Midland Counties Chrysanthemum Society.

THE 25th ANNUAL EXHIBITION OF CHRYSANTHEMUMS, FRUIT, &c., will be held in the TOWN HALL, BIRMINGHAM, on Wednesday and Thursday, November 18th and 19th, when the following Prizes for Cut blooms will be offered :—

11—48 blooms of Chrysanthemums, 24 incurved and 24 Japanese, distinct. 1st Prize, £10; 2nd, £7; 3rd, £4; 4th, £2.

12—24 blooms of Chrysanthemums, 12 incurved and 12 Japanese, distinct. 1st Prize, £4; 2nd, £2; 3rd, £1.

13—18 blooms of Chrysanthemums, incurved, distinct. 1st Prize, £3; 2nd, £2; 3rd, £1.

14—12 blooms of Chrysanthemums, Japanese, distinct. 1st Prize, £2; 2nd, £1; 3rd, 10s.

15—12 blooms of Chrysanthemums, Anemone, not less than six varieties. 1st Prize, £1; 2nd, 15s.; 3rd, 10s.

16—12 blooms of Chrysanthemums, 6 incurved and 6 Japanese, distinct, to be grown within three miles of Stephenson Place. 1st Prize, £1 10s.; 2nd, £1; 3rd, 10s.

17—24 blooms of Chrysanthemums, 12 incurved and 12 Japanese, distinct varieties, to be grown within twelve miles of Stephenson Place. 1st Prize, £3; 2nd, £2; 3rd, £1.

18—6 blooms of Chrysanthemums, reflexed varieties, distinct, to be grown within twelve miles of Stephenson Place. 1st Prize, 10s.; 2nd, 7s. 6d.; 3rd, 5s.

Entries close November 11th. Schedules and forms of entry may be had on application to J. HUGHES, Secretary, Northwood Villas, Metchley Lane, Harborne, Birmingham.

CRYSTAL PALACE.—GREAT ANNUAL CHRYSANTHEMUM SHOW, Friday and Saturday, November 6th and 7th.

For Schedules apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 31, 1885.

THE PROPOSED INTERNATIONAL HORTICULTURAL SHOW.—It will not be long ere the date fixed for the resumption of the consideration as to the advisability of holding an International Horticultural Exhibition in London in 1887, is here, and very little has been publicly added to the discussion. There is too much fear that when the adjourned meeting takes place at South Kensington, on December the 10th, there will be an anxious desire on the part of the promoters of the discussion to learn what the trade and gardeners may have to say; whilst these latter will be equally waiting to learn what the Council of the Royal Horticultural Society and the representatives of the Commissioners may have to state; and thus silence may be more eloquent than words. It is somewhat unfortunate that in this matter the Council of the Royal Horticultural Society, a body no doubt very well affected to the proposed exhibition, is not master of the situation. The Society is a sort of tenant on sufferance at South Kensington, and must in every case obey the behests of that more potent body, the Commissioners of the Exhibition of 1851; and, therefore, in considering a matter which is bound up with several diverse interests, there are too many powers and influences to deal with to make that consideration simple and easy.

If the Commissioners were prepared to state that they would furnish, say, £10,000 for the purpose of covering all ordinary expenses and a prize list, no doubt the Council of the Royal Horticultural Society, assisted by an independent committee of the chief exhibitors, would organise and carry out a grand international display; but all depends upon the means, and no body of men, let the prospects be ever so pleasing, will rush headlong into the production of an undertaking of this kind without some satisfactory financial guarantee. Naturally an international exhibition of horticulture, that shall compare favourably with similar exhibitions of manufactures, &c., must be organised on a gigantic scale. With all the prestige which attaches to South Kensington just now, and with all the powers held by the Commissioners, such an exhibition might not be impracticable; but, at least, in many of its phases it could hardly be attractive. The chief elements of interest and beauty found in horticulture are plants and flowers, and these are living, animated objects, which cannot be disposed in corridors or vast ranges of sheds, but must, for their existence in health and beauty, be kept in suitable habitations. Certainly South Kensington at present affords no such habitation; whilst exposure in these vast sheds and corridors for one week would almost, if not quite kill, so many of the most beautiful of the plants shown.

Then, whilst, as seen during the past year or two, some growers may be able to maintain a constant succession of cut flowers in wondrous variety, yet that power is limited to but very few; and still farther, that there are many very beautiful flowers which could not be so employed with advantage. Fruits and vegetables, again, form very indispensable, perhaps to many, the most important constituents of a flower show, and these may be exposed only for a very few days at any time; whilst there are many of our leading growers who will not permit their choice fruits to remain exposed longer than two or three days at any show, lest they be utterly spoiled, and that would mean loss, which no fair value in prizes could compensate for. All these matters present difficulties for consideration, and to be surmounted. Assuming that South Kensington were to be the *locale* of the exhibition, and that it were to be arranged for a season's duration, it follows that, with few exceptions, and those chiefly of a hardy kind, the bulk of the exhibits must consist of inanimate objects, of which there may be found, with the world to select from, a vast deal that is instructive and interesting, though, perhaps, not exceedingly attractive.

Of course there would be, in such a show, no lack of those objects which come under the name of horticultural appliances, for the term governs a marvellously wide field. We might see many departments of horticulture illustrated by working models and similar objects, and, if it were possible, to illustrate in that way gardening in other countries, especially as shown in the cultivation of the Tea, Coffee, and Sugar plants; the cultivation of economic plants, the products of which are employed as perfumes and medicines, and, not least, of various kinds of fruit producing plants in foreign countries, much that would prove singularly educational would be found. Colonial horticulture it is anticipated will be largely shown next year, and, therefore, we shall find that section of gardening already illustrated.

But even granted that all these remarkable features could be produced, we should still need

the vivifying influences of plants and flowers, fruits and vegetables; and these could only be supplied by the holding of a series of weekly shows, at which special attractions in the way of good prizes would be needful to bring in the required objects. Even if such could be accomplished, and it could only be accomplished at considerable cost, it is only too certain that such a continuous succession of shows would soon breed satiety. It is a curious fact, but an exact one none the less, that beautiful as flower shows are, and full of interest to the masses, yet these sooner breed satiety, especially to those called upon to take an active part in their construction, than other objects. Perhaps the immense amount of work incidental to these shows, especially for exhibitors, breeds this feeling on the one hand, as must certainly the contemplating of so many things that have almost identical characters do on the other; hence it would be a danger if the public taste were to weary of a great international horticultural show in the same way that it often does of some other attractions. The Council of the National Rose Society seems to have recognised that fact, for it will patronise only one day exhibitions; and yet a great feast of Roses is held to be one of the most attractive of flower shows it is possible to provide. Perhaps the unattractive and prosaic way in which Rose blooms are usually shown tends to that result.

It is easy to declare that if the money be found anything is practicable; but the promoter of any grand horticultural exhibition, especially if to be held at South Kensington, must not forget that animate subjects, such as plants—and especially tender plants—are not so amenable to ordinary exposure and treatment as are other subjects; indeed, it is that feature in gardening which presents the chief obstacle to the carrying out of heroic enterprises. We have no desire whatever to throw cold water upon a proposal that is fraught with so much interest to all horticulturalists. We rather wish to stimulate consideration as much for the difficulties to be surmounted as for the contingencies, which are less objectionable, and therefore hope that the forthcoming meeting may result in some tangible and practical purpose.

GARDENING MISCELLANY.

The Chrysanthemum Shows to be held next week, are:—*Tuesday*, Ealing, Southampton, and Lambeth. *Wednesday*, Brixton. *Thursday* and *Friday*, Highgate, Finchley, and Hornsey, at Northfield Hall, Highgate, Richmond, and Havant; and *Friday* and *Saturday*, Crystal Palace. Besides these public exhibitions, large private displays, which will be well worth visiting, will be opened in Messrs. Cannell's Nursery, at Swanley; Messrs. Veitch & Sons, Chelsea; Messrs. J. Laing & Co., Forest Hill; Mr. B. S. Williams, Holloway; Messrs. W. Cutbush & Sons, Highgate; and Mr. N. Davis, Camberwell.

Grape Growing at Keele Hall.—From Mr. G. Bolas, gardener, Hopton, Wirksworth, Derby, we have received a statistical account of the prizes for Grapes won by the late Mr. William Hill, of Keele Hall, at the exhibitions of the Royal Horticultural Society, between June 11th, 1853 and July 1st, 1863, and which shows that in the ten years, he took twenty-two first prizes, nine seconds, and six thirds, besides two extra prizes, a large silver medal, and a silver Knightian medal.

Fruits and Fruit Trees, Home and Foreign.—An interesting book bearing this title, and from the pen of Mr. Leo. H. Grindon, has just been published by Messrs. Palmer & Howe, Manchester.

The Largest Vine in the World is said to be one growing at Oys (Portugal), which has been in bearing since 1802. Its maximum yield was in 1864, in which year it produced a sufficient quantity of Grapes to make 750 litres (165 gals.) of wine; in 1874, 665 litres (146⅓ gals.); and in 1884, only 360 litres (79¼ gals.). It covers an area of 494 square metres (5,315 sq. ft.), and the stem at the base measures two metres in circumference.—*Society of Arts Journal.*

A Plea for the Single-handed Gardeners.—A correspondent writing to a contemporary, asks the somewhat pertinent question, whether it is not unfair that working or single-handed gardeners should have to compete in the same classes with gardeners who are in charge of large establishments, and have much greater facilities for producing subjects for show. Certainly it is, and it is a matter for regret that the arrangements observed in many schedules of prizes places all the principal ones at the mercy of gardeners at large places whose resources are well-nigh boundless. We have frequently noticed this at country shows, and that, too, in places where there are only one or two large places and many small ones, and the gardeners at the latter, feeling they have no chance of securing the highest honours, decline to bring their productions to the show; and the managers of these exhibitions wonder why it is that their shows decline! We strongly advocate the setting apart of a series of classes for single-handed gardeners—that is men who manage a place with only occasional, as opposed to regular assistance. We know not a few of these as hard working and industrious men, good and successful gardeners, excellent cultivators, but with limited resources, who can show a single bunch of grapes or even two of a few varieties, and other choice fruits in the same proportions; but cannot compete in the larger classes. These are the very men that should be encouraged, and we repeat, that in all schedules of prizes, where it can be done, classes should be set apart for this section of exhibitors. We are acquainted with some where this is done, and with marked success. These men compete together, in a division set apart for them, and they show subjects of a highly praiseworthy character. And it may be further said, that such a class of exhibitors is under, rather than over, paid; and a little prize money is an object of some importance to them. The wisest managers of flower shows are those that broaden the basis of their exhibitions as widely as possible; the result is almost invariably seen in an enlarged show, and a corresponding increase of popular support.

Phacelia campanularia.—"Of this novelty," writes a correspondent, "I, last spring, procured a packet of seed, but the result predicts no great future for it as a garden flower in England. Nursing it under glass I found it a tender subject, liable to damp, and to be eaten by slugs; but what is worse, when the plants got a fair size and about the stage that they should have gone on safely, they still seemed to be of a very tender character. The plants I had in pots, in large 60's, ready to plant out if they promised to do well placed on a surface of ashes in a cold pit, with the lights off. Although one or two of the plants flowered, the colour being a beautiful blue, of the same shade as the old Salvia patens, small and campanulate in shape, they were not abundant, and after a heavy shower or two the plants seemed to grow less in size, and, at any rate, the species from this result would prove that it is not likely ever to be a popular annual, though the colour of the flowers is a most beautiful shade of blue."

NOTES ON PEAS.

The past season has been a very bad one for Peas. The spring was late and cold, and being followed by a dry, parching summer, extending into September, the Pea crop in most places was not an average one, except where the ground was specially prepared for their reception, and an abundance of water was applied to them while growing. I was fairly successful with them myself, having sent a supply into the house for sixty consecutive days. Being in a cold bleak part of the West Riding of Yorkshire, sowing Peas with us in the months of November, December, and January is out of the question. The first sowing is made at the latter end of February, and then continued at intervals up to June, and these give us a succession from the beginning of July until they are cut down by frost in November. Our staple sorts are Dickson's First and Best, Prince of Wales, Champion of England, Telephone, Telegraph, and Ne Plus Ultra, which come into bearing in the order named. Some of these are of recent introduction, but the others are of ancient date, and so good that no doubt they will continue for some time to come to contest the supremacy with newer introductions. I am one of those who always favour tall-growing kinds, provided stakes can be had, as they give a better crop, enjoy more sun, receive the benefit of a freer circulation of air, and are not so liable to the attacks of aphis as dwarfs. The early sorts are sown on a south border manured heavily the previous summer, and are sown moderately thick, to make allowance for their being thinned by mice, birds, &c.

For the general crop trenches are thrown out the same as for Celery, and 18 ins. deep; 12 ins. of manure is placed at the bottom and covered with soil, adding a sprinkling of soot to the drill before sowing. The distance from trench or row to row is determined by the height of the sorts. Thus Veitch's Perfection, 4 ft. high, is sown 4 ft. apart; Ne Plus Ultra, 6 ft. high, 6 ft. apart, and so on. That is my general rule, but we always allow the space to be more rather than less. It is not advisable to plant or sow between the rows, as is sometimes done; we prefer rather to leave the space clear in order that it can be forked a couple of times during the season. I find this is of especial benefit to them, as it aerates the soil and gives the rains a better chance of penetrating to the roots. It is a question of some importance, as to in what direction the rows should run? Were I sheltered, I certainly should sow north and south. If not, then so as to cut the wind. The first year I came here I sowed north and south, as was my wont; but the winds came, and the moral was, "Don't put a broadside to me again."

As to vermin, I have not found anything better for mice than the old figure of 4 traps, and sharp ashes spread over the rows. To keep off birds, we put pegs on each side of the rows and string cotton on them diagonally. For slugs, we put strips of old carpet, one foot square, on the side of the rows, examining them occasionally; but the best of all methods of dealing with these is to get eight or ten young ducks, keep them in a corner of the garden, and let them out occasionally until they get too heavy, when they may bid good-bye to the Peas until such times as they meet again, and another younger lot be obtained; these are the scavengers for these pests. Topping the Peas, or pinching them, is done with the tall sorts when the height of the rods is reached, to check them from falling over on to the rows, and to help them swell the pods.

Notes on Varieties.

Earliest of All.—This was sown at the same time as Dickson's First and Best, and was ready three days in advance of it. Height 2 ft. to 3ft., with nice well-filled pods containing six to eight peas of fair quality; a good cropper.

William Hurst.—This variety promises to become a standard dwarf early sort; it was sown with Dickson's and came in with that variety. Height 2 ft. to 3 ft., and the haulm almost covered with fine dark green pods, containing from six to eight peas of good quality. With me, this has completely ousted the American varieties.

Abundance.—This has not done so well here and has not come up to my expectations. It is 2 ft. to 3 ft. in height; haulm strong, and the foliage heavy, with a branching habit of growth, the individual branches bearing pods which are freely produced in pairs, and contain six to eight peas of good colour and quality.

Everbearing.—This is like the preceding in the habit of the plant, but has heavier foliage, and is longer in bearing, but not so long as to constitute it everbearing. I sowed a few of Abundance with it, they both came in together, but I got Peas a fortnight longer from Everbearing. However, I shall try these two varieties again, as perhaps the season may have brought the plants sooner to maturity than if we had had the ordinary amount of rain.

Stratagem.—This, like the two foregoing, has heavy foliage and a vigorous constitution. Its height is 2 ft., and the foliage is of a dark green colour. The pods contain six to nine peas of good colour and quality; a good cropper as long as it lasts, but this is the worst quality of dwarf varieties they do not last long.

Evolution.—Some of the pods of this variety were wanting in peas, whilst others contained their full quota; this has generally been the case with most of the largest podded kinds, as for instance, Superlative and Giant Marrow, in which most of the pods have been blind. Height 4 ft., and the pods which are produced in pairs are of a deep green colour, slightly curved outward at the end, and contain eight to eleven peas only of second-rate quality. This was the second trial.

Paragon.—This is a 6 ft. Pea and a prolific variety of good quality, but the pods here are short, broad, and stumpy, with the ends turned outwards. I attribute

this to the seed having been grown in somewhat similar soil. It bears six to eight peas in a pod.

Taylor's Marrow.—This is a white wrinkled marrow sent to me by a friend in Lancashire, in order to give it a change of soil for a season. Height 4 ft., haulm strong, foliage large and succulent, a moderate cropper, but the pods are large and handsome, and well filled with eight to eleven large peas of fine quality. A good exhibition sort; second year of trial.

Duke of Albany.—This grows 6 ft. high and is rather long in the joint, the foliage is large and dark green; a good cropper. Pods large and handsome, of the same colour as the foliage, and containing eight to eleven fine large peas of superior quality. I grew this also last year and it has maintained its reputation; without doubt, it is the finest and best coloured exhibition variety yet raised

400 Fold Wrinkled Marrow.—This is a wonderful cropper here, and stands the smoky atmosphere well. It was, if I mistake not, raised by Messrs. Bunyard, of Maidstone, but it is not up to the standard in flavour; nevertheless, I grow it for its productiveness and for a change. Height 5 ft., podding in pairs from bottom to top of the haulm. It bears fine handsome pods, which, when filled are perfectly round, and the peas inside are so closely packed as to flatten themselves one against the other, which, swelling outwardly, sometimes bursts the pods.

Hallamshire Hero.—This is a white wrinkled marrow, a Sheffield variety, 4 ft. high, and very productive; pods in pairs, seven to nine peas in each, and of good quality. This I grow for a late crop, as it is not subject to mildew and will bear right away into November if not cut down by frost; a good hardy late sort, as proved by two year's trial.

The following will be added to my general list:—William Hurst, 400 Fold Wrinkled marrow, Duke of Albany, and Hallamshire Hero.—*B. L., Lindley, Huddersfield.*

PEACH BLISTER.

There is more than one kind of Peach Blister. Peach leaves are often twisted and blistered by cold winds and the attacks of plant lice, but the best known and the most destructive form of Peach Blister is caused by a fungus named Ascomyces deformans, B. The

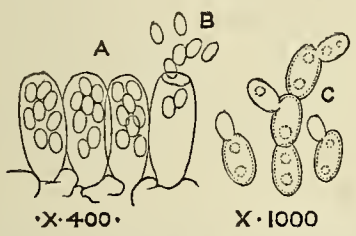


Fig. 1.—Funous of Peach Blister (Ascomyces deformans, B.)

fungus attacks the foliage in the spring and early summer, and causes large, gouty, leathery, red swellings. On and bursting through these red swellings the fungus named Ascomyces may be seen with a lens, as a thin, white, pulverulent stratum. The fungus is a parasite, and its spawn or mycelium lives within the attacked leaf, the mycelium causes the leaf to become deformed, and the constituent cells of the leaf to increase in number and become abnormally large; at the same time, the fungus changes the green colour of the leaf to a dull red vinous hue. If a section is made through a blister, it will be found that the red and diseased portion of the leaf is about four times as thick as the green undiseased portion. When the mycelium or spawn of the fungus has grown within the leaf for a week or two, it bursts through the external membrane of the leaf, generally on the under surface, sometimes on both surfaces.

The fungus is an exceedingly small and transparent one, and when examined with the microscope and enlarged 400 diameters, it is seen as at A. Fig. 1. The white pulverulent stratum on the leaves consists of an inconceivably large number of extremely minute and colourless bags, termed asci by botanists, and each of these little bags contains eight transparent spores or seeds. The bags or asci when ripe, open at the top as shown at B, and the spores or seeds sail out into the air to propagate the disease. When the spores are further enlarged in a state of germination to 1000 diameters, as shown at C, it will be remarked that they constantly bud and re-bud from the side, in the manner of the Yeast fungus. This curious observation of budding was first made by the Rev. M. J. Berkeley in 1855, and published in the *Journal of the Royal Horticultural Society* for that year. The fungus of Peach Blister sometimes grows on the Almond as well as on the wild and cultivated Cherry.

Pear Blister.

An allied fungus named Ascomyces bullatus, B, is the cause of one form of blister and distortion in Pear leaves. The blistering caused by the Ascomyces is easily distinguished from other blistering by the pulverulent waxy bloom on the injured places; in some instances, the damaged portions become black, and drop away from the leaf. Like the last, the fungus is a true parasite, the spawn traverses the interior of the leaf, and the perfect fungus at length loosens and fractures the covering membrane, and is seen on the leaf surface. In the latter position it matures and distributes its spores or seeds. With the aid of a microscope, the fungus can be seen pushing itself outwards through the little fissures it has made in the leaf membrane. When magnified to 400 diameters, the fungus is seen as at A Fig. 2, the hyaline bags or asci open as shown at B, and

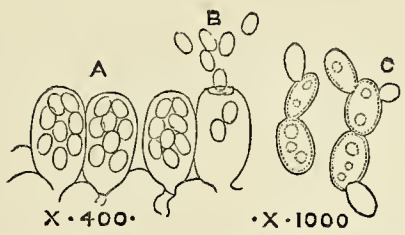


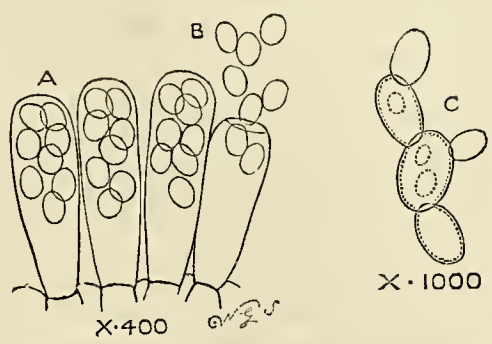
Fig. 2.—Fungus of Pear Blister (Ascomyces bullatus, B.)

the spores escape through the orifice. When these spores are enlarged to 1,000 diameters, they are seen when germinating as at C, in the style of the Yeast fungus, and like the fungus of Peach Blister.

The Rev. M. J. Berkeley was the first to describe this fungus in the *Journal of the Royal Horticultural Society* for 1855, where he at first named it Oidium bullatum, but soon after he called it Ascomyces bullatus; this fungus sometimes grows upon the common Hawthorn.

"Bag" Plum Disease, or Plum Blister.

A third species of Ascomyces, named A. Pruni, Tul., attacks, with an effect similar with the two last, the leaves and fruit of the Plum. This parasite sometimes grows on the common Sloe as well as on the Bird Cherry—Prunus Padus, L. When it attacks the fruit of the Plum it causes it to increase enormously in size, to become hollow, and at length to shrivel and perish. In some instances we have seen the fruits so enormously distended and elongated that they have resembled Kidney Beans. In fact, we know of an instance where a correspondent wrote that the nature of one of his Plum trees had entirely changed, and that instead of bearing Plums it had produced a crop of Kidney Beans. The hollow growths are always covered with the white pulverulent stratum of the fungus parasite, which causes the distortion. In some districts the enlarged and diseased Plums are termed "Bag" Plums, "Sack" Plums, or "Bladder" Plums.



Fio 3.—Funous of "Bladder" Plum Disease (Ascomyces Pruni, Tul.).

This species of Ascomyces in considerably larger than the two last, as shown in Fig. 3. The microscopic asci are much longer, as illustrated at A, and the spores, seen emerging at B, are larger. The spores germinate as in the two last, as shown enlarged 1,000 diameters at C. A second and distinct species of Ascomyces also at times attacks Plums.

A species of Ascomyces frequently attacks the leaves of Walnuts, an allied species invades Potentillas in America, another grows on Trientalis in Britain. Alders are often blistered by an Ascomyces, so are Birches, Poplars, Oaks, Hornbeams, Maples, Elms, and other plants.

As the spawn of these fungi grows beneath the membranes of the fruits and leaves, it is obvious that remedies cannot easily be applied; the only plan at present known for lessening the attacks of the pests found under Ascomyces is the destruction of the infected parts by fire. When practicable, the diseased foliage and fruit should be gathered and burnt; by this means an enormous number of the seeds of the fungus may be destroyed.

The genus Ascomyces was founded and defined by Montagne and Desmariers in 1848. Mr. Berkeley, from 1855 to 1860, described the most important species of the genus. In 1861, a continental botanist, in ignorance (for which there was no excuse) of what had been done by his predecessors, renamed this genus of fungi Exoascus in place of Ascomyces Both words have the same sense, and refer to the character of the transparent bags or asci containing the seeds or spores. It is a discreditable fact that many continental botanists, and some juvenile botanists of this country, have adopted the spurious name of Exoascus, a name which cannot possibly stand. Sometimes the parasites have been named Taphrina, from the belief that the botanist Fries had them in view in 1815, but there is no evidence for this idea. Fries, in 1815, did not work with a microscope, and without a microscope, neither he, or anyone else, could characterise the genus of fungi to which Peach, Pear, and Plum Blister belongs.—*Worthington G. Smith, Dunstable.*

BERRIED PLANTS FOR WINTER DECORATION.

(*Continued from p.* 125.)

Ardisia crenata.—This, when well berried, is a very ornamental plant. It is of dwarf compact habit, the leaves are of a bright glossy green, showing off the berries, which are bright scarlet, and borne in panicles, to great advantage. It requires stove treatment, and may be propagated either from cuttings or seed. Seedlings make the best formed plants; they should be grown on freely until large enough for flowering, when, if the plants are too vigorous, water should be withheld, and the plants will flower better after the pots are well filled with roots. While the plants are in flower, they should have a position where the air can pass freely through them, otherwise the berries will not set well. Brown scale is perhaps their greatest enemy, and if the plants are not kept quite clean before they come into flower, the scale will very quickly infest the bunches, and it will be very difficult to dislodge them.

Callicarpa purpurea is another very useful berried plant for the stove, its bright purple berries forming a very pretty contrast during the dull season of the year. It requires some care to grow this plant successfully. It may be propagated from cuttings early in the spring, and after the plants are well established they may be grown on in a pit during the summer; if treated this way they are not so liable to red spider as when kept in the stove during the summer. They should, however, be taken in early in the autumn, before we get cold nights, or the leaves will be liable to fall off before the berries are ripe. They will thrive well in any good rich compost, but require care in watering and frequent syringing, except while the plants are in flower, when it is better to withhold the syringing until the berries are set.

Capsicums.—There are many very pretty varieties of these, and when well grown they are very useful for decoration. They require to be grown on in rather a high temperature, but after the berries are ripened they will last a long time in a cool greenhouse. The best way to manage them is to sow the seed early in spring, and grow the plants on in a hot-bed, keeping them as close to the glass as possible, and they should have very little, if any, shade. They should be potted in good fibrous loam, with a liberal addition of well rotted stable manure. Varieties: C. Little Gem (Williams) is one of the best red fruited kinds for decoration, the plant is very dwarf and compact in habit, and the berries, which are small, are produced in great profusion. The Long Red and the Long Yellow are also good sorts to grow. C. Yellow of Nocera (Henderson), is a very showy

variety with very large fruits. C. Princess of Wales is another very pretty yellow variety.

RIVINA HUMILIS.—This pretty little berried plant should find a place in every stove. If a few plants are propagated from time to time, it may had in good condition throughout the year. Although it may be easily grown from seed, we prefer to propagate from cuttings, as these come into fruit much sooner, and make dwarfer and more compact plants than seedlings; it should be grown in light sandy compost. There is also a yellow-berried variety, R. flavescens, which is very pretty, but it is not so compact, and does not produce berries quite so freely as R. humilis.—*H.*

WINTERING BULBS AND TUBERS.

WITH the autumn season so generally full of work setting things right under glass, we must not overlook the few tender subjects among bulbous and allied plants, which are not safe in the open ground during the winter months; the effect generally produced by many valuable autumn-flowering plants, has this season been one of short duration, consequent upon the severe frosts which were somewhat generally felt a few weeks ago, and which had made many flowers scarce, but which have made many late-flowering hardy perennials all the more conspicuous. With bedding plants all blackened and dead, and not a vestige of flower remaining on the Dahlias, the presence of such things as Michaelmas Daisies, Helianthus decapetalus, Pyrethrum serotinum, Tritoma, and others, still in excellent condition render them valuable ornaments in the flower garden, wherein now so little remains, even Tagetes signata pumila is noteworthy of having come out scatheless when most annuals have been killed outright.

This same frost also quickly ended such flowering bulbous and tuberous-rooted plants as Tigridias, Gladioli, Begonias, and the like which have played their part in making gay the flower garden during the past three or four months; these will now require attention, and the lifting and storing of them away safely for the winter season is a matter for consideration at this time.

The process of lifting and wintering the Gladiolus and Tigridias is so very simple that they may be included under one head as similar treatment will do for each. The first thing then is to lift them carefully from the open ground, shaking them free of soil and place them in any dry shed or outhouse where they will dry gradually. That the drying process should be gradual is the most important part, and upon this depends a good deal of the ensuing seasons bloom.

The next and most important point, is, that under no pretence should either of these two groups be lifted from the ground and divested of their foliage and stems at the same time, for it will be seen that in both cases the base of the stems, indeed, the whole plant is yet quite green and consequently full of sap, and to remove these would end in a serious injury to the bulbs; spread them on a dry floor where they may remain for some days, or if some large round baskets are at hand they may be placed in them, and be hoisted overhead out of the way. It will do them good if they remain here a month, by that time they will have become fairly dry and ready for final cleaning and setting aside for the winter.

Dahlias of all sections may be similarly treated, though these may be cut down when lifted, and provided they are placed in a dry airy shed for some days they will need but little further attention. The most critical point in connection with the Dahlia is that of having them thoroughly dry about the collar of the plants, which is the point where the stem ceases and where the tubers are formed, here it is, if the soil is not all removed, and they are not well dried before storing away, that many rot off, and as this is the point where the breaks are formed for the ensuing year, they should be carefully examined before finally placing them away; some prefer placing them in charcoal dust or dry ashes to absorb any superfluous moisture, this, however, is not necessary or essential, provided they are properly prepared beforehand. During the winter they should be looked over once or twice, and in the event of any damp existing the affected part may be sprinkled with charcoal dust.—*E. J.*

SCOTTISH GARDENING.

GARDEN MEMORANDA *(concluded from p. 118)*.—The structure next to the Peach-house, at Parkhall, with which I concluded last week, is a vinery, 65 ft. long and 18 ft. wide. In this house we spent a long time, here being so much to discuss. A mixed collection of Grapes were hanging in capital condition. Golden Champion was well represented by bunches of general good quality, and quite free from spot; it is much valued on the table, and that is the true test of a good fruit of any kind. Golden Queen was bronzy and yellow, of capital appearance. I have never grown this kind, and if I did grow it unsuccessfully I should expect to be strongly censured if I denounced it because of my inability. I have grown the Golden Champion fine in the berry, bright golden in colour, and of fine flavour; but to class them with the splendid examples which Mr. Finlay (late of Wroxton Abbey) grew and exhibited once at Banbury is out of the question. His bunches were three in number, and the aggregate weight was 16½ lbs. White Grapes attain perfection of ripeness and flavour often when their yellow tinge is not present. The latter quality is brought out by abundance of light. Some examples of Duke of Buccleuch were nearly perfect in colour here, having been exposed to the full sun from their earliest stages. Trebbiano was here of better quality than is generally met with. I never advocate the growing of hard Grapes. Of this class there are numbers, but all more or less indigestible, and better fitted for sale to the classes whose only idea of fine fruit are handsome bunches and large berries. Tokay was among this mixed lot, a kind which, when well grown and afforded plenty of time to ripen, is very pleasant to eat, and fills up a house well, but takes a long time to come to perfection. Muscats were also in this house and very good.

Passing to some other structures less imposing (but teeming with interest) than those we have inspected, the first we enter is 85 ft. long by 15 ft. wide. Though of less width than some of the other houses, they are not at all insignificant, but well adapted for the purpose for which they are used. We are in the midst of the Pears, and a great success they are. Many of the kinds with which we are acquainted are well represented, and Pears grown under glass are such as would tempt anyone to go in for such culture. In pots and planted out, Williams's Bon Chrêtien and Louise Bonne of Jersey were extra good and in fine condition for use. Beurré Diel on the Pear stock was also of much excellence, not the gritty substance one sometimes meets even in some of the best districts of England. Pitmaston Duchess and Brown Beurré were in close proximity to each other, showing their distinctive features well. The Pitmaston Duchess is often pronounced to be of second-rate quality; but grown under free exposure to sun and air, it is equal to a fair quality of Marie Louise; this old favourite was well represented among the general collection. General Todtleben was good, and Doyenné du Comice is a great favourite, its flavour I have long considered as about the best grown in this country. Beurré Rance, one I know little of, stands high with Mr. Murray, and it looks well; Glou Morceau, a great favourite of ours, seemed perfectly at home in this structure; Beurré d'Amanlis, which I have seen do remarkably well in some parts of central Scotland, both on walls and standards, was in fine condition in this structure; Passe Colmar was good; and Easter Beurré, and many others, were very creditable indeed. Whether grown in pots, trained crosswise, or planted out as bushes seemed to make no difference to the kinds, all were succeeding admirably. Watering, especially in such a season as the past, has had special attention, and the "surface dribblet," which is the ruin of so many plants of every description, is carefully avoided; but when a soaking is given it means abundance to the base of the roots. Mulching is an agent much valued, and does its own part among these trees and bushes admirably.

The next house we enter is a *bona fide* orchard under glass—not one of the puny apologies which we sometimes see dubbed an "orchard-house"—the contents of which, notwithstanding the praise they often receive, would scarcely give dessert to a moderate fruit consumer. This orchard-house at Parkhall is 155 ft. long, and 15 ft. wide. Most of the crops were gathered at the time of our visit, and from Mr. Murray's report of them I have every reason to believe they were all I predicted they would be when I saw them early in the season. Passing from the Pear-house to this erection I noticed a tree well clothed with remarkably fine Plums on the wall, and of such a colour as I had never seen on the kind before. It was the old Magnum Bonum, white, but the deep yellow skins and large fruit had been secured by no ordinary treatment. I was informed that the roots were kept near the surface, and doses of Thomson's Vine Manure applied. The same was given to many of the fine Pears.

It is astonishing what amount of fruit a tree will carry and perfect in the highest state of excellence, with roots comparatively few, and confined like a ball of network in pots, or it may be in other vessels such as I once had to deal with, iron pans, in which the tree roots had been confined for some years. The dwarf bushes were hard in the wood but well clustered with fruit buds. A good surfacing of rich material was given and a man (who did not know a Peach from a Nectarine) was put in charge of the house, which contained Plums, Peaches, Nectarines, and Apricots. When the season was well advanced, and sunshine getting powerful, our man was instructed to soak the trees well from the rain water tank, with a pinch of guano (it was guano then, we can get a mixture under that name now, but no such article as that was) sufficient to colour the water at each time of watering. Airing was done under the same rule of thumb system, and when the fruit was set, which was about ten to one more than necessary, a sprinkling of clean water was given overhead, all surfaces being well moistened by syringe or hose. This was continued till the colour was on the change, when water was less profusely administered, and the guano bags tied up. After repeated thinning the fruit hung on the Plum bushes, thick like Gooseberries, and of the finest quality I had ever seen. The other kinds of fruit were fair in size, and of fine quality, but I had never seen such Gages of sorts before. All the other kinds were removed from their ordinary character, and the mechanical manipulation of the inexperienced workman did wonders in keeping the tree healthy and in fine fruiting condition; little growth was made, but the leaves were of great size and very stiff. The same success for several seasons attended ultimately this operation, with daily supplies of guano homœpathic doses; the house was changed for other purposes, and thus overcrowding and watering came to an end.

In the long house, to which I have referred, at Parkhall, many trees with roots in small compass have done wonderfully well, no doubt having been well fed. Reine Claude de Bavey, Jefferson's and Greengages were good and a fine crop. An Apple, which was a stranger to me, Lord Grosvenor, was in fine condition, and very suitable for culture under glass. Some Apples in orchard-houses can be brought to a high state of perfection in colour. I have a distinct recollection of a collection of fruit brought from Welbeck Abbey, to the first International exhibition held at Edinburgh, and the dish of fruit which attracted most attention in that collection, was a remarkable lot of Apples, brought from the orchard-houses there; such colour and almost transparent quality, probably had never been seen in the north, and I never saw any approach to them in the south. To grow Apples under glass, of course, would only be allowed by those who wished their fruit to attain the highest excellence. The Cherries in the orchard house at Parkhall, are studded with a mass of fruit buds, and they make next to no coarse growth; Cherries when well-fed at the roots, do well under such conditions, and their culture is very interesting.

Passing to the outside of this gigantic range of glass, we turn to the left to inspect some houses on the south wall of the garden, as well as some low span-roofed structures in close proximity to them. A lean-to, 45 ft. long, and 15 ft. wide, had splendid crops of large Tomatos along the back wall, and young vines were planted in the front to occupy the whole roof. Some kinds were here for trial—any one kind worthy of a chance gets a trial at Parkhall—and really were it not for such places in the charge of enterprising men, the value of many things would never be known. An amateur or a gardener with limited accommodation could not risk the chance of proving kinds of fruit which might have to be rooted out. The next house we enter is a lean-to of the same dimensions as the one just referred to, this is a vinery with Hamburghs well done, large in bunch, and berries of a fine colour; we counted thirteen large handsome bunches on a vine. Gros Maroc was here in capital form, berries and bunches

large, and colour perfection. Mrs. Pince's Black Muscat was represented by large bunches free from the usual greenness in the berries next the footstalk; Alicante and Gros Colmar in the same house were very fine. This completes the vines as they are at present, and I believe that if they go on for a year or two as they are doing now, we shall hear of them in a different form to what our feeble efforts have depicted in the foregoing fragmentary remarks. In other compartments used for general purposes, the most noticeable items are Figs, which have the same skilful attention as the other fruits. Brown Turkey and White Marseilles, being the most serviceable kinds for general requirements, they have the largest share of the space allotted to Fig culture. Pot trees stand along the front which bear profusely, and at the back many of them are trained crosswise, so that fruiting the trees may be done on both sides; where light and air can be admitted freely there is no doubt that a gain of surface is thus obtained. Figs planted out in beds of fair width, where the roots can have all the attention which they require, is without doubt the most simple and efficient method of cultivating this valuable fruit. The roots cannot get away rambling, where they would overpower the wood with sap, which would prevent ripening, or cause the embryo fruit to be cast prematurely; and when Figs have their roots embedded in confined borders, a good rich surfacing and copious supplies of liquid manure gives abundant nourishment to supply heavy crops of luscious Figs. Little pruning is required under such conditions; short stiff wood is formed which may require a little thinning, but the labour of training, stopping, &c., so often necessary when the trees are unrestricted at their roots, is not required when grown as they are at Parkhall and many other places.

The argument in favour of the extension system of fruit tree growing may be well supported with Figs, as a few trees of the two kinds above named can be made to supply fruit from April to November, and were I situated so that I could give space *ad lib.*, I would probably grow large trees, such as I have seen in the south of England, and in the Isle of Wight. Near Ryde I once saw a tree growing along the ground producing immense crops, with huge branches extending over space such as would shelter a goodly flock of sheep. The strong-growing kinds, such as Castle Kennedy, Brunswick, and Negro Largo require cramping at the roots more than medium-growing sorts; but all the kinds I have seen can be made to fruit freely by restriction. I need not trace the doings at Parkhall further at present; the other structures are such as are seen in most places of a similar character. My visit was much enhanced by Mr. Murray's kindness, for which I thank him.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Japan Lilies.—These are generally left till much too late before potting, as when this operation is deferred it is impossible to carry it out without injuring the roots, which begin to form as soon as the flower-stalks ripen, and that is the time to shake out the bulbs from the old soil and give them some new. In doing this it is not necessary to disturb them much or divide them unless an increase be desired, as by giving larger pots, the mass may be grown together, and in that way they make a grand show.

Draining the Pots.—As Lilies require liberal supplies of water during the summer, it is important that the pots should be well drained, which may be done by placing a large crock over the hole, and filling up around it with others broken small, laying them to the depth of about an inch and a half, when they should be covered with a little rough soil or moss to keep them well open.

Soil and Potting.—The soil that Japan Lilies do best in is a mixture of loam and peat, in about equal parts, and the way to use it is to put it in the pots loosely and just shake it down, without compressing it, as then the large fleshy roots can ramify and get through it easily and find the food they require.

After Potting the most suitable place to stand them is in a cold frame, where they should have no water till the shoots show, and then only sufficient to keep the soil moist.

Chrysanthemums.—These, like everything else this season, are late and slow to open, but it is useless hurrying them, by keeping the house they are in close and warm, as the flowers must have time, if they are expected to be good, and no plants are more impatient of artificial heat than Chrysanthemums, which soon show the effects of coddling by becoming mildewy and weedy in bloom. What they like is plenty of air, which should be given every fine day, and another essential is an abundance of water, and of this it is almost impossible, at this season, to administer too much if the plants are pinched at the roots, but in no case ought the soil to get dry.

Solanums.—To have the berries of these coloured early the plants will need a little warmth, and it will forward them greatly if they can be stood on light shelves, where they can be exposed to the sun; but they must be kept well watered, or the foliage will discolour and fall.

Pelargoniums of the show and fancy class must now be got in from pits and frames to a light airy position in the house, or the leaves will spot, as damp soon brings on this malady, which disfigures and weakens the plants.

THE FLOWER GARDEN.

Bedding Plants.—It is time now that these were arranged in their winter quarters, the most suitable place for Pelargoniums being the back shelves of a house up near the glass, where they should be kept dry, as being of a sappy succulent nature they are apt to rot, and require frequent looking over to remove dead or decaying leaves from them to prevent the mould spreading.

Herbaceous Borders.—No plants pay so well for good cultivation as those of an herbaceous nature, most of the perennial kinds of which need deep soil, or they suffer from drought, and as they will bear moving any time now, the season is a favourable one for digging them up and trenching the land. In doing this, the thing to avoid is, bringing the bottom to the top, instead of which it should be kept below, and there enriched by working a heavy dressing of manure in with it, and this the roots will find when they strike down in search of moisture during dry weather, at which period it will have a most beneficial effect on the plants, and enable them to stand without flagging.

Roses.—This is the best time in the year for transplanting Roses, and those who would have the pick of the plants should send their orders and get what they want from the nurseries at once, as first comers are always best served, and not only that, but a double advantage is gained by having the plants in their places early, as they get good hold before sharp weather begins.

Preparing the Beds.—That there may be no delay when the Roses are received, the thing is to get the beds or places ready, which should be done by trenching the ground if they are to go in beds, or digging deep holes to plant singly, but in either case it is necessary to make free use of manure, which ought to be thoroughly rotten and well incorporated with the soil, or it will be too strong for the roots.

Planting the Roses.—In planting beds, the chief matter to be particular about is to arrange the plants according to their height or strength, keeping the tallest or most vigorous growers in the centre, and the dwarfer or less robust outside; by doing this a much better effect is produced.

Mulching.—As soon as the plants are in, the next thing is to mulch, which is a most important matter, as a dressing of half-rotten manure is needful as a protection against frost, and in putting it on it is advisable to let it come well up round the collars of the plants, as when sheltered there they are safe from all weather.

THE FRUIT GARDEN.

Root-pruning and Transplanting.—The chief things to be attended to in this department of the garden are the root-pruning and transplanting of all fruit trees and bushes that require restricting in their growth, or that it is intended to get or move, and the sooner these operations are carried out the better will it be for the plants. In taking the first-mentioned in hand, the way to proceed is to open out a good wide trench around the tree, at from 3 ft. to 4 ft. from the stem, according to its size and age, when all large roots that are met with should be severed with a sharp knife, and if then laid in again and covered with a little fresh soil they will soon heal at the ends and emit a number of feeders. It is the multiplying of these from which the benefit accrues, as instead of gross wood and no fruit, the tree so operated on becomes tamed at once, and flower buds form during the following summer in place of shoots, after which crops are borne regularly if the weather is favourable for the blossoms to set.

Renovating Barren Trees.—It often happens that trees are barren or unsatisfactory from want of vigour, in which case the only remedies are to enrich the ground they are in, or lift and transplant into fresh sites; but as the first-named is the easiest to perform and often the best mode of treatment, a top-dressing of dung commends itself, and should be put on at once. Before this is done, however, it is advisable to remove the soil over the roots about 3 ins. deep, when the manure should be carefully forked in and the soil returned to the top, or if the roots are near the surface the manure may be put on as a mulching, as the rains of winter will carry the juices down, and thus impart strength to the plants.

Lifting and Transplanting.—If it is decided to lift and transplant, large holes should be dug, and the subsoil, if gravelly or bad, wheeled away and fresh substituted, as the great point is to give the trees a good start and enable them to become well established, when they will be able to take care of themselves.

Spreading Out the Roots.—In putting the trees in, the most important matter to attend to is the proper spreading out of the roots, all of which should be laid in carefully and then covered with fine earth, and as soon as this is finished the final filling up of the holes may be carried out and the plants staked and mulched.

Heading Back.—At one time no gardener thought of planting without heading back, but more wisdom is displayed now by leaving the shoots as they are, and doing all that is necessary by way of pruning during the summer, when any strong leader that appears robbing the rest can be pinched in and stopped.

THE VEGETABLE GARDEN.

Asparagus.—The tops of Asparagus being now ripe it is time they were cut down and removed, and the beds cleaned; but in doing this they should not be dug over, as is generally done, or have the alleys thrown out, as the breaking up and removal of the soil greatly injures the roots, which ramble far and wide in search of the food they require. Instead of the digging and making ditch-like trenches between, and piling the earth on the beds, the proper way to treat the plants, after the ground has been freed from weeds, is to give a heavy dressing of rotten manure, or any decomposed vegetable matter, such as may be had from a heap of garden rubbish, and leave it on for the winter's frost to disintegrate and pulverise; after which, in the spring, it may be raked down before the heads of the Asparagus come through; and if that treatment is pursued from year to year, the plants will gain in strength and yield fine "grass" for use.

Sea Kale.—The management necessary for this highly esteemed vegetable differs but little from that which is requisite for Asparagus, excepting in the case of any plantation of it that may be required for forcing; the plants in which, will only need to have their leaves cleared away ready for digging up the roots, or covering the crowns with soil, ashes, or pots, according to the way they are blanched.

Cauliflowers.—Plants of these with the heads turning in, are no longer safe out-of-doors, and should be lifted and laid in by the heels in some frame or place where they can be protected from frost. Any ready for use, may be cut with the stem and leaves attached, and if laid in a damp cool shed, they will keep fresh a long time, and be as good as if just got from the open.

Beet, Carrots, and Parsnips.—Roots of the kinds just named ought now to be lifted and stored for the winter, the best way of keeping the two first mentioned being to pack them in dry sand or earth in a shed, as then they remain fresh and plump. But Parsnips improve by being frosted, and may be laid thickly in rows in the open ground, with their crowns above the soil, so that they may be seen and got at should hard weather set in. In digging up Beet and Carrots, great care is necessary that they are not bruised or injured, or have the tap roots broken, or the Beet will bleed and lose quality and colour in cooking, and the same if the crowns are damaged, to prevent which the leaves should be wrung off close to the neck and not cut, or decay will set in and spoil the whole lot.

NOTES ON CHRYSANTHEMUMS.

Who can wonder that the "mum" fever, as it is sometimes called, is speading at such an amazing rate throughout the country, for among the host of cultivated plants what can vie with the Chrysanthemum during the autumn and winter months? And the improvement that has taken place during the last few years, both in the varieties and the perfection to which they are grown, is simply marvellous. If it is possible to find persons who really do not like Chrysanthemums, they must indeed be insensible to the charms of floral beauty. Those who depreciate anything formal in flowers, cannot urge that objection against the curious forms and lovely colours of the Japanese varieties; if, on the other hand, they have an eye for even rounded forms, the symmetrical outline and even petals of the Incurved kinds should be faultless in their eyes, but should none of these be suited to their tastes, surely they will find some favourites among the Anemone-flowered, Pompone, or reflexed varieties.

Chrysanthemums are beautiful when well grown after any particular method. When not disbudded at all, they make a fine show when placed on large stages where they are above the eye; the small flowers drooping around the larger ones are seen to advantage then, and the flowers are also most useful for cut blooms for vase decoration. They also have a very imposing appearance when grown as specimen plants disbudded to one flower on a shoot. But, in my own estimation, they are seen to the greatest perfection when grown into large blooms by leaving only a few on a plant, such flowers show the highest state of perfection to which they can be brought, and leave a lasting impression on those who see them, an impression that gives pleasure, even after the blooms have vanished, and spurs the enthusiast onward in his cultural labours till the time when he is again rewarded by a rich harvest of varied and imposing blooms.

The present is a capital time to look over the whole stock and take notes of the varieties that are backward in coming into flower, so that another year the buds that appear in July or early in August may be taken, because if such means are not resorted to, some of the very best varieties cannot be had in flower till the majority of sorts are past their best; and where blooms are wanted for exhibition, this is a great drawback, but if not wanted for that purpose, late varieties are most useful for prolonging the season of these popular flowers. The following are kinds that naturally bloom late:—Japanese: Grandiflorum, Meg Merrilees, Roseum superbum, Gold Thread, Fanny Boucharlet, and Oracle; Incurved: Barbara, Antonelli, Belladonna, Hero of Stoke Newington, Bronze Jardin des Plantes, and Alfred Salter. I have no doubt there are many others that bloom quite as late as these, but I have made a note of those above mentioned, as they are later in coming into flower with us, although they have been given precisely the same treatment as a number of other varieties.—*H. Dunkin.*

THE ALLOTMENT SYSTEM.

Knowing how earnestly you advocate the allotment system, and feeling myself that it presents many advantages as a social and moral force in elevating our labouring population, I cannot help remarking that in many cases the want of something to do in their spare time frequently leads them into mischief, as would not be the case if they had what they need, recreation of some kind. Many working men spend much of their spare time in reading, and an increasing number take to music, but at present all cannot read, nor is it desirable that ones spare time should be consumed in either literature or music; but the cultivation of a few rods of ground will, if entered on earnestly, give healthy exercise and recreation, and some return of a more substantial character. This question has a very distinct bearing on the moral elevation of our labouring population, not perhaps so much in a direct as an indirect way, by cultivating and encouraging in them a taste for something more than the mere drudgery of the soil, and directing their attention to those simple processes which are capable of rendering their labour more effective and agreeable, by making it not mere task work for the hands, but occupation for the mind, and this without any direct attempt to improve their moral habits, but indirectly, by inculcating habits of expertness, neatness, and emulation, for which so many from ignorance are strangers.

It is not too much to say that the condition in which a man's allotment is kept affords a ready means of learning what manner of man he is, and what his home is like; if neatness, and a well-ordered system of cropping exists in the allotment, thrift, comfort, and happiness will generally be found in the home. It is very much to be regretted that so many of our agricultural labourers have very little or no garden ground, and from the circumscribed and unsanitary condition of their dwellings, are almost compelled to spend much of their spare time in the village ale-house (no other chance of recreation being open to them), wasting their scanty earnings, instead of augmenting them as they might do if only they had a piece of ground on which to grow vegetables, if only enough for their own consumption. In many instances those living in the vicinity of towns and populous villages, having a love for flowers, might start the cultivation of some favourite, and make a speciality of it with a view to profit, and very much better their financial position. With a pig in the sty and flowers in the garden many an intelligent labourer would find a ready way of raising his rent.

It would be a happy day for the country at large if our rural clergy and gentry would take this question earnestly in hand. It is a practical subject, and would do a great deal of good, besides, perhaps, counteracting the influences of some of the many wild notions floating in the air. To reap the full benefits that may accrue to the labouring population of our villages, each parish or group of villages should have its annual flower show and industrial exhibition, with the prize schedule formed in such a way as to give the greatest encouragement to all. It often happens in these gatherings that a few more ardent spirits, placed in a somewhat better position as regards ways and means than most of their neighbours, succeed in carrying off a large proportion of prizes, and when fairly won, it seems a hard thing to do anything likely to debar them from their well-earned success; but as these village shows are instituted to encourage as much as possible all who enter the lists, it seems quite a necessary thing to limit the number of prizes which any one exhibitor should be allowed to take, for if a few exhibitors year after year carry off all the best prizes, the others get discouraged, and refrain from showing.

These shows should be gala days for the districts in which they are held, and be made a general holiday as far as circumstances will admit of. With the support of the local gentry, and good management, a day's enjoyment for the country folks can be ensured for a very moderate outlay. With the assistance of a band of music, no more agreeable afternoon's enjoyment can be ensured for them.—*W. B. G.*

EARLY CHRYSANTHEMUMS.

Few more welcome novelties have been received from the Continent during the last year or two than the summer-flowering Japanese Chrysanthemums, of which we give an illustration to-day, prepared from specimens, kindly sent us by Mr. W. E. Boyce, of Yerbury Road, Holloway. (Fig. 1.) Mandarin is quite new, and worthy of all praise as an early bloomer. Its large compact flowers are very elegant, the petals being of a cream and pink colour, the pink deepening to rose as the flower gets older. It was well shown a fortnight ago at the meeting of the National Chrysanthemum Society, by Mr. Boyce and Mr. N. Davis, and was awarded a First Class Certificate. (Fig, 2.) Roi des Précoces, is also a very neat flower, and an acquisition on account of its rich deep crimson colour, shaded with red, and which the golden centres seems somewhat to intensify. (Fig. 3.) Mons. Roux is very showy, the twisted petals being of a deep bronzy red, and the reverse nankeen yellow. We understand that they are all good growers, and in ordinary seasons come into bloom in September, but this year with Chrysanthemums of all sorts they have been a little later than usual.

TYNINGHAME.

(Concluded from page 120.)

Next morning I made a visit to the gardens and grounds in company with Mr. Inglis, and what I saw there I will now describe as briefly as possible consistent with giving a pretty correct indication of their dimensions and contents, &c.—

The Flower Garden.—This, which has been judiciously laid out and planted, is situated opposite the south and west fronts of the mansion. That, in the last-named position, is level and considerably higher than the former, from which it is divided by a suitable wall running westward and parallel with that of the mansion in the same direction. It contains on either side the principal walks, running in the same direction as the wall indicated above, several very fine healthy-looking standard Portugal Laurels, having well-proportioned umbrella-shaped heads, growing in what would appear at first sight to be stone boxes, about 30 ins. high, the same width at the top, and a few inches less at the bottom, but which, in reality, are growing in the ground underneath the imitation boxes. The beds in both the upper and lower parts of this beautiful garden were alike gay with a variety of pleasing colours, which were tastefully arranged. The silvery foliage of the Thistle-like Chamæpeuce diacantha, of which a liberal use has been made, set in a carpeting of green and grey, and surrounded by patches of bright yellow, dark, and white, had a very telling effect when contrasted with the masses of pink, scarlet, blue, &c., by which they were surrounded. I may remark that the ground at the south side slopes gently in that direction from the house, whence a pleasing and extensive view of hill and dale, wood and water, is obtained.

The Pleasure Grounds.—These are contiguous to the flower garden. They extend in an easterly and northerly direction, are extensive and very beautiful, especially so eastward of the "Ivy arbour," which is a very interesting spot, not so much on account of the great area of agreeable shade which the large luxuriant leaves of the Ivy afford from bright sunshine during the summer months as by reason of the aged and prostrate trunk of a tree (the name of which there is some doubt about) with which it fell several centuries ago, and to which, as in life, the Ivy has not only clung tenaciously, but has also effectually protected it from the weather, through the long interval of years—yes, of centuries—which has elapsed since that event took place, and established itself as a living ornamental and useful monument of the fact. Other spots worthy of special notice in the grounds are, first, the fine bank of ornamental and flowering trees and shrubs, including Arbutus (the Strawberry tree), Laburnums, &c., which runs parallel with the sunk fence or "ha-ha" dividing the grounds from the park, the latter avenue-like at that side (north) of the mansion, having a particularly imposing appearance. Next there is a spacious bowling green, perhaps the finest in the county, where a "bowling tournament" takes place once or twice a year, and in which game mine host is—as the silver-mounted trophies (bowling-balls) at Ivy Cottage amply testify—an adept.

The "wilderness"—which, as the name might lead some of your readers to suppose, does not necessarily mean a neglected or untidy part of the grounds—the surface of which is covered with coloured Primroses and a small percentage of other flowers in spring, when the effect may be better imagined than described, is also worthy of passing notice. Before quitting the grounds, I may be allowed to remark that here—or, at any rate, close by—any disciple of good old Isaak Walton could, providing he was furnished with the necessary permit to do so, enjoy himself to his heart's content on the banks of the Tyne, in the waters of which the lines of tall trees and spreading shrubs, with their autumnally-tinted leaves, are reflected, and which are stocked to repletion with a variety of fish, including Salmon, with

"Here and there a lusty trout,
And here and there a grayling."

The Kitchen Garden is situate a few hundred yards west of the mansion, and slopes well towards the south. A broad walk, having wide borders well-filled with a variety of choice herbaceous plants on either side, runs longitudinally through the centre of this garden, which is oblong, and enclosed by a high wall, to a range of houses at the top; whence in a south-easterly direction a view of great extent and beauty, including in the near distance the silvery waters of the winding Tyne, is obtained. The several plots and borders, resulting from the formation of the usual cross and side walks, are well cropped with a variety of seasonable vegetables; the most noteworthy being several broad trenches of Celery, containing four or five rows of plants each, and a couple of dozen excellent rows of Ne Plus Ultra and Veitch's Sturdy Peas, and

which, at the time of my visit (September 11), were in fine condition as regards health, heaviness of crop, and quality of produce.

The herbaceous plants referred to above, which are arranged in the borders according to their habit of growth and colour of flowers, were very effective, and together made a good floral display as seen from either end of the walk. The latter, owing to its great width, 20 ft. to 30 ft., gives to the whole a somewhat bold and commanding appearance, an appearance which is quite in keeping with the place.

Fruit Trees: these are grown in the kitchen garden in the ordinary way, and, on the whole, were carrying heavy crops of good-sized clear-looking fruits. The walls are well furnished with healthy trees of the Morello Cherry, Pears, and Plums in variety. Of the latter I noticed that trees of that excellent and sure-bearing variety, Coe's Golden Drop, were heavily cropped with fine large fruits. Seeing that birds of every description, excepting, of course, those of a strictly rapacious character, though in a gardener's point of view blackbirds and thrushes should be included in that class during the fruit season, are preserved (in the kitchen garden and grounds at any rate); the havoc, therefore, which they annually make among the fruit crops is considerable, notwithstanding the fact of a large per centage of the trees being covered with garden netting; otherwise the consequences as regards the supply of fruit would be disastrous.

Glass Department.—The various plant and fruit houses are located in and close to the kitchen garden. In the former we noticed several well-flowered plants of tuberous-rooted Begonias, including double and single-flowered varieties, the flowers being fine in form, size, and colour; and a nice little collection of Orchids, &c. The vineries, some of which are new, and, unlike the old ones, which, consist of a maximum of wood and a minimum of glass, light, contain useful sized bunches of late Grapes, including the Tyningham Muscat, a variety which was raised on the place whence it takes its name, many years ago by the late and much respected gardener, Mr. Lees. The only difference between the Tyningham Muscat and the Muscat of Alexandria, is that while the berries of the latter variety are oval, those of the former are pear-shaped. The Melon crop was nearly over, but a sufficient number of fruits remained on the plant to show that their culture was understood. One house contained a nice crop of Tomatos, of the Trophy type, the fruits of that variety being rather small, but very highly coloured.

The Peach crop, except a variety called "Thames Bank," which Mr. Brotherston, the head gardener speaks highly of as a late variety, was finished. One Peach house, a new one having a good length of rafter, contained a couple of fine healthy trees, back and front, a particularly well-balanced tree of Barrington, occupying a central position on the back wall, and which it will completely furnish, if allowed to do so, in the course of a year or two. Standing on the floor in this Peach house, wherein plants are also grown when forcing is commenced, in pots about 20 inches in diameter, were two recently cut back plants of Hibiscus, which prior to their decapitation with a view to ultimate

Early Flowering Chrysanthemums.—1, Mandarin; 2, Roi des Précoces; 3, Mons. Roux.

improvement in growth and appearance, must have attained to large dimensions. Winter and Spring-flowering plants were growing in pits and sheltered situations out-of-doors. I allude to such plants as Primulas, Cyclamens, &c., also Salvias, Chrysanthemums, &c.

In the afternoon we visited Smeaton, Sir T. Hepburn's pretty place, gardener, Mr. Black; Whittinghame, the Right Hon. A. J. Balfour's fine seat, gardener, Mr. J. Garret; and Beil, the picturesque residence of Miss Nisbel Hamilton, gardener, Mr. T. Muir; passing westward, Luchie and Newbyth, the respective seats of Sir H. Dalrymple and Sir David Baird on our return journey to Ivy Cottage, upon nearing which the air became perfumed with the odour of sweet flowers, from the neatly arranged and well attended to garden in front. Here, I may remark, over the arched entrance is flourishing—as it is in several window-boxes in the neighbourhood of Prestonkirk—the beautiful Tropæolum speciosum so seldom met with in England, and in the raised border surrounding the green undulated turf, out of which the flower-beds have been cut, is a variety of Rose trees, Shrubs, &c., including not a few from different parts of England, &c., which Miss Inglis planted in her bijou garden as momentos of her visits to those parts, the whole being fringed with Mignonette, the latter the best I have ever seen this year. In conclusion, I may be allowed to acknowledge the great kindness which I experienced from Mr. and Mrs. Inglis and family, during my very enjoyable visit to Ivy Cottage.—*H. W. Ward.*

THRASHING WALNUTS.

It is a Norfolk proverb, that the more women and walnuts are thrashed, the better they do, but I will say nothing as to its wisdom. Our Walnut trees are thrashed every year, because they in general bear good crops. This year is an exceptional season for nuts. The markets were glutted with them, and the grower hardly obtained the cost of thrashing, shelling, and taking to market. I have several old trees under my charge, which grow close to an old manor house, that was originally surrounded by a moat, a part of which is still in existence. At the latter part of the last century, the owner commenced to build a new mansion on a hill a little distance off, and the old one was reduced in size, and converted into a farm-house, and as these Walnut trees are close to the farm premises, I am compelled to have them thrashed as soon as they show signs of being fit, because the farm boys will throw their cudgels at them. The Walnut bears its fruit on the current year's growth, and most old trees, if healthy, make short-jointed growth, whereas young trees make longer shoots, and do not fruit until they have attained to a good age. In the terrible gale that passed through the country in October, 1881, when thousands of trees were blown down, we had a Walnut tree, growing against some glass structures, which was so shaken, that it was deemed necessary to take it down, for fear it should fall upon the roof. When the branches were all cut off, and the top cut too, then its owner altered his mind about it, and would not have it taken down. The following spring—1882—it made a good growth, and has now assumed great proportions, and is fruiting this year; but the crop is not so thick upon the wood as it used to be upon this same tree before it was lopped four years ago.

The subject of thrashing Walnuts came upon me forcibly a few weeks ago. When we were so occupied, I happened inadvertently to look into Macintosh's *Practical Gardener*, and my eye caught upon Walnuts. The author says, on p. 343, "Walnuts, when fully ripened, will drop from the trees, or may be shaken off; but they should not be beaten with rods, as is so often practised. This latter plan has been recommended, because the breaking and bruising of the branches, which necessarily follows, have been considered as a species of pruning; and, indeed, in the south of Europe they even thrash their Walnut trees with poles stuck full of nails, the more completely to wound and lacerate the bark of the trees. So ridiculous and absurd a practice cannot be too severely condemned." When reading these remarks, I thought I was being taken to to task, because I was practising what this authority condemned. But then, if I could insure the crop by letting them remain on the tree until they dropped of their own accord, I should do so; but as I cannot—and I presume that many more must be in the same position—I must have to resort to this condemned practice of thrashing. It certainly does mutilate the trees, for it breaks the branches, and destroys much of their foliage before it is fit to leave the tree. Yet, some of our old trees, that are annually thrashed, bear very good crops year after year. One tree, that produces a small early nut, must have had quite ten thousand nuts upon it.—*North Norfolk.*

FRUITS, FLOWERS & VEGETABLES.

Lavatera arborea variegata.—This makes a very good mixed border plant. This year I grew a few for trial, sowing the seeds early in spring under glass, and growing them on until they became nice plants by bedding out time. I planted them at intervals of a few yards along the middle of a mixed border, and for the last three months they have been very effective, and are still quite fresh and beautiful. The plants are nearly 3 ft. high, densely clothed with a beautiful and handsome palmate foliage very prettily marbled white and green. Where ornamental foliage plants for summer planting out are in request, this is a very good one, and in many small villa gardens, where a few sub-tropical plants are used, this would be a very ornamental one indeed.—*R. M.*

Goniophlebium, or Polypodium subauriculatum.—This is one of the grandest Ferns I know for basket work. I saw a splendid specimen the other day at Welcombe, Stratford-on-Avon, which was growing in a basket suspended from the roof of a stove, its graceful lively green fronds, nearly 6 ft. long, hanging down and forming a perfect bower. It is a beautiful evergreen species, worthy of a place in every collection. It is a native of the Malayan Archipelago, and is sometimes called Schellolepis subauriculata.—*A. O.*

Tropæolum Ball of Fire.—For cut flowers in winter and spring there is no better plant than this Tropæolum. It grows well in light rich soil, and if it receives frequent supplies of liquid manure during the flowering season, the flowers will be better and the blooming period considerably prolonged. The roof of a well situated greenhouse is an excellent place for the development of its flowers. Cuttings can easily be struck at any time in sandy soil and a little heat, but for flowering, with the above detailed treatment, plants about one year old are preferable, The flowers are of a rich velvety scarlet colour, and as they can be plentifully produced, when most flowers are very scarce, they are exceedingly useful and effective for room decoration.—*M. Barker.*

Pelargonium Volunte Nationale alba.—This is a sport from the well-known Volunte Nationale, sent out by Mr. Fred Perkins, of Leamington. It is a beautiful thing possessing all the good qualities of its parent, but differing from that well-known variety in the flowers being pure white, except the two top petals, which are slightly dashed with rose; it is very useful for decorative purposes, being a very free bloomer. It is grown extensively by Mr. Perkins, who finds it invaluable for cut flowers through the winter.—*A. O.*

Stewed Pears.—To one like myself, who is often accused of being immoderately fond of stewed Pears, your remarks on them at p. 115 savours very much of rank heresy. Our homely way of managing them is as follows:—After paring them they are placed in a stone jar, containing from one to two dozen fruits, with a table-spoonful of coarse brown sugar, one half-pint of water, and from six to twelve cloves, or a few slices of lemon-peel. They are placed in the oven in the evening and allowed to stand till morning. The longer they can be kept there without drying up or burning the better colour will they have. They are first-rate eaten with blanc-mange or milk puddings of any description, and are much appreciated by all. Pear pie, too, if properly made, is not to be despised by anyone, but for this purpose softer fruit should be selected than for stewing. The smaller and misshapen fruits of Marie Louise come in well just now. Pare the fruits and cut them crossways in wafers, add a few Cloves or a little Lemon-peel, a table-spoonful of water, and a small quantity of sugar. I should have stated that a very pretty dish for either dinner or supper is made with a blanc-mange in a glass dish with stewed Pears laid round it with the juices. To those who can afford it, the addition of port wine to the stewed fruit is said to be an improvement, but owing to my Blue-ribbon prejudices, I am unable to add my personal testimony on the subject.—*W. B. G.*

Invincible Carmine New Sweet Pea.—This did not come up to my expectations last summer. When the first flowers of it opened they were very attractive, and certainly were a finer colour than those of the old Invincible; but as the season advanced I could not perceive any improvement in blooming capacity, but rather the reverse, as the old Invincible with me flowered much freer. Taking into account the better constitution of the latter, I have some doubts as to whether the new variety is any better. The season, however, may have been the cause, as some culinary kinds also—no doubt good Peas—turned out with me very badly. Last season I also tried a packet of seed of the new Sweet Pea Princess Beatrice. Of this I am not able to give an unqualified report, as after it began to flower the plants seemed to go back, and the general blooming properties were not what a grower would desire; nevertheless, the colour of Princess Beatrice is a very pleasing one, and one that would be most useful for cutting, as it is such a fine, pleasing, soft shade of pink.—*R. M.*

Pelargonium Henry Jacoby.—Mr. Hathway, Lathom House, Ormskirk, grows this extensively for winter-flowering, and after trying several varieties, he has not met with anything to equal it for this purpose. The plants when I saw them in the middle of September were flowerless bushes, 15 in. in diameter, apparently in 7 in. pots, and judging from their appearance, would produce a fine show at Christmas and onwards.—*Visitor.*

Single Dahlias and Chrysanthemums for Cutting.—Who that wants flowers in quantity for cutting and decorative purposes, would be without numbers of these! There are some double and semi-double Dahlias, such as the recently introduced Picta formossissima, striped crimson and pale yellow; the various forms and colours of the Cactus Dahlia, the very curious Germania Nova, and many of the best singles which never bloom in profusion until September and October with me. Rather curious, they were cut away on the 27th September by frost in all surrounding gardens and mine escaped. I have been cutting every day since, and splendid bouquets they make with Chrysanthemums Mdme. Desgrange, the beautiful reflexed La Vierge, Sœur Melanié, Alexander Dufour, and Cannell's Yellow and White bedders, all cut from the open air.—*W. J. Murphy, Clonmel.*

Senecio Jacobæa flore pleno.—These were extremely effective in the borders of the kitchen garden at Lathom House, Ormskirk, during the past summer. They were arranged in lines of different colours as well as filling odd corners. If they succeed yearly as they have done this, they ought to be extensively grown in northern gardens, especially in those of amateurs and cottagers. I omitted to enquire as to this of Mr. Hathway, but if this should meet his eye, probably he will inform your readers if this year was an exceptional one; also if he sows them outside or under glass, pricking them out after in their permanent quarters.—*Visitor.*

Dahlia White Bedder is considered by Mr. Hathway one of the most useful of Dahlias, and should be grown by all who have occasion to make wreaths and crosses. Passing through the village of Farnborough, Kent, on the 20th inst., I noticed the best part of an acre of it in a roadside market garden with about two dozen flowers on each plant. This would be nothing very remarkable were it not for the fact that all the Dahlias in the country were supposed to have been destroyed by frost, whilst not one injured leaf could be seen on these.—*Visitor.*

The Winter Aconite.—Who was it that, a little more than 300 years ago, introduced to this country from the mountains of Lombardy, this charming and useful Crowfoot? It grows wild also in Switzerland and Germany. One can almost imagine it is a British plant, for it is not infrequently found in woods and plantations; such as at Chippenham, in Cambridgeshire, in parts of Lincolnshire, and other places throughout the country. But it is not considered to be indigenous, but may have at some time escaped from gardens, and become naturalised. I never saw it in more imposing force than at Castle Ashby, Northamptonshire, where it had grown so thickly and established itself on such a space of ground that it

entirely covered a huge space under an enormous spreading horse-chestnut; and yearly, by means of the roots which it sends out in plenty, and so forms new tubers, it extends its borders. When in full flower in the spring it was a sight long to be remembered. The leaves of the tree falling in autumn, overspread the surface, and decaying in winter, made rich leaved mould that proved a valuable fertilizer. I once saw, in a country rectory, how the roots of this plant had thrust their way from the flower-border, under a grass virge, into the gravelled drive, and in spring they were seen to thrust themselves through the gravel drive in considerably large quantities, and there they bloomed and felt as much at home as in the soil of the border. Now is the time to plant.. The roots can be purchased at a very cheap rate, and soon establish themselves in good garden soil.—*R. D.*

Callicarpa purpurea.—In showing the fine specimen standard they did of this fine ornamental plant, Messrs. Veitch and Sons did justice to a somewhat neglected subject, too much neglected we fear because it is a valuable ornamental subject at this season of the year. There is a significance in the generic name Callicarpa, it comes from *kalos*, beautiful, *carpos*, fruit, referring to the beautiful berries. The genus comprises several species, but the only one cultivated is the East Indian C. purpurea. As was seen at South Kensington, a large specimen takes on a pendant habit of growth, and the shoots become laden with dense clusters of glossy lilac-purple berries, borne in the axils of the current year's shoots; but to do it justice, it should be well grown. It is with much truth that Mr. B. S. Williams states in regard to this valuable plant, "that through bad management and neglect, many plant growers have been led to discard it as worthless, but this is certainly a mistake." It is a winter-berrying plant, and therefore it is a valuable aid in the stove during what we regard as the dull season of the year. "The soil," says Mr. Williams, "best adapted for its growth, is a mixture of loam and peat in equal parts, with a little sand added. If care is taken to train the plants in a compact form, they make some of the most attractive objects which can be had during winter for decorating either the stove or the conservatory."—*R. D.*

Chou de Gilbert.—We have now growing in our quarter of Brussels Sprouts, a plant precisely similar in every respect to that shown as Chou de Gilbert on the 13th inst. at South Kensington, and to which the Fruit Committee awarded a First Class Certificate. It has the elongated Cabbage-like head, very white, and with sprouts growing round the base; and is a perfect counterpart to those shown at Kensington under the above name.—*C. Herrin, Chalfont Park, Bucks.*

The Black Bullace.—Some little time since I saw in the GARDENING WORLD an illustration of the Crittenden Damson. I herewith forward you some specimens of the Black Bullace, which seems to be very little known except in this locality, where it does remarkably well, being every season alike productive. It is very hardy, and will hang on the tree till Christmas.—*G. R. Simpson, Plough Corner, Colchester.* [The fruits were larger than those of the Crittenden Damson, and quite as thickly placed on the shoots.—ED.]

Alnwick Seedling Grape.—In answer to "W. P. R.'s" enquiry at p. 126, as to the heaviest bunch of this Grape that has been grown, I may say that at the Derby September Show, 1884, and again the present year, I exhibited two bunches which weighed 4 lbs. each.—*John Campbell, the Gardens, Mickleover Manor, Derby.*

Duke of Buccleuch Grape.—Your correspondent "J." says that I gave the Duke very faint praise, but speaking from past experience with it, I was unable to praise it any better. "J." says the Duke has been unjustly condemned, very likely it has, but in my opinion "J." is going a little too far in the opposite direction. The Duke appears to have got so far in "J.'s" favour that he has armed himself with weapons to defend it at all points; again, he says that "berries 5 in. in circumference have been measured by the writer, and when such is the case, I maintain that no other Grape can approach it for quality." Now, by this remark, "J." would lead us to believe that quality and size are synonymous terms, which I cannot admit. One may often taste large berries, not only of the Duke, but of other kinds such as Gros Colmar, for instance, which is very often deficient in quality; of course, when quality and size are combined so much the better. I have tasted berries of the Duke not 4 in. in circumference quite as good as some which I have tasted that measured nearly 5 in., but I emphatically disagree with "J.'s" statement that not even Hamburghs, Frontignans, and Muscats can approach it for quality when the Duke has been grown to its highest possible conditions. To my thinking it will be far behind the above named kinds in quality, and I doubt very much if the respected raiser and veteran Grape grower of the Tweed Vineyard whose name is a household word among gardeners, would agree with "J." on this point. "J." says he has cut the Duke as late as the 1st of January. I do not dispute this statement, indeed I am very pleased to hear it as I have never seen it, nor do I ever remember to have ever heard of it keeping so long. This is one more point in its favour. Certainly "J." misunderstood me when he remarked that I used the words luscious and watery as meaning the same thing. I said the Duke was refreshing and luscious, by that I meant it was refreshing and sweet, which it is. "J." denies that the Duke is watery, but I think if we had the opinion of the Grape growers generally, the greater part of them would be on my side.—*W. C.*

Aucuba japonica.—In "R. D.'s" note on this plant at p. 123, he says, "It would appear that all the male forms are destitute of variegation." In this I think he is mistaken, as, from the best of my recollection, we had variegated forms of the male plant very soon after its introduction; but I cannot say if these were "introduced," or whether they were raised from seed in this country. The first male variety that I saw in flower was named A. japonica mascula maculata; this had large leaves and was beautifully variegated. A. bicolor is another male variety with variegated leaves, and I believe there are several other variegated forms of the male Aucuba; but as I have had little to do with this class of plants for several years, I am not so well acquainted with the newer varieties.—*A. Hemsley.*

Potato, Welford Park Kidney.—I obtained a few pounds of this Potato last spring, and have grown it with other varieties, including Lapstone Kidney, and during growth and now the crops are lifted I can find little, if any, difference between this and the last named kind. I have placed tubers of both together, and when mixed was unable to identify one from the other.—*H. G.*

ORCHID NOTES AND GLEANINGS.

Orchids at West View, Mount Aden Park, Lordship Lane.—E. H. Adcock, Esq., when at his late residence at Penge, gave ample proof of his skill in growing those Orchids which he took in hand, and notably the Phalænopsids which were in superb condition. The change to the present site, which is one of the prettiest and most rural in the Dulwich district has been a happy one, the culture of the Orchids having improved in every possible way, until at present the rare selection at Mount View forms a noteworthy model, which all who wish to grow specialities in Orchids, and grow them to perfection, would do well to imitate. Nothing in plant culture can be more satisfactory to the owner and his family, and to those who visit the gardens, than to see such a choice selection of Orchids as that which Mr. Adcock possesses, always in robust health and improving condition, and housed in neat comfortable houses, pleasant alike for the plants and for those who inspect them.

Messrs. W. G. Smith & Co. of Bury St. Edmund's, are the builders of the range (Beard's patent), in three divisions, and so well have they done their work, and so remarkably have the plants thriven in it, that it speaks in the highest terms of the merits of their structures for Orchid houses, and from their great durability, and perfect ventilation, and from the fact that they admit light even down to the foundation, we may safely predict a very extensive use of them among amateurs in future. The whole of the framework is galvanised iron firmly set on the foundation, which rises only a few inches above the ground line. In shape the range is an angular curved span, and it is glazed on Messrs. Smith's own plan even down to the foundation; that part of the house below the stages, which is mostly brickwork, being glazed with thick-ribbed Hartley's patent glass, so that every inch of the houses have plenty of light conveyed in a manner unlike any other houses. The ventilation too is perfect, by continuous ventilators, top and bottom, opening all at once and very easily.

The first division is the cold houses, filled principally with Odontoglossum Alexandra, O. Pescatorei, O. Andersonianum, O. Edwardii, Oncidium macranthum, &c., many of them sending up stout spikes. Nothing can excel in vigour and cleanliness the condition of the plants, some of them, such as the large O. hebraicum, O. Wilckianum, and other hybrids which gained fame when in Sir Wm. Marriott's collection, promising by their vigorous flower spikes to beat the previous performances recorded of them.

The second division is of intermediate temperature, and among the fine batches of specialities in it are grand pieces of Oncidium Forbesii and O. Marshallianum, with stout and ever-increasing pseudobulbs; a large batch of fine clean plants of Odontoglossum vexillarium and O. Roezlii, both of which are grown to perfection at West View; some superbly grown varieties of Lælia anceps and other Lælias, and a few of each of most really showy things of compact growth, suspended overhead being some scores of stout plants of the scarlet Sophronitis grandiflora, many of them being in flower.

How to grow Cypripedium Spicerianum is disclosed at a glance in the third or warm division, where the whole of one side is filled with large specimens of it, perfect in the lively green of their foliage, and crowned with their quaint and beautiful flowers. It is no whim that prompted the giving of the high prices this plant used to fetch, and the love which the plantsman always had for it; it is a beauty of no mean order, the neat form of its flowers and the unusual contrast of its snow-white dorsal sepal, with the yellowish and purple-tinted pouch and petals, and the bright violet central blotch rendering it very charming. Mr. Adcock's plants are in deep pans or half pots, and under each is placed a pan of water with a raft across it for the plant to rest on, and this arrangement seems to be just what Cypripedium Spicerianum likes, and C. niveum, C. concolor, and C. Godefroyæ seem also to be greatly benefited by being so arranged. The pans for receiving the C. Spicerianum are crocked one-third of the way up, and the material used is three-parts turfy yellow loam broken up by hand, and the other part of leaf-mould, broken ballast, and crocks to keep the drainage open. Most of the plants at West View have six to twelve large flowers on each, and the twin-flowered form of the variety magnificum, of which we gave an illustration from Mr. Adcock's plant in our issue for November 15th, 1884, has five twin-flowered spikes and four single, or fourteen flowers in all, the plant adhering to the peculiarity previously noted in it of bearing two flowers on most of its spikes.

Over the C. Spicerianums are suspended the Phalænopsis, which are in the very best order, each new leaf being a great improvement on the one last made, both in size and texture, and that is a sure test that they like their quarters and their treatment. Oncidium Kramerii and O. papilio majus, are both here in quantity, and unsurpassable in the quality of their growth and the vigour of their flower spikes, the strength of those of O. Kramerii being marvellous. Mr. Adcock is very particular in shading his Orchids against bright sunshine, and more particularly those in the warm house, which has a double shading in summer on the sunny side, and this he considers a matter greatly contributing to the health of the Phalænopsis and the other plants in the same house.

Mr. James O'Brien's scale of temperatures, as given in THE GARDENING WORLD, is regularly posted up in each house every month and found to answer admirably. A pretty lean-to conservatory against the house, with rockery and fountains, and Dendrobes suspended overhead, complete a compact little Orchid establishment which fully comes up to what is desired of it, and of which both Mr. and Mrs. Adcock are justly proud.

Arundina Bambusæfolia.—This Orchid, I think, has been spoken of as the Sobralia of the east, and its blooms are not unlike a Sobralia or Lælia. One of our leading Orchid growers did not recognise this Arundina, the other day, on account of its robust growth. Another visitor some time before, when he saw the plant, exclaimed with astonishment, "A brute! I have tried it all ways and I cannot grow it!" The plant I am writing about gave me some trouble for some time after it was placed under my care. It refused to grow satisfactorily and was a prey to all insect pests.

This state of things continued until I removed it into a cooler, damper, and shadier house. Now, in place of growths 1 ft. high it has some 4 ft., and from the upper part of the old growth numerous side shoots have sprung out, and are flowering together with the new growths made from the base of the plant; moreover, it remains proof against red spider or thrips. Arundina Bambusæfolia delights in an abundance of water at the roots when growing freely, and plenty of moisture in the air. Never let it feel the drying influence of hot-water pipes.—*T. Simcoe.*

Oncidium macranthum.—This is one of those beautiful, moisture-loving, cool-house Oncids that well repay one for good culture. I have not yet attained the success that some growers in the north have with this Orchid, whose plants have produced such marvellous spikes of fifty or more flowers upon them—and such flowers! But the success I have met with is sufficient to induce me to write about it. In November, 1879, a small plant of O. macrantha was purchased from Messrs. Hugh Low & Co. for two guineas, and in May, 1883, the same plant was sold in flower (in order to make room for others) at Stevens' Rooms, and knocked down for thirty guineas!—not a bad investment. We have two other plants, even larger than that, which now have leaves upon them 30 ins. long and 3½ ins. broad, and several other smaller ones that are growing into nice specimens, and which will give a good succession of bloom. This year, for instance, we had a plant in flower at the end of May, another one at the end of September, and a third has a spike showing, which will open its flowers about Christmas. A renowned Orchid grower, when walking through the houses here some time ago, attributed the health and vigour of these Oncidiums to a back wall near which they stand. No doubt the damp wall has something to do with it, because, in addition to the wet floor below, it tends to promote a nice genial atmosphere at all seasons.—*T. S.*

The Gardeners' Calendar.

THE PLANT HOUSES.

The Stove.—All stove plants should be gone through as opportunity occurs. For sponging Dracænas, Crotons, or other fine foliage plants, pure rain water should be used, or if any kind of insecticide is used it should be very weak. We think there is nothing better than soft soap, say about an ounce to a gallon of water; the soap should be dissolved in boiling water and used at a temperature of about 85° or 90° Fahr., and Dracænas or other plants with stem-clasping leaves should be turned up to drain the water out from the leaf-stalks, or they may be dipped in clean water after being sponged with insecticide. To colour Dracænas well, they should now have the full benefit of all the sunlight that can be obtained, though plants that are well coloured may be kept in a lower temperature than those that are not so well developed. If stood in a cool house for a few days, they will stand better when required for table decoration; this also applies to Crotons, or, in fact, any stove plants will be better if they are kept in rather a lower temperature for a few days before being taken out for use.

Poinsettias.—The coloured bracts will now begin to show, and to encourage them to develope a good temperature should be maintained, and the plants may be liberally supplied with liquid manure; to keep the plants dwarf, they should be grown as close to the glass as possible. Centropogon Lucyanus is a useful stove flowering plant, which should now be coming into flower, and it is just at this time that they require great care in watering, as if the plants get a little too wet they will go off. Euphorbia Jacquinæflora is also very liable to die off just as they are coming into flower if over-watered; on the other hand, they must not be allowed to become too dry.

THE KITCHEN GARDEN.

Frame Ground.—Decaying leaves of Lettuce or Cauliflower should be cleared from the plants as soon as seen, and ventilate freely during fine weather; but when frost threatens close the sashes at night, and should it be sharp cover with mats and Fern. Be on the alert for slugs, which are very troublesome in frames; they may be easily caught at night, when they are feeding on the tender leaves of young Lettuce and Cauliflower plants that are destroyed in a few nights if the creatures are not caught. A mixture of new soot and lime dusted over the plants occasionally when damp, and also (more heavily) along the sides and ends of the inside of the frame, will have the effect of keeping these destructive pests in check.

Forcing Department.—Where there are no proper means for forcing French Beans, it will be difficult to keep up the supply, however, much may be done by fixing shelves in Pine-stoves, Cucumber-houses, and early Vineries; but the latter—after the vines push into leaf, at any rate—should be the last to have recourse to for such purposes, inasmuch as red spider would be likely to get on the Beans and spread to the vines. Another sowing should now be made in 8 in. pots, a little more than half filled with light rich soil. Eight or nine seeds in each pot will be ample, and the pots may be placed anywhere in heat (failing a better place, a Mushroom-house would do) until the plants come through the soil, when they should, as a matter of course, be placed near the light, and when they have grown a few inches above the rim of the pot, be earthed-up. The points of the shoots must be pinched out to make them branch. Syringe frequently, when other plants will not be injured by doing so, to check the spread, if not prevent the attacks, of red spider, bearing in mind, however, that the syringing of the plants should be more or less frequent, according to the high or low temperature of the house, of which 55° to 60° will be high enough at night for the Beans,

Where Asparagus is wanted early in the season, a batch of roots taken up carefully with a digging-fork should be put into force without further delay. Where properly heated pits are not provided for the forcing of this much-esteemed vegetable, the next best way of forcing it is by means of the old-fashioned pigeon-holed pits, which have an outer space for linings 3 ft. wide and 4 or 5 ft. deep, enclosed by a 9 in. wall, and covered with shutters made of Oak, having a little incline outwards to throw off the rain. These pits, as a rule, are divided by partitions, one of which should be filled with Oak or Chestnut leaves, to within 12 ins. to 15 ins. of the top, and well trodden down. Over these place 2 ins. thick of short dung, and then a like thickness of soil, upon which the roots should be placed closely together and covered with soil to the thickness of 2 ins. or 3 ins., following this with a like thickness of sifted leaf mould. When the stems have grown 2 ins. through the mould, they are fit to gather. The leaves maintain a gentle and steady warmth, which causes every crown to push forth its buds. A bottom heat of 60° to 70° should be aimed at.

Where there are no such pits the ordinary hot-beds must be had recourse to. This should be made up of one part leaves and one of long stable litter, including the droppings, which should be made into a conical heap and be turned over a couple of times during an interval of eight or ten days before being used, so as to get rid of the rank heat. A sufficient quantity of droppings should be kept on hand for the purpose of making up the linings of the hot-beds and for new beds. When the heat has declined to a lower temperature than that indicated above, linings become necessary. As soon as Rhubarb and Sea Kale plants have shed their leaves, no time should be lost in getting some of each into the Mushroom house, or other suitable place. When preparing the roots of the latter for forcing, save the thongs or extremities, cutting them into lengths of about 4 ins., and placing them in a box with earth or sand, to be kept until planting time.

We grow our Sea Kale in what may be described as a large shallow box, in a part of one of the two beds reserved for its growth, and that of Rhubarb under the lower shelf in the Mushroom-house. We prefer this method to the pots, on the score that we can secure nearly double the quantity of Kale of equally good quality from a given space, as well as effect a saving of time and labour in doing the necessary work. Failing Mushroom-house accommodation, Rhubarb and Sea Kale may be grown in light mould in boxes, of sufficient depth to admit of the respective plants attaining to suitable dimension, the mould being packed firmly round the roots. These boxes may be placed under a stage, or in any convenient corner in a forcing house. Light and air should be excluded from the Sea Kale until it is fit to cut, say, when it has attained the height of 6 ins., otherwise it will be wanting in crispness and good flavour. Both may be grown on an ordinary hot-bed, in which case the Sea Kale should be treated as advised for Asparagus.—*H. W. Ward, Longford Castle, Wilts.*

THE PEAR SHOW AT CHISWICK.

Owing partly, no doubt, to the unpropitious weather, but more we suspect to the little public interest taken in Pears as compared with Apples, the attendance of visitors at Chiswick up to the present time has been much smaller than at the Apple congress, and unless a great increase in the number takes place during the next few days, the exhibition, from a financial point of view, at all events, must be a failure. Leaving the general public out of the question, it may be noted that even among gardeners and trade growers there is nothing like the same amount of interest shown in this display as in the former, and this seems to us to be accounted for in two ways. In the first place, the Pear crop is not such an important one, as the Apple; and in the second place, as we pointed out last week, there are not so many unnamed or wrongly named varieties in cultivation, so that the desire for information, certainly, as regards nomenclature, is in the case of the Pears almost, if not, entirely wanting. This fact is strikingly brought out in the vast display at Chiswick, by the few names, very few comparatively speaking, which the revising committee have had to alter. The trade collections, for the most part, appear to be remarkably carefully named, and we may mention, as a fact, that is most creditable to the exhibitor, that in one collection of some fifty sorts, only eight were considered to bear wrong appellations. At the Apple show comparatively few were sent without names of some sort, but at this exhibition several growers have sent samples under numbers; and, as far as we could see, the sorts have been mostly identified. From one nobleman's garden a collection of considerable extent has been staged under numbers only, and the committee have identified them all.

Still further comparing the present show with the previous one, we note the marked difference between the two displays as regards the number of new varieties brought to the front. At the Apple Show several valuable acquisitions came prominently under notice; but among the Pears there seems to be very few novelties of transcendent merit. Of really good, but not much known varieties, the most conspicuous is Messrs. Rivers' Princess, a handsome seedling from Louise Bonne of Jersey, which in colour it much resembles, while its flavour is said to be good, and its season November and December. The most striking among the few actual novelties, is a Japanese variety named Diamio, shown by Mr. Haycock, Barham Court, and which for its ornamental appearance—its edible qualities are nil—is well worth growing in a mixed collection. The fruits are medium-sized, pyriform, inclining to round, and the skin clear lemon or citron coloured, regularly dotted with small even-sized russetty spots. Mr. Haycock states that it is an excellent bearer on the Pear stock.

As regards stocks, it is worthy of note, that quite three parts of the samples shown come from trees worked on the Quince; but a comparison of specimens in different collections, show that most of the leading sorts come of equally good quality worked on the Pear stock, whatever may be the difference as regards yield. Another fact which is well brought out, is that the finest samples, almost without exception, are obtained from cordon trained trees.

Of the leading trade collections, there appears to be very little difference as regards size and appearance between those from Kent and Middlesex, though the latter county is represented by the greatest numbers. The Messrs. Veitch's collection is a very fine one, the quality being good all through, the sorts carefully named, and for the most part from pyramids on the Quince stock. The most conspicuous samples are, perhaps, those of Grosse Calabasse, a large and handsome stewing Pear; Beurré Bachelier, Duchesse de Angoulême, Pitmaston Duchess, a favourite well shown in most collections; Gansel's Bergamot, an old favourite, and good October dessert variety when well grown; Glou Morceau, Marie Louise d'Uccle, Bellisime d'Hiver, a stewing Pear of much excellence; Huyshe's Princess of Wales, Beurré Clairgeau, General Todtleben, Marechal de la Cour, and Durondeau. Mr. Roberts' collection from Gunnersbury House is a very nice one, all the samples being of good average size, and very clear in the skins. These are nearly all from upright

cordons on the Pear stock. Mr. Thompson, gardener to the Messrs. Wells, Hounslow; Mr. Hudson, Gunnersbury; Mr. Woodbridge, Syon House, and other local exhibitors contribute collections of excellent merit.

Among the Kentish exhibitors, Mr. Haycock undoubtedly takes the lead for size and handsome appearance, closely followed by Mr. Thomas, of Sittingbourne, the former having specially fine specimens of Doyenné du Comice, Beurré Clairgeau, General Todtleben, Grosse Calabasse, Doyenné Boussoch, Glou Morceau, Jersey Gratioli, Durondeau, Beurré Superfin, Huyshe's Prince Consort, Catillac, Pitmaston Duchess, Marie Benoist, Louise Bonne of Jersey, and others. The largest and most representative collection in this division is the fine one of one hundred varieties, contributed by Messrs. Geo. Bunyard & Co., Maidstone, in which handsome samples of all the leading sorts are shown, both from the Quince and Pear-worked trees. Mr. Thomas Bunyard, Ashford; Mr. C. Davies, The Mote Park, Maidstone; Mr. Divers, Weirton House, Maidstone; Mr. Smith, The Gardens, Kenward, Yalding; Mr. T. W. Sanders, The Firs, Lee, and others have collections which are an honour to the county.

Other notable collections at the exhibition, are those of Messrs. Richard Smith & Co., of Worcester, comprising some sixty dishes all correctly named, and the fruits of good size and bright clear skins; Mr. Denning, gardener to Lord Chesterfield, a grand lot of fruits from the famed cordon trees at Holme Lacy; Messrs. Joshua Le Cornu & Son, Jersey, a splendid representation of the Pear produce of that famous Island; Messrs. Thomas Rivers & Son, Sawbridgeworth, a very fine lot, mostly from standards on the Quince; Mr. Wildsmith, Heckfield, some ninety varieties, represented by samples of above the average merit; Messrs. Paul & Son, Waltham Cross, a large collection, in which many sorts are shown both from the Pear and Quince; Messrs. Paul & Son, Cheshunt, a fine lot of about eighty varieties; Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallingford, a good representative collection of about 110 varieties from the late Mr. Alfred Smee's "My Garden"; Mr. Sydney Ford, Leonardslea, Horsham, a large collection from the extensive orchards under his management; and M. Andre Leroy, of Angers (not M. Louis Leroy, as stated in our last), samples of nearly 200 varieties, many of which are unknown to our growers. The exhibition closes on Wednesday next, so that those who desire to profit by it in any way, should lose no time in doing so.

HORTICULTURAL SOCIETIES.

Royal Horticultural, *October 27th.*—It was proposed some time ago that a Potato Conference should be held on this date, and classes were specially provided that would be likely to produce a good display of the important tuber. Owing, however, to the Pear Conference, which was subsequently projected and considered more urgent, the Potato scheme had to be shelved for this season. Still, as an exhibition, the gathering on Tuesday was quite satisfactory, the competition keen, and the tubers of excellent appearance. Mr. J. Hughes, gardener to Col. Cartwright, Eydon Hall, Byfield, has been very successful recently with Potatos, and he well maintained his fame at Kensington, winning first honours in the class for thirty varieties, with similarly fine tubers to those with which he gained similar honours at the International Potato Exhibition. The best dozen varieties came from Mr. Wm. Ellington, West Row Gardens, Mildenhall, and comprised admirable samples of the following:—Grampian, Chancellor, Beauty of Hebron, The Doctor, Vicar of Laleham, Adirondack, Edgcote Purple, Magnum Bonum, Lee's Defiance, Lord Beaconsfield, Lifeguard, and Snowdrop. With six varieties, Mr. W. Robins, gardener to W. Lee, Esq., Hartwell House, Aylesbury, gained the premier position for clean even tubers of Mr. Bresee, Radstock Beauty, Schoolmaster, Reading Hero, International Kidney, and Vicar of Laleham. There was a strong competition in each of these classes, fourteen entering the last named, and the other successful exhibitors were, Mr. E. S. Wiles, Edgcote, Banbury; Mr. W. Kerr, Dargavel, Dumfries; and Mr. S. Haines, gardener to the Earl of Radnor, Coleshill, Highworth.

Messrs. Sutton & Sons, Reading, offered prizes in two classes for two dishes of Early Eclipse and Reading Ruby; and for nine varieties selected from a list of eighteen sent out from Reading. Mr. J. Donaldson, The Gardens, Keith Hall, Inverurie, was the leading exhibitor in both with handsome tubers, the nine varieties being Lady Truscott, Magnum Bonum, Fifty-fold, Woodstock Kidney, Favourite, Prizetaker, Reading Russet, First and Best, and Reading Hero. Messrs. Wiles, Haines, Howard, and Ross carried off the remaining prizes, there being about eighteen competitors. Messrs. Sutton also had an extensive and most interesting collection of Potatos and Kales, for which a silver-gilt medal was awarded.

Mr. C. Fidler, Reading, contributed prizes for four dishes, including Success, Prolific, Enterprise, and Reading Russet, which were won by Mr. E. S. Wiles, Mr. C. Osman, Sutton, and Mr. Wm. Ellington, all of whom had good tubers of the respective varieties.

Thirteen magnificent collections of vegetables were staged, all extremely close in quality, and occasioned the judges no small difficulty in making the awards, especially as regards the second and third prizes. Mr. G. T. Myles, Wycombe Abbey Gardens, won the chief honours with superbly grown examples of Veitch's Autumn Giant Cauliflowers, Sutton's new Intermediate Carrots, Walker's Exhibition Onions, Veitch's Exhibition Sprouts, Stamfordian Tomatos, Leicester Red Celery, Chancellor Potatos, and Lyon Leeks. Well as Mr. Myles always shows vegetables, he has seldom surpassed this collection, which was greatly admired. Mr. R. Phillips, gardener to Dr. Baber, The Deodars, Meopham, was a good second, some of his best dishes being Carter's Perfection Tomatos, Improved Reading Onions, Incomparable Celery, and Veitch's Autumn Giant Cauliflowers. Mr. Haines took the third place with almost equally good produce, his Canadian Wonder Beans possessing uncommon merit.

Classes were appropriated to special stands of vegetables, and there was a surprising competition in all of them, over twenty staging in several instances. Onions were prominently noticeable; Mr. G. Veal, Bampton, Oxford, having the best amongst twenty-six lots entered, Deverill's Anglo White Spanish being the favoured variety. Rousham Hero was also well shown, both in this class and those provided by Mr. Deverill of Banbury, and Finlay's Wroxton. These are evidently popular Onions, for there were six to eleven competitors in each of the four classes. With Celery, Parsnips and Turnips, Mr. G. H. Richards, gardener to the Earl of Normanton, Somerley Park, Ringwood, Hants, won the first prizes; much credit being due to him for this trio of successes in crowded classes. His varieties were—Celery, Wright's White; Parsnip, Elcombe's Improved; and Turnip, Snowball; most meritorious samples. Mr. R. Lye, Newbury, exhibited Sutton's Intermediate Carrot, extremely fine, and was awarded the leading prize in the class. Brussels Sprouts, Endive, Beet, Cauliflower, Leeks, Cabbages, Tomatos, and Gourds, were also numerously and well shown; the principal prizes being secured by Mr. May, gardener to Captain Le Blanc, Northaw House, Barnet; Mr. R. Lye; Mr. G. Bolas, Hopton Hall Gardens, Wirksworth; Mr. S. Haines, Mr. C. Osman, and Mr. R. Farrance, Chadwell Heath.

The date was so early for Chrysanthemums that it was scarcely thought they would form a very important feature at this show, the cut-blooms, however, proved remarkably good, and the six competitors, with twenty-four varieties, staged examples that would not have disgraced some later shows. Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was accorded premier honours amongst six exhibitors exhibiting handsome blooms of the following:—the Japanese, being, however, superior to the incurved in size and substance; Japanese: L'Incomparable, Madlle. Lecroix, Dr. Macary, Mad. Auguste Gautier, Criterion, Margot, Chang, Mad. de Sevin, Mad. Rendatler, Mad. C. Audiguier, Soleil de Levant, and Rubrum striatum; the incurved varieties were—Queen of England, Jeanne d'Arc, Empress of India, Nil Desperandum, Mrs. G. Rundle, Mrs. Dixon, Baron Beust, White Venus, Prince of Wales, Mr. G. Glenny, Mr. Bunn, and Lady Hardinge. The second stand from Mr. J. J. Lowry, gardener to James Macandrew, Esq., Belmont, Mill Hill, also had some very fine blooms—all Japanese; and Mr. C. Goode, gardener to G. G. Stone, Esq., Eastcote, Redhill, Surrey, was third with smaller blooms. Mr. G. Stevens, of Putney, has the best group of plants, but rather formally arranged; Mr. A. Luff, Streatham, and Mr. Quarterman, Cobham, securing the other prizes with inferior contributions.

The miscellaneous exhibits were not quite so numerous as usual, but in addition to those already mentioned the collection of Potatos from Mr. William Kerr, Dargavel, Dumfries, silver medal; from Mr. C. Fidler, Reading, bronze medal; and from MM. Vilmorin et Cie, Paris, deserve notice; the two former including all the best of the new varieties, and the latter many older ones that have now become historical. Mr. Peverill also had a collection of twenty-eight varieties of Onions of fine quality; and Mr. Dance, gardener to Col. Lowe, Gosfield Hall, Halstead, was awarded a silver medal for a large collection of Apples and Pears, the former being exceedingly handsome.

Floral Committee.—There was not an extensive display of plants and flowers on this occasion, but several interesting novelties were shown, and seven of these were awarded First Class Certificates. Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. Murray), showed several pretty hybrid Calanthes, two of the best being C. Alexandrii, a cross between C. Veitchii and C. vestita rubra oculata, with flowers of a rich crimson colour, and the two lower sepals lighter than the others—one of the darkest varieties yet obtained; and C. Cooksoni, from C. Veitchii and C. vestita luteo-oculata, which has uncommonly large pure white flowers, with a pale lemon tint in the centre. Both these were certificated. Two other forms contributed by the same gentleman—C. Normani, white, with a red eye, and C. Sedeni caudidibula, red, with a white eye—being pretty, but not sufficiently distinct for a special award. Messrs. J. Veitch & Sons, Chelsea, received a First Class Certificate for Cattleya autumnalis, a charming variety with small flowers, something of the C. Skinneri style, the sepals and petals purple, the lip crimson, with a white throat. A botanical commendation was also awarded the same firm for Peristeria pendula, an Orchid with curious wax-like white flowers, dotted with purple. From the same firm came several new Chrysanthemums which had not quite developed their best characters, a lovely group of well-grown Bouvardias, and the attractive Amasonia punicea, which bears numerous scarlet bracts with its long tubular yellow flowers. Mr. B. S. Williams, Upper Holloway, contributed several new plants, and obtained First Class Certificates for the following three:—Sarracenia Buchani, a hybrid between S. rubra and S. purpurea, dwarf, the pitchers very dark red, with broad erect lids; Cymbidium elegans, a strong-growing species, the flowers buff coloured, tube-like, 1½ in. long, in close pendulous spikes; and Nepenthes Excelsior, from Hookeriana and Rafflesiana, the pitchers of moderate size, but elegantly formed, and beautifully mottled with dark red. A Certificate was awarded to Mr. Wright, of the Middle Temple Gardens, for Chrysanthemum, Val d'Andorre, a Japanese variety, in which the flat yellowish florets are streaked with red.

Votes of thanks were accorded to each of the following exhibitors:—Mr. James Bateman, Worthing, for flowering sprays of Acacia retinodes, a species with small globular heads of yellow flowers; Mr. Cummins, The Grange Gardens, Wallington, for Oncidium Forbesi Bothellianum, a distinct variety, the sepals and petals similar to those in the type, but the lip curiously marbled with yellow and brown; Messrs. H. Cannell & Sons, Swanley, for blooms of the handsome Zonal Pelargoniums Swanley Gem, very large and of a distinct rosy salmon hue, and Henry Cannell, a fine deep crimson variety; Mr. Robert Owen, Maidenhead, for blooms of Tuberous Begonias, bright and varied in colours, and several Chrysanthemums, including Gloire Rayonnante, with strangely quilled florets, which have gained it the title of Hedgehog and Porcupine; Mr. S. Forbes, Roehampton, for a stand of Chrysanthemum blooms, in which the violet scented purple Beaute de Jardins was noticeable; Mr. J. Ridout, for a box of Tea Roses beautifully fresh, Catherine Mermet, Etoile de Lyon, and President being particulary fine; Messrs. E. G. Henderson & Son, Pine Apple Place, for Nerine elegans cœrulea, a variety with a purplish tinge in the flowers which, if fixed well, render it very distinct. Plants of the brilliant scarlet-flowered Gesneria Hendersoni, were also shown by this firm.

Messrs. Hooper & Co., Covent Garden, were awarded a bronze medal for an extensive group of Carnations, Bouvardias, Gesnerias, Nægelias, and Tydæas, representing many handsome varieties. The Carnations were particularly fine, F. Raspail, scarlet, and Madlle. Carle, white, being two of the best, but they were all good.

THE FRUIT COMMITTEE had not very arduous duties to perform, for the exhibits were few and not of special merit. Mr. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, was awarded a vote of thanks for some large but coarse tubers of Magnum Bonum Potatos, several of which weighed over 2 lbs. each; he also had an Apple, named Smee's Seedling, that was not considered superior to existing kinds. G. F. Wilson, Esq., F.R.S., Weybridge, sent fruits of Pear Beurré d'Anjou from a tree that has been grown in a pot for twenty-eight years. They were of good size, and a vote of thanks was adjudged as a recognition of their merit. A fine late kitchen Apple, named Lord Leicester, was shown by Mr. H. Lancashire, Holkham Hall, Norfolk, which is to be kept by Mr. Barron and brought before the committee at later meetings. The flesh has a pleasant acid flavour, and is of firm texture. Mr. W. Earley, Ilford, had some Apples from a seedling grafted eighteen years ago; the Committee thought it resembled Lord Derby, but wish to see it again next year. Messrs. John Peed & Son exhibited a seedling Plum found in the hedgerows, which is described as very prolific and late, keeping well to Christmas; it is to be shown again at a later meeting. Mr. Jones, Carshalton, sent a variety of Celery; Mr. Wiles, of Banbury, a variety of Brussels Sprouts, neither being of special merit; and Mr. Pritchard, Queen Street, Sittingbourne, had an Apple named St. Christopher, which is to be sent again as the fruits received tasted of the packing material.

National Chrysanthemum.—A meeting of the Floral Committee of this society took place at the Royal Aquarium, on Wednesday the 28th inst. Mr. E. Sanderson, President, in the chair; present, Messrs. R. Ballantyne, R. Dean, G. Stevens, G. Gordon, H. Davis, J. J. Lowry, J. Mardlin, E. Berry, J. W. Springbett, C. Gibson, H. Canuell, J. Bevan, M. Butcher, and W. Holmes, Secretary.

The minutes of the last meeting having been read, a set of rules regulating the procedure of the Floral Committee was considered and passed.

A good number of Chrysanthemums were staged; Mr. W. E. Boyce, Yerbury Road, Holloway, had single Chrysanthemum, White Daisy, a pretty pure white form; Late Flora, a yellow Pompon; and Japanese, Mr. J. Laing, bronzy orange, certificated last year. Mr. Child, Grange Road, Bermondsey, had Anemone-flowered (large), Novelle Alvede, a pretty pale purple variety, large, full and distinct, awarded a First Class Certificate of Merit; and Grand Alvéole, of the same type, blush or delicate pink, which the committee desired to see again. Mr. W. Holmes, Framptou Park Nursery, Hackney, sent blooms of Japanese l'Ante Nationale, Cœur Fidele, blush or delicate pink, very pretty; Souvenir de Haarlem, rosy lilac, the reverse brownish buff, like Roseum superbum, and considered not to be distinct enough; and M. Garnier, deep orange-cinnamon, the reverse golden buff, very pretty, the committee wished to see this again. Messrs. Drover had W. E. Scheffer, a reflexed Japanese variety, delicate pink with lilac centre; and Delicata, an incurved Japanese, deep pink with rosy centre.

Mr. Wright, Temple Gardens, sent Japanese Bouquet der Castille, thought to be very like La Nymphé; Madame J. Laing, delicate flesh, golden centre, large and full, quite distinct; the committee requested to see this again; Mons. Freeman, a fine incurved Japanese, a plant shown of good habit and dwarf growth, colour lively pale pink, awarded a First Class Certificate; and the same award was made to Val d'Andorre, the same plant being shown as that seen at South Kensington on Tuesday; and Madame Melaine de Favre, lively pale pink, very much reflexed, highly commended. Mr. Davis, Lilford Road Nursery, Camberwell, had M. Ghys, lilac-pink, long thin petals, a flower wanting in substance; Bacchus, an Anemone-flowered Japanese, deep magenta-crimson petals, buff and crimson centre, which the Committee desired to see again. Mr. Springbett, Cheshunt, had a seedling, reflexed, large-flowered Chrysanthemum, of a pleasing pale purple colour, which was commended. Mr. R. Owen, nurseryman, Maidenhead, had Mdlle. Lacroix, pure white, much reflexed, a charming variety; and Mons. Harman Payne, deep reddish crimson, with golden centre, which the committee wished to see again. Mr. Forbes, of Roehampton, had Fleur de Bois, a deep but bright red Japanese, small but very fine in colour, commended; Mons. de Mouillac, very rich deep bright crimson, the centre golden buff; extra fine and very constant, awarded a Certificate of Merit; and Beaute des Jardins, brilliant magenta and violet. Mr. Kendal, Roehampton, had Madame Feral, lilac-purple, incurved, very bright.

Votes of thanks were given to Messrs. H. Cannell & Sons, Swanley, for stands of Dahlias, Begonias, and cut flowers of beautiful zonal Pelargoniums; to Mr. W. E. Boyce, Holloway, for cut blooms of Chrysanthemums; and to Mr. R. Owen, nurseryman, Maidenhead, for the same.

Obituary.

THE death is announced of Mr. R. THORNTON, The Hoo, Sydenham, who during the last few years has been the principal exhibitor at the London shows of large specimen Azaleas.

QUESTIONS AND ANSWERS.

CUCUMBER CULTURE.—Would your correspondent, Mr. R. Gilbert, oblige me with a few hints on the management of the Cucumbers, which, in so small a house as he described at p. 107, produced 1359 fruits in five months? A.B.

NAMES OF FRUITS.—*J.M.P.*—4, Sugar-loaf Pippin; 5 Golden Pearmain; 6, Allen's Everlasting; others not recognised. *W.D.*—1, Bergamotte d'Esperen; 2, Uvedale's St. Germain; 3, Duchesse d'Angoulême; 4, Doyenué Gris; 5, Passe Colmar; 6, Old Colmar. *A.J.M.*—2, Hanwell Soming; 4, Boston Russett; 5, not known; 6, Cox's Orange Pippin; 7, Cox's Pomona; Pear, Maréchal de la Cour. *J. Beddow.*—Beurré Plat, is a synonymous name for Winter Crassane, or Crassane d'Automne; the "Williams" Pear sold in the streets, is Williams's Bon Chretien; others next week.

NAMES OF PLANTS.—*S.K.B.*—1, send when in flower; 2, Mühlenbechia complexa, also called Polygonum rotundifolium. *R.M.*—Hedychium coronarium, as near as we can tell from such poor materials.

SPERGULA AND HERNIARIA.—*A.B.*—Both can be obtained from any nurserymen who makes hardy plants a speciality, and both are easily propagated by division. Either Sedum glaucum, or Antennaria tomentosa would be suitable plants for growing with them.

COMMUNICATIONS RECEIVED.—T. S. W.—J. V. & S.—Paul & Son—J. D.—M. B.—Anonymous, Tottenham (with best thanks)—M. M. H.—A. T.—A. B.—J. B.—W. B. L.—G. G. S.—W. R.—A. O.—S. & S.—C. G.—J. D.—J. Souza.

TRADE CATALOGUES RECEIVED.

JAMES BOYD & SONS, Paisley.—Illustrated Catalogue of Horticultural Buildings, Heating Apparatus, &c.

H. CANNELL & SON'S, Swanley.—List of all the Best Roses in cultivation.

SALTMARSH & SON, Chelmsford.—List of Chrysanthemums.

ROBERT OWEN, Floral Nurseries, Castle Hill, Maidenhead.—Tuberous Begonias, Chrysanthemums, and other choice Florist's Flowers.

LONDON SEED TRADE.

October 28th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a business very limited at to-day's market. Red Clover is firmly held, and some French seed has recently been shipped to America. There is no quotable change in the value of White Clover, and Alsike and Trefoil are neglected. Bird seeds sell slowly; Hemp is slightly cheaper; new Canary is offering in fine quality, and firmly held.

COVENT GARDEN MARKET.

October 29th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	24 0	25 0	Plums, ½ sieve	1 6	3 6
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces ..per dozen	2 0	2 6
Cabbages ....per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Anemone, 12 bunches			Margnerites, 12 bun.	4 0	9 0
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches	6 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	..	2 0	— scarlet, 12 sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	2 0	Roman Hyacinths, 12 sprays	1 6	2 0
Carnations, 12 bunch.			Roses (coloured)	1 0	2 0
Chrysanthemums, 12 blooms	1 0	6 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses, per doz. bun.	6 0	12 0
Cyclamen, 12 blooms.	..	0 6	Stephanotis, 12 sprays	5 0	6 0
Epiphyllums, 12 blms.	1 0	2 0	Tuberoses, per dozen.	0 6	1 0
Eucharis, per dozen	4 0	9 0	Violet, 12 bunches	0 9	1 0
Gardenias, 12 blooms.	2 0	5 0	— Czar, French, per bunch	1 0	1 6
Heliotropes, 12 sprays	0 6	1 0	— Parme	4 0	5 0
Lapageria, white, 12 blooms	3 0	4 0	White Jasmine, bun.	0 6	0 9
Lapageria, red, 12 blms.	1 0	2 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ficus elastica, each	1 6	7 0
Arum Lilies, per doz.	9 0	12 0	Foliage Plants, various, each	2 0	10 0
Asters, per doz.	4 0	6 0	Fuchsias, per dozen	3 0	9 0
Begonias, per dozen	4 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Bouvardias, per dozen	9 0	18 0	Hyacinths, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Hydrangea, per dozen		
Cineraria, per dozen			Lilium lancifolium, per dozen		
Cockscombs, per doz.			Marguerites, per doz.	9 0	12 0
Cyclamens, per dozen			Mignonette, per doz.		
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, doz.		
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., doz.	4 0	18 0			

SITUATIONS WANTED.

TO NURSERYMEN and GENTLEMEN.—The advertiser who is a specialist among hardy alpine and herbaceous plants, also hardy bulbs, would be glad to send particulars of experience, &c., to any gentlemen desirous of securing the services of a thoroughly practical man; could undertake rockery formation, or landscape planting; highest references.—T.O. 17, Catherine Street, Covent Garden, W.C.

TRAVELLER.—J. DON, Frant Road, Tunbridge Wells, will complete his engagement with Messrs. CRIPPS & SON, Nurserymen, Tunbridge Wells, in a few weeks, and is now open for re-engagement as above. Messrs. Cripps & Son, as well as Messrs. Ewing & Co. (late of Norwich), Sea View Nurseries, Havant, will be pleased to answer any enquiries.

GARDENER (Head), married, no family. The advertiser wishes a re-engagement as gardener (where four or more are kept), or general manager where trust and good management is required. Is thoroughly up in all the different branches of gardening and the management of land and stock, and is a successful exhibitor. Character and references of the highest order from present employer; leaving owing to the breaking up of the establishment.—HORTUS, 17, Catherine Street, Covent Garden, London.

GARDENER (Single-handed, or where another is kept).—Age 26; has had good experience in all branches of gardening; can be highly recommended from last and previous place.—J. ROSE, Framsden, Stonham, Suffolk.

TO GARDENERS.—A strong active lad (aged 18), desires a situation. Has been in the garden two years; good character.—THOMAS WATMORE, Grovelands, Southgate, N.

MR. DODWELL'S
GRAND CARNATIONS.
THE FINEST GROWN.

2,000 PLANTS, including Seedlings of this Autumn, to be Sold for the benefit of the Prize Fund of the "UNION CARNATION and PICOTEE SOCIETY."

SPECIAL TERMS TO THE TRADE.
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The Cottage, Stanley Road, Oxford.

NEW BOOK ON ROSES.
"How to grow Roses in the Garden and under Glass."

Price 7*d.* post free. Published by, and only to be obtained from RYDER & SON, Sale, Manchester.

Budding, Pruning, Exhibiting, Planting, indeed everything about Roses, is dealt with so practically that every amateur will find it of great service. Among the popular books on Roses this is the best. The writer has carefully compiled a list of the most successful Roses at the Great National Show of 1885, *which will be of invaluable service to exhibitors. This is not a Rose Catalogue.*

LILIES AND ORCHIDS
ARE
W. Gordon's Specialities,
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These are specially imported from all parts of the world, and largely grown to supply the wants of the trade, to whom special offers will be made. WM. GORDON'S Catalogue has now been sent to all his known customers, and will be forwarded on receipt of request to any one desirous of receiving a copy.

DUTCH BULBS are supplied only in first quality, at the lowest possible prices.

Lovers of ALPINE PLANTS can now have all their wants satisfied, as WM. GORDON has a resident collector in the Alps.

First Class Certificate received this season for new TREE PÆONIES. For these and other novelties, all equally low in price, apply to

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The Nurseries,
TWICKENHAM, MIDDLESEX.

ROSES! ROSES!! ROSES!!!

ROSES—Marshal Niel, plants in 7-in. pots
ROSES—Gloire de Dijon do. 7-in. do.
ROSES—Cheshunt Hybrid do. 7-in. do.
ROSES—Reine Maria Pia do. 7-in. do.
ROSES—Reine Marie Henriette, 7-in. do.
ROSES—Climbing Devoniensis, 7-in. do.
ROSES—A. Richardson do. 7-in. do.
ROSES—Celine Forestier do. 7-in. do.
ROSES—Catherine Mermet, Duke of Connaught, Devoniensis, Etoile de Lyon, Niphetos, Isabella Sprunt, Perle des Jardins.

We have a splendid stock of these varieties, specially grown for climbing; they are in grand health and condition, 8 to 12 ft. long. 2s. 6*d.*, 3s. 6*d.* & 5s. each.

Grand plants in 7-in. pots, 24s. 30s. 36s. 42s. per doz.

We have also a large stock of Tea Roses in 5-in. pots, 12s. & 18s. per doz

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HYACINTHS, Red, White and Blue	160/-	18/-	3/-
TULIPS, Double or Single, Mixed	40/-	4/6	8d.
NARCISSUS, mixed border varieties	25/-	3/-	6d.
GLADIOLUS BRENCHLEYENSIS, vivid scarlet, extra large	60/-	7/6	1/3
GLADIOLUS BRENCHLEYENSIS, Good Bulbs	45/-	5/6	1/-

	Per 100.		Per 100.
Narcissus, Poeticus	3/-	Iris, mixed Spanish	2/6
Daffodils, single ..	3/-	Anemones, double ..	4/-
Crocus, mixed ..	1/6	Anemones, single ..	3/6
Crocus, yellow ..	1/6	Star of Bethlehem ..	3/6
Crocus, blue	1/6	Ranunculus, Persian	2/6
Crocus, white ..	1/9	Scilla, pale blue ..	3/6
Crocus, striped ..	1/6	Scilla Siberica ..	4/6
Jonquil, Campernel	6/6	Snowdrops	2/6

All Parcels Carriage Free.

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ORCHARD HOUSE TREES, "fruiting," IN POTS.
STRAWBERRIES, 4*s.* 100; FORCING, 15*s.* to 25*s.* 100.
ASPARAGUS, 2*s.* 6*d.* 100; FORCING, 12*s.* 6*d.* 100.
SEA KALE, strong forcing, 16*s.* 100.
EVERGREENS, CONIFERS, ORNAMENTAL TREES (91 ACRES).
FLOWERING SHRUBS, 8*s*, doz.
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WM. RUMSEY is now offering TWELVE MOST BEAUTIFUL PERPETUAL DWARF OR BUSH ROSES, in 12 leading sorts, strong well-rooted plants, package and postage free for 8*s.* TWENTY-FIVE, in 15 sorts, for 15*s.* 6*d.* FIFTY, in 25 sorts, for 30*s.* ONE HUNDRED, in 50 sorts, for 50*s.* STANDARDS, a splendid selection, extra fine plants, 18*s.* per doz.; £6 5*s.* per 100. HALF-STANDARDS, a splendid selection, extra fine plants, 12*s.* and 15*s.* per doz.; £5 per 100. ROSES IN POTS FOR FORCING, 24*s.*, 30*s.*, 36*s.*, and 42*s.* per doz.

All packing free (except pot Roses). Cash accompanying order, and plants added to compensate for distant carriage.

DESCRIPTIVE CATALOGUE NOW READY, GRATIS, AND POST FREE.

JOYNING'S NURSERIES, WALTHAM CROSS, N.

SHOWS.

National Chrysanthemum Society, Royal Aquarium, Westminster.

GRAND EXHIBITION, November 11th and 12th. Schedules (free) on application.

NOTICE.—Floral Committee Meetings at the ROYAL AQUARIUM, on November 11th, 25th, and December 9th, at 2.30 p.m. precisely. (Regulations see Schedule).

WILLIAM HOLMES.

Frampton Park Nurseries, Hackney, London.

National Chrysanthemum Society's Catalogue, 6d. each.

Liverpool Horticultural Association.

THE SIXTH GRAND EXHIBITION of CHRYSANTHEMUMS, FRUIT, &c., will be held in St. GEORGES HALL, LIVERPOOL, on Tuesday and Wednesday, November 24th and 25th.

£200 IN PRIZES.

A TEN GUINEA SILVER VASE, given by J. WILLIAMS & Co., Manure Manufacturers, 62, Mount Pleasant, Liverpool, for 36 Blooms of Chrysanthemums.

Entries close Tuesday, November 17th. For Schedules apply to the Secretary, EDWARD BRIDGE, Huyton, Liverpool.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 7, 1885.

THE MANAGEMENT OF LOCAL SOCIETIES.—One of those—in all probability very few—local institutions that suffered a reverse during the past season, is the Warwick Horticultural Society. More is the pity, for it is one of the most useful societies we are acquainted with, for the competition for the prizes offered is open only to *bonâ fide* amateurs and cottagers; and it is managed mainly by gentlemen's gardeners and a few tradesmen, and very economically too. An admirable show was held in July last; the products exhibited, and their arrangement, were warmly praised by no less an authority than Mr. William Paul, of Waltham Cross. The show took place in the Drill Hall, a spacious and suitable building in the heart of the town. In addition there was a very interesting and instructive exhibition, of an industrial character, in the shape of needlework in great variety; home-made bread, cakes, jam, &c.; and also illustrations of mechanical ingenuity made by cottagers and artisans during their leisure hours. The show is to a very large extent made up of the contributions of the working classes. It is admitted that the Society is doing a great work; the result had been that there is a notable improvement in the method of keeping cottage and allotment gardens, to a great extent owing to prizes being offered for those best cropped and kept. But somehow or the other this admirable Society is not supported as it deserves to be, and the season's balance sheet puts the figures on the wrong side. There is a deficiency through the falling off of subscriptions and admission money. At the annual meeting held recently, the Mayor of Warwick, who was in the chair, generously guaranteed that the debt should be wiped off, rather than the hon. sec., Mr. J. Lloyd Evans, should resign; and it was determined to hold another show in 1886, in the hope that better results would follow.

There are some parts of the country in which it appears difficult to hold flower shows with anything like success, even if, as in the case of Warwick, they are well managed. The residents do not appear to care for them, and do not support them as we think they should; but no force can compel support. What is needed at Warwick, and elsewhere, is something that shall incline the townspeople to give the Society a larger support in the future than they have done in the past. That societies of this character do real good is abundantly proved. That they cause money to be circulated, and give an impetus to trade in the localities in which they are carried on is equally certain. There is about them an entire absence of a sectarian and party character. Then why do they fail? Undoubtedly from lack of interest, and with that, want of support. How can this interest and support be secured? First of all, let there be a wide distribution of knowledge as to the existence, aims, and work of the society. It would not cost much to print and place this in the hands of every householder. Let there be a house-to-house canvass for support, say in the spring months. Let no refusal bar the way to a second application next year; a second will sometimes accomplish what the first fails to bring about. Let a special canvass be instituted for special prizes; many persons are willing to suggest and support by their purse some new feature not yet forthcoming. In particular let the tradesmen of a locality be applied to, many of them do not care to give money, but they will give articles of dress, art, food, &c. Much valuable aid can be secured in this way: first get the interest of the tradesman, and that of his family, and employés will be pretty certain to follow.

If there exists in the locality an arrangement by which the shops close earlier than usual one day in the week, hold the show on that day. If there is existing anything in the way of a local authority, let its interest be sought and secured. Let there be something in the way of a little ceremonial in presenting the prizes, and let some lady of position be invited to do this. Let the committee be practical, united, courageous, liberal, and honest, and they will command a successful support. Finally, until the exhibition has risen up to the level of a certain success, let the expenditure be carefully scrutinised, and calculated on the basis of the probable income, so that an inevitable deficit may not be very large. If on the other hand there be a surplus, husband a portion of it as a reserve fund against times of disaster, and add to it on all occasions possible, until it reaches dimensions that will meet the failure of two bad seasons, at least.

Many shows which have been started with indifferent means, have been beset with difficulties, and have been sorely tried by disaster, but have eventually triumphed. Let committees take courage and persevere; courage and endurance have translated many a failure into a conspicuous and gratifying success.

Royal Horticultural Society.—The president and council of the Society invite all who are interested in the advancement of horticulture and allied subjects to meet them in the Music Room of the Inventions Exhibition on Tuesday next, at 12.30 p.m., to confer with them on the subject of holding an International Horticultural Exhibition in London in 1887.

GARDENING MISCELLANY.

Exhibitions for next week.—*Monday*, Stoke Newington, Chrysanthemum Show (two days). *Tuesday*, Royal Horticultural Society, South Kensington, Meeting of Committees; Chrysanthemum Shows at Kingston, Putney, and Brighton. *Wednesday*, National Chrysanthemum Society's Show at the Westminster Aquarium (two days); Exhibitions at Basingstoke, Croydon, Ascot, and Bath. *Thursday*, Chrysanthemum Shows at Bury, Lindfield (two days), and Portsmouth (two days). *Friday*, Chrysanthemum Shows at Huddersfield (two days), Exeter, and Sheffield. *Saturday*, Ramsbottom Chrysanthemum Show.

A White Gros Colmar Grape.—We have received from an anonymous correspondent some berries of a seedling Grape raised from Gros-Colmar, and which, except that the berries are white, is an exact counterpart of its parent in shape, size, growth, foliage, and lateness, and has a flavour of its own, not rich, but certainly very pleasant. It is undoubtedly an acquisition, and we should be glad of further particulars.

Proposed Testimonial to Mr. W. Ingram.—A Committee has been formed, with the Rev. Canon Hole at the head, to collect funds for a testimonial to be presented to Mr. William Ingram, of Belvoir Castle Gardens, in consideration of the services he has rendered during 30 years, in promoting the improvement of Flower Gardening.

Death of Dr. Bull.—We regret to hear of the death, on Saturday last, of internal cancer, after a very short illness, of Dr. Bull, of Hereford, aged sixty-seven. For about twenty years Dr. Bull's name has been a household word among Fungologists, he being the originator of Fungus forays, which were first established in connection with the Woolhope Naturalists' Field Club, but now annually recurring events in several other places. He also took great interest in pomology, and was the main promoter of that magnificent work, *The Herefordshire Pomona*, of which he was co-editor with Dr. Hogg, and which was only completed a few weeks ago.

Gardeners' Royal Benevolent Institution.—It may interest many of the subscribers to know that as a result of the increase of the amount of the pensions, the number of applicants seeking to be placed on the list in January next is greater than in any former year. The secretary has, we hear, received the legacy of £100 left by the late J. S. Law, Esq., and he would be glad to hear at once from those who have not yet sent in their collecting cards, in order that the committee may be enabled to put on the list as many applicants as possible.

Microloma or Wax Climber.—The beautiful glossy crimson twining plant illustrated by us at p. 85, and described in a note from Mr. Jas. Hall, of Port Elizabeth, proves to be the rare Microloma lineare, R. Br., figured in Harvey's *Thesaures Capensis*. Messrs. Jas. Carter & Co., of 237 & 238, High Holborn, have, we hear, a small stock of it, and are looking forward to its flowering next spring and summer.

Guernsey Lilies.—The fine scarlet forms of these lovely bulbous plants have bloomed grandly this year with Baron Schroder, the Rothschilds, and other good growers of them. When properly treated as cool pit or greenhouse plants, no plants are easier to manage, or more showy or durable when in flower. J. Maxwell, Esq., of Guernsey, has also bloomed a fine collection of them this year, among the very best of them being the bright blood-red N. atrosanguinea, raised by Mr. O'Brien between N. flexuosa and N. Plantii; and the handsome blue-tinted N. O'Brieni, raised between N. pudica and N. Plantii.

New Holland Plants at Kingston.—It is with pleasure that we note that the old firm of T. Jackson & Son, of Kingston, still hold to these fine plants with which their names have been so intimately connected in the past. The demand for these lovely plants, which used formerly to have to supply the greater part of the greenhouse flowers at all seasons of the year, has been very low, but unmistakable signs of an increased demand for them is to be observed. No class of plants gives a greater or more continued reward to the grower for his care, and we would advise any of our readers who appreciate good things to give a house to the different species usually placed under the general denomination of "hard-wooded plants." Messrs. Jackson devote many houses to Ericas, Genetyllis, Dracophyllums, Boronias, &c., and they have a large stock of all sizes, from the healthy little bush in a 48 pot to the grand specimen fit to take its place on the exhibition stand. They have also a fine lot of Allamandas, Clerodendrons, Stephanotis, and other stove things.

The Horticultural Directory for 1886.—We have received a copy of this useful Directory, for 1886. It is published at 171, Fleet Street, and having been issued regularly for 27 years requires no recommendation now.

NEW ROSES.

Mr. George Paul, of Cheshunt, states in his new autumn catalogue, that "there is much need of a good lot of first-class new Roses," and yet it is not for lack of new varieties, for Mr. Paul himself gives a list of something like thirty-three new varieties of 1884-85, which appear to be quite enough for one season, but they do not, I suppose, include many real acquisitions. Mr. Paul well remarks that "the English raisers are again to the front." There is no doubt that among the best Roses of the year are the three sent out from Cheshunt, the new striped Pride of Reigate, and Comtesse d'Oxford, charmingly striped with white, which I have seen finely shown on several occasions this season; Madame Norman Neruda, pale cherry carmine, perfect form, and an excellent autumnal bloomer; Longfellow, rich violet-crimson, of the Charles Lefebvre shape, and a vigorous grower, and so making a good garden Rose; Mrs. George Dickson, delicate soft pink, and beautiful in colour, and certain to be a favourite; Ella Gordon, bright cherry, is a full fine Rose in the way of Madame Victor Verdier; Mrs. C. Swailes is of a pleasing salmon-flesh hue, with the build of Mdlle. Eugenie Verdier, and greatly resembling Marie Finger, but, yet sufficiently distinct. All the foregoing are Hybrid Perpetuals of English origin.

Of the new French Roses, Gloire Lyonnaise may be regarded as a lemon-coloured H. P., but as it flowered thinly during the past summer, it has not yet been in its best form, and on well established plants it is said to come full and double. This was raised by Mons. Guillot, who sent us La France, and many other good Roses. Baroness Nathaniel de Rothschild is one of Pernets' raising, and promises to make a fine light Rose. General Appert is a promising addition to the darker Roses. Madame Massicalt is a beautifully shaped light pink-rose, distinct in every way if it proves large enough. Princess Amelie d'Orleans promises to be a useful bright satin-pink Rose; and Victor Hugo is a bright crimson-red, shaded with purple, in the way of Xavier Olibo, but a much more vigorous grower. These are also Hybrid Perpetuals. The new Tea Roses are Alexandrine Bruel, pure white, of the Gloire de Dijon race; Annette Murat, citron-yellow, and of the same race; Charles Le Grady, carmine-red, changing to rosy crimson; Grace Darling, white, the petals tipped and shaded with pink; Souvenir de Gabriel Drevet, salmon-white, with bright rose centre and coppery base; and Sunset, a rich tawny saffron-coloured sport from Perle des Jardins, and in every respect an excellent Rose.—*Ino.*

GERMAN LILIES OF THE VALLEY.

For some time past these have had a great reputation in this country, and the increasing demand for them demonstrates to some extent the advantage gained by the grower of the German single crowns or of the clumps imported from Holland, by reason of their vigorous growth and the easy way in which they can be forced. The method adopted by the German growers to force these fragrant plants into flower, is to plant them in a well-closed heated bed, in pure silver sand or cocoa-nut fibre refuse, in a house easily heated, and by giving the bed a constant bottom heat of 90°. The roots of the crowns are trimmed down to the length of 3 in., and they are placed in rows as thickly as possible, or if there is sufficient space, it is best to place them 1 in. or 1½ in. apart. Water is given plentifully, and it is applied when warmed to 85°. The bed is kept covered and dark until the crowns have fairly started, when light is gradually admitted, and after two-thirds of the crowns are in flower they are hardened off by admitting air by degrees till the cover over the bed can be entirely removed. The time necessary for forcing is estimated as from twenty-one to twenty-four days before Christmas, and from fourteen to twenty days afterwards, so that the time when the crowns begin to flower can be correctly judged.

If 1,000 spikes of flower of Lily of the Valley are wanted at Christmas, 1,100 or 1,200 single crowns ought to be planted towards the end of November as set forth above; these crowns would be fully in bloom about the 18th or 20th day of December, so that they can be well hardened off, and be fit for use by Christmas, or if the crowns are potted and placed in a warm greenhouse, they will keep in fine condition for two or three weeks. To have a constant supply of flowers a lot of crowns should be planted once a fortnight.

Some of the German growers adopt the practice of burying the crowns in garden soil at a depth of 6 in. or 12 in., quite away from any danger from frosts, taking them up as they are required for forcing. It is said that they force easier and better when the ground around them has been frozen. It is not advisable to begin forcing Lilies of the Valley before the end of November, before this time they would not bring more than 50 or 80 per cent. of flowers. If treated properly the crowns will produce from 85 to 90 per cent. of flowers before, and 100 per cent. after Christmas; such is the testimony of one of the leading German growers.—*R. D.*

LANCASHIRE MARKET GARDENS.

Mr. G. P. Bent's Nursery, Flixton.—This place was formerly called "Flyxton," and then "Fleecetown," but has been spelled as above for many generations. It is a pleasant and most interesting suburb of Manchester, seven miles distant. On its southern side is the Mersey river, dividing it from Cheshire, and to the visitor it has all the characteristics of a Cheshire village. On its eastern boundary it has the river Irwell, which having in its course absorbed the Rock, Spodden, Irk, and Medlock, itself falls into the Mersey here, and loses its own individuality. It was once a grand fishing river, with trout, salmon, eels, and other fish, but is now a foul putrid stream of sewage and dye. The village of Flixton is of a remote age, and was part of the land Roger de Poictou gave to the ancient barons of Manchester. In the 35th year of Henry III.'s reign, William de Ferras, Earl of Derby, gave to one David de Hultone his land in Flyxton, with the manor of Herdeshall, for his homage and service of two marks of silver at the four terms of the year. Since then it has passed through many hands, until it ultimately was sold to various persons as freehold of inheritance, during the last century. Among the purchasers of the lands and freeholds during the last century, were the ancestors of Mr. G. P. Bent, the present freeholder, and who has a nursery, perhaps the oldest round Manchester. This was commenced in the early part of the present century by the grandfather of Mr. Bent.

The dwelling-house is a well-built roomy structure in the midst of the grounds, surrounded by various shrubs of divers kinds, such as a landscape gardener of the old school loved to find and rescue from the fire or rubbish pile, and now so seldom to be found. They are growing in what an old writer called "a rich black sandy vegetable loam, producing corn, fruit, and potatos in abundance." The various evergreen and deciduous shrubs, forest trees, and fruit trees attest this, and in one quarter we found a large quantity of Richardia æthiopica, bedded out, and about to be lifted for potting. Zonal Pelargoniums, grown in the same way, had just been potted, and put into frames, and would shortly be productive of bloom.

There are several houses here, most of which contain grand bushes of Roses, with stout trunks and branches, and Gloire de Dijon and the Marshal Niel growing up the roof, with such kinds as Madame Falcot, Isabella Sprunt, Niphetos, &c. These were just coming for the third time into general bloom, and were full of buds in all stages. In one house we found a lot of the old double white Primula; another structure is an old vinery, with vines over half a century old, which have outlived one glass roof, and were carrying some well-coloured bunches of fair market size. Williams' strain of Solanum hybridum compactum is grown well here in pits, the plants were quite loaded with berries. A large quantity of plants for the cut-flower trade are grown, as well as a house-full of Adiantums and other Ferns for the same purpose. Camellias were formerly a speciality, but are at present at a discount, Roses

having taken their place; and those who have seen Mr. Bent's stand in Victoria Market, Manchester, will well understand why it is so.

On leaving Mr. Bent's nursery, our way lay through fields for about a mile and a half, and on the extreme boundary of the village, we came to a place where we received a somewhat discourteous reception from the person in charge, who "knew all he wanted to know," and would not be bothered with visitors. We were, of course, not shown the wonderful secrets in this abode of wisdom and intelligence, so shaking the dust from our unworthy feet at the gate, we proceeded on our way, and presently came to the old-established floral nursery of

Mr. William Taylor, at Davyhulme.—This is another village of ancient renown, lying between Flixton and Barton. This place is the home of the three Brothers Taylor, who have always resided in the locality. There is an appearance of old age about the place which is very interesting. The gardens lay behind the dwelling-house, and contain many old-fashioned glass structures, one or two of the age when rough plate was advised as the acme of perfection for a house for plant growing; and as we entered some of these lofty old structures, we confess to a feeling of surprise and pleasure, though we must admit that neatness was not there. We will describe one house; in the centre, opposite the door, were large old plants of Azalea indica alba and Camellias, which must give many thousands of blooms during the year. On the side stages were Poinsettias and Æchmea fulgens in quantity, while up the side lights are bushes of Niphetos and Gloire de Dijon Roses, and flowering up to the apex are monster plants of Acacia pubescens and affinis, the stem of the latter having a girth of 2 ft. 5½ ins.; while monster Abutilons are throwing their branches over the tye rods and hanging in racemes of red and yellow flowers. In another house are other Acacias, and another stem of A. affinis 18 ins. in circumference; masses of Dendrobium nobile, Epiphyllums worked as standards on the Perceskia stock, Rose bushes and climbers, more white Azaleas, Crassula coccinea, Chrysanthemums, many hundreds, some just coming into bloom, others, well-grown plants not yet showing their blooms; while in other houses are Ferns for cutting and bouquet work. In one was a Lapageria rosea hanging over a long rail with hundreds of blooms on it, and from which they had been cutting for months past. In another house Bougainvilleas were the chief inhabitants, with Tomatos on the roof; some pits were full of well-grown Solanums, and here hardy heaths are also pressed into service; while in another are immense Heliotropes and Abutilons, Gloire de Dijon and Marechal Niel Roses.

The whole place is a busy flower manufactory, and very interesting to one who wishes to understand the state of market gardening in this district; we were much struck with what we saw. About a mile and a half from here, going towards Manchester, we come to another florist's garden, this belongs to Mr. J. G. Taylor, brother to the Mr. Taylor before mentioned; this is a new venture, and will doubtless prove a most successful one. Here are some new glass-houses, one about 22 yds. long is filled with Tea Roses and Zonal Pelargoniums, all double kinds such as double Wonderful Candidissima and others. These latter are large bushes either planted out or plunged in large pots, and they were full of large clear bright blooms, and likely to continue so. We were told that they had been cut form for months, until they were tired of cutting; while Niphetos and Marechal Niel Roses were showing by their clear large bloom buds that they were enjoying their quarters. Another house is 70 yds. long with a rafter of 15 ft., this was being filled with Tea Roses also, and another, 75 yds. long was being erected; while out-door beds of Phloxes, Carnations, and Dahlias told what had been done here. The road from this place along Croft's bank is very pretty, the gardens seem to occupy a great deal of their owner's time; quantities of Daisies and spring flowers are plentiful, while Irish Junipers and Retinosporas, Irish Yews, Hollies, and fine common Yews are plentiful and although the frosts had cut off Dahlias in some places, yet, such Roses as Souvenir de la Malmaison and Madame Laffey, &c., were very plentiful. We must confess we were very pleased with our ramble.—*N. J. D.*

Scilla campanulata.

SCILLAS.

I think the Scillas make a beautiful class of spring flowers, and, as such, they are deserving of widely extended cultivation. Who does not know and admire the beautiful blue Siberian Squill; such a charming plant as it is for spring gardening; so bright and rich in colour? It is called the Siberian Squill, but there appears to be some doubt as to whether the plant is really a native of Siberia; but it is known to be widely distributed in Asia Minor and Persia. It is said to have been found growing among the Snowdrops in the Caucasus. It is perfectly hardy in this country, and like most other bulbs thrives best in good sandy soil. S. bifolia, the early Squill, is of a paler, but very pleasing shade of blue, dwarf and very free when well established, producing in the very dawn of spring—indeed, often in winter—rich masses of blue flowers. It blooms earlier than S. siberica, but it does not withstand cold wintry and spring rains so well; and, therefore, it should be planted in warm sunny spots, either on rockwork or sheltered borders. There are many varieties of it, among them a white one.

S. campanulata (see illustration) and its varieties—white, rose, and light red—are all very beautiful late spring flowers, blooming at the end of April and the beginning of May, and greatly resembling the Wood Hyacinths, but with larger flowers, and of stronger growth. They are all perfectly hardy and easily grown; and they are admirably adapted for naturalisation in woods, wild gardens, and shrubbery borders, where they should be freely planted. They increase in quantity and effect every year, and always bloom with wonderful freedom.

The Blue Bell of our woods is S. nutans, a well-known and much admired native plant, abounding in almost any wood and copse, the flowers always arranged in a gracefully drooping fashion on one side of the stem. Of this there is a white, a rose-coloured, and a pale blue variety, all very pleasing and effective.

But why called Squill? It is from the Latin, *Scilla* or *Squilla*. The same word, the Italian *Squilla*, is now used to mean the small evening bell sounded from the campanili, in Italy, for vesper service.

S. siberica is much grown in pots for early flowering. It is a gem for this purpose, and as the bulbs are cheap, it is within the reach of all. But after the bulbs have done flowering they need not be wasted. It is best to place them in a shady place to mature their foliage, then turn them out of the pots and place them in the open border, putting some refuse potting soil about the roots.—*R. D.*

SELECT HARDY PERENNIALS.

(Continued from p. 68.)

Lithospermum prostratum.—Here we have a perfectly hardy little gem among evergreen creeping plants of a shrubby character, and one I had almost overlooked. Its flowers are blue—a blue scarcely less beautiful than any Gentian I know. The flowers are about a ½ in. across, and have a faint stripe of reddish violet in the centre of the petals. While charming and delightful everywhere when in good condition, it may be seen to its best advantage when grown on an even surface on the rockery, or overhanging a rugged stone in some sunny position. In such a place, with plenty of good soil to supply it with food, it is a most pleasing plant, and the continuance of its flowers also render it a valuable rock plant; nor is it less suited to the border, which, if the soil be generous and rather sandy, will be found to suit it well. Here it will form compact spreading tufts, and may be used with good effect for the margins of beds containing choice dwarf shrubs. It prefers at all times a well-drained soil, and either very sandy loam or peat will be found agreeable to it. It is a short-lived plant in cold or heavy soils, and where such exist mix well with burnt earth or river sand to drain it well. It is rather impatient of being removed when it has become established. It is very hardy and best propagated from cuttings, which may be taken any time when about 2 ins. long from April to October. Strip them off the heel from the woody shoots—there will be plenty near the centre of large plants—and insert under hand-lights, keeping them close till rooted. These will require little shade now. Allow them to remain till spring, when they may be transplanted. Plants in pots, if introduced into slight warmth early in March, will soon produce new growth, which will root freely if inserted in sandy soil in pots, in which case do not use too much

water overhead. It comes from the south of France and Spain, and, as a consequence, prefers warm sunny positions.

Lysimachia clethroides.—In common with the other species of this genus, this is a moisture-loving, very showy, and ornamental plant. It grows 2 ft. to 3 ft. high, stems erect and furnished with racemes of pure white flowers. A somewhat peculiar change takes place with the flower-stems, which first assume a horizontal position, but as the flowers develope gradually become quite erect. It is very useful for cutting, and is easily increased by division.

Lysimachia nummularia (Creeping Jenny).—A familiar plant known by a familiar name, and though a native of many of our moist meadows and pastures, it has merits which deserve to be more generally known. Not unfrequently do we see this plant used in large towns and cities, where its long drooping stems and golden cupped blossoms hang suspended from the windows of the humble poor. This, however, is only a tithe of the many uses to which it adapts itself. Not that it is select, but rather from its commonness is it that I mention it here, for were it less common it would be eagerly sought after, seeing that we have so few plants possessing such a pleasing drooping habit as this; and whether required for moist sloping banks, for baskets, window-boxes, vases, or the rockwork, it is well suited, and should be more frequently employed where effective drooping plants are needed. There is also a golden-leaved variety of this plant, not quite so vigorous, probably, but still one of the brightest rock ornaments which can be used; the latter may be had cheaply, and is as readily increased as the original green form, the flowers and foliage of the latter being nearly, if not quite, identical in colour.

Malva moschata alba.—Visitors to the Inventions Exhibition during the past summer could hardly help noticing in Mr. Ware's extensive collection of hardy cut flowers this very useful plant, either for the flower garden or for naturalising. Its flowers are pure white, fragrant, about 2 ins. across, and borne plentifully on numerous branching spikes; these are qualities which recommend it to all lovers of good things. A few seeds thrown into the shrubbery will be sure to find a footing, and springing up, do much to beautify its surroundings. For the third row in the border, for the higher portions of the rock, or the woodland walk, one and all these provide a home for this free-flowering perennial, which is easily reproduced from seeds.

Matricaria inodora flore plena.—This is not a true perennial probably, though a very useful plant for providing quantities of pure white cut flowers. It is not unlike a small Pompon Chrysanthemum in general aspect, being pure white, and having during summer innumerable flowers on a single plant, makes it very acceptable. From a packet of seed there may be many and various forms; discard the singles and semi-doubles, and propagate by means of cuttings the best double white forms only; in this way a fine stock may be kept up with little trouble. It is but recently that the value of this plant has been made known, and during the past five years it has made rapid progress, and has been widely distributed either in plants or seeds.

Meconopsis aculeata.—The genus Meconopsis belongs to the somewhat extensive order Papaveraceæ, and contains many beautiful and rare plants; none more beautiful as a whole, probably, than the family now under notice. The whole group inhabit for the most part the Himalayan Mountains, where they are found growing at elevations varying from 10,000 to 15,000 ft. For some time they were not understood by cultivators, and failure and loss ensued, but that difficulty being overcome, they rank now among our finest hardy flowers. The species in question, now known as the Prickly Poppy, grows 2½ ft. high, having purple flowers about 2 ins. across, and in the centre of each flower is a tuft of golden stamens, which contrast well with the body colour of the flower; the leaves are heart-shaped, of a brownish yellow, and covered with short stiff hairs.

Meconopsis Cambrica, Welsh Poppy.—For a free-flowering and attractive plant of dwarf habit suited for rockery, border, old wall, or ruins, we have few to equal this handsome native perennial; it is a most abundant bloomer, of neat growth, forming compact pale green tufts of leaves, and producing quantities of bright yellow flowers; a good plant for naturalising on large rockeries.

Meconopsis nepalense.—This is also a species of Himalayan origin, which attains a height of 3 ft. when well grown. The flowers are produced from the upper portions of the stem, and also from the axils of the leaves, and are of a pale sulphur-yellow. It is a noble and stately plant, and one always admired when seen in good condition. The leaves are densely covered with bristly hairs.

Meconopsis Wallichi.—This is without doubt the finest of all Himalayan Poppies at present known; it is perfectly hardy, and one of the grandest and stateliest ornaments for the rock garden. The flowers are very large, often 3 ins. or more across, and borne in great quantities, the colour being a pale blue, shading to lavender. To those unacquainted with its grandeur, I may remark that it will form rosettes from 2 ft. to 3 ft. across of its distinct leaves, and grow to 6 ft. high in good rich loamy soil. It seems indifferent as to situation, for I have grown it partially shaded at the foot of a rockery, and I have also seen it in a variety of gardens, scarcely occupying a similar position in any two of these. Such plants as these will continue to produce flowers in succession for six weeks together. The first and two last named are best treated as biennials, and given every encouragement, always planting them out, as they may remain for several years without showing signs of flowering if kept in pots, and that only a miserable attempt. They seed freely, and transplant readily, and a little seed sown annually will keep up a stock of flowering plants. Nothing is more effective than these when planted high up the rockery, or on the level surface in groups, allowing plenty of room for development.—*J.*

MILDEW.

The *Journal Officiel* publishes a report addressed to the Minister of Agriculture by M. Prillieux, Inspector-General of Agricultural Instruction, as to the results obtained by the use of a mixture of lime and sulphate of copper in counteracting mildew. It appears that it has long been the custom in some parts of the Médoc to sprinkle the vines bordering roads with lime water, to which a little salt of copper was added. At one time verdigris was used, but it was expensive, and for that reason sulphate of copper was substituted. The purpose of using it was to prevent children and other depredators from pulling the ripe Grapes which were within their reach. They were afraid to eat the bunches which had been taken from vines sprinkled with verdigris. A belt five or six yards wide was treated in this way along the sides of the thoroughfares.

When mildew spread to a serious extent in the Médoc, it was remarked that the vines which had been sprinkled with the mixture, suffered less from the disease than the others. The leaves attacked by the Oidium withered and fell off prematurely everywhere, except along the roads, where they remained green, and where the Grapes ripened. M. Prillieux gives a long account of the visits which he made to the various places in the Médoc, where the sprinkling had been practised.

At Dauzac, the property of M. Johnston, the largest number of stocks could be observed, and there they had been carefully sprinkled by M. Millardet, Professor of the Faculty of Sciences, and M. Gayon, Professor of Chemistry at Bordeaux. After studying the results in this and a large number of other places, it was discovered that the sprinkling of vines with a liquid containing about eight per cent. of sulphate of copper mixed with lime water, checked the progress of mildew and enabled the vine which had been attacked to ripen its fruit.

The treatment is easily applied, and cheap. M. Prillieux hopes that next year all vine growers will employ it. The earliest application gives the best result. The action of the mixture is not yet understood, but MM. Millardet and Gayon hope soon to be able to throw light on it.

It seems to M. Prillieux not impossible that this unexpected remedy may prove useful in the case of the Potato disease. The hypothesis has already been supported. At Château Longoa, belonging to Messrs. Barton, Tomatos were attacked by a disease to all appearance due to the development of the Peronospora of the Potato, which is also known to attack the Tomato. M. Jouet, the steward on the estate, who is a scientific agriculturist, treated the Tomatos like the vines, and he states that he succeeded in destroying the disease. Isolated as this fact is, M. Prillieux thinks it should be made known, so that the Potato growers may make in their fields, from the first appearance of the disease, attempts similar to those which have been carried out with such success this year as regards the vine in the Médoc.—*Times.*

Scottish Gardening.

Gardeners, Young and Old.—It may not be inopportune to make a few remarks on this subject, as we are so near to the Martinmas term, and so much anxiety prevails among a large number of the class of men referred to, many of whom will shortly be leaving appointments which they may have retained with satisfaction to themselves and free from dissatisfaction to those who have ruled over them. This may, however, be more applicable to the young men who are best known in the north as "journeymen." Much has been written from time to time in the horticultural press for the benefit of young gardeners. Censure and advice has often been freely administered, but seldom has much praise fallen to the lot of the young men collectively. Schemes for self-education have often been enunciated, and knowledge of a character suitable to their requirements has, without stint, been lucidly placed before them; while for those in the positions of juniors moral pastimes and entertainments of an elevating character have in some cases been provided. The course of practical training necessary to enable the young gardener to hold creditably the position that he aspires to hold as early as it comes within his reach (that of head gardener) must be pursued with vigour, and few commence this somewhat chequered and not always enviable line of life in Scottish gardens free from the desire of some day becoming "majester horti."

Were it not for the diversified views of some writers, and the amusing (but well meant) suggestions of others which have appeared in print, a non-practical reader might be led to suppose that the position to which young gardeners aspire to attain has emoluments and privileges of a very enviable character; but many who have entered the profession, and followed it with spirit, know to their cost that it is very far otherwise. It is not the question of mental culture that I desire to discuss at the present time, or the amount of scholastic education which a man requires to enable him to become a horticulturist. That question will soon be extinct if School Boards work as assiduously everywhere as they are doing with the rising generation in this quarter. I have already hinted that at this Martinmas period much anxiety prevails among a large percentage of our young men, and this term (11th of November) has a peculiar interest to them. Some of the seniors, too, have much cause to look to this term with peculiar forebodings, especially if they have to release their grasp of positions which they may have for some time retained, and new spheres of labour have to be sought.

I have often witnessed the huge piles of luggage belonging to migratory gardeners on Martinmas days, being hurled rapidly to those centres where nurserymen have at this period accumulative business in hand, such as examining letters of recommendation, considering the moral characters and practical experience of men, whom they are supposed to match with the requirements of those who want good men well up in general garden work. The names of young men are arranged so that they can be dispatched without delay to the various places, which their qualifications are likely to suit; and the various nurserymen in whom the men have reposed their trust, experience a heavy tax on their time and judgment. Their clients who have applied to them for men are not exempt from hopes and fears, as they often have to accept "helps" whom they have not seen, and who may be quite strangers to the class of work in which they are to be employed. I have heard it expressed over and over again, that the whole system of this exchanging or bartering of men is wrong, fraught with much expense and trouble to young men, and not always satisfactory to overseers themselves.

It is in the first place puzzling to understand why there should be this migration of men at all. In the southern part of the Kingdom this wholesale "shifting" is unknown, and I think it is well that such is the case. The aimless practice of making periodical changes by young men, is greatly prejudicial to their acquirement of practical experience. Efficiency cannot be attained by making up their minds to "shift" as soon as they become acquainted with the duties of the place to which they have come; but the custom has prevailed for many years, and those most concerned cannot strike out of the old rut even had they the desire. The complaint which has been most frequently made in the press, is that garden operations have for years been degenerating.

This I am not able, from experience, to endorse. It has become an old story "that workmen are not as they used to be"; judging from those I have seen in such numbers in nurserymens' premises on term days, I should say that their physical powers are equal to anything I have previously seen. Health does not seem to have degenerated, and certainly appearances are not unfavourable to intelligence; while the respectable exteriors do not denote anything like decreasing morality. Not having much experience of what others complain bitterly about, it would be inconsistent on my part to attempt the elucidation of the question of degeneracy in the workmen collectively. Many now in the position of "magisters" had to take their share of the censure administered in their time of probation, and may sympathise with their younger brethren who now form the "rank and file."

To say that much practical good has accrued from the abundant precepts unfolded by the press, I fear cannot be supported by facts. The now fashionable and very numerous associations for the mutual improvement of gardeners, is not likely to improve matters; but I think action in a practical form may be taken by head gardeners (who I fear, are in some cases, responsible for the deficiencies of workmen), and make an effort to school their pupils thoroughly in all the operations which are performed on the place, preventing the young men from indulging in slovenly habits in their work, and teaching them how to handle their tools properly. No one should have the charge of men who cannot do this, and who will not instil upon the minds of their pupils (if such they are), the propriety of doing right, instead of doing wrong. Were we always in earnest when doing this, I feel sure an impression would be made, and much of the censure (so freely given) would be reduced. It is easy to snarl at a man when he appears in an awkward form at his work, and can do it only in a very clumsy style; but some one is blameable apart from the man himself. "Apprenticeships" have been served (three years, and often learning nothing but drudgery, forsooth), and if opportunities have not been afforded the youth to gain a proper rudimentary tuition, surely the fault must lie at the door of the party in charge.

An evil, of which I am cognizant, is the employment of numbers of youths in gardens, under the name of "apprentices," when there is nothing apart from the most ordinary drudgery of gardening for them to learn; none of the higher branches of gardening can be taught, because they are not there. These youths, after spending three years of their valuable time, are sent to nurserymen, to get them into positions as men, where men's wages are paid, and where men's qualifications are expected. It is impossible, under such circumstances, that young men can escape without characters as bad workmen. It might not be difficult to guess the reason why such a multiplicity of new journeymen annually take place, and are sent adrift on the world by men whose higher instincts teach them that the principle is wrong, and the practice vicious. True, the army gets a good lift at "term" time, from the sources which we have indicated. We suspect the cause is that youths are engaged under the name of apprentices, and to save men's wages, they have to do the work which labourers should perform. At the end of their three years of apprenticeship, the lads are emerging into manhood, and what tuition have they received? Proprietors, who cannot afford to employ the labourers of the locality, should reduce their gardens and grounds, and prevent a grievance most discreditable to all concerned. I could, at the present moment, were it necessary, unfold a sad tale of gardening distress, mostly from one cause, that of proprietors occupying places (frequently by lease or yearly rent) which cannot be half kept for the amount allowed to maintain them, with the consequent result that a system of "youth training" has to be adopted; the youths are dubbed "journeymen gardeners" at the end of two or three years, and we know the rest.—*M. T.*

Scottish Horticultural Association. — The eighth ordinary meeting of this Association was held on Tuesday night at 5, St. Andrew Square. Mr. Milne, Inverleith Nurseries, occupied the chair. Mr. M'Kenzie, Warriston, read a paper entitled "Notes on the History and Development of the Chrysanthemum," in which he gave an account of its introduction into this country, where it has since obtained much popularity. Several other gentlemen spoke on the same subject, chiefly in connection with the blooming of the flower earlier in the season than it can at present be had. A vote of thanks was accorded Mr. M'Keuzie for his interesting paper.

The Amateurs' Garden.

THE FLOWER GARDEN.

Planting Bulbs and Plants under Trees.—Nothing produces a more pleasing or striking effect in a flower garden than bulbs flowering under deciduous trees, where, if the trees happen to be on raised ground, they show off to great advantage, and look natural with the carpeting of grass; as do also Primroses, in which position they appear quite at home. The bulbs most suitable to the purposes referred to, are Snowdrops, Jonquils, and Daffodils, of various kinds, all of which may be had in quantity cheap, and if they are dibbled in, or planted about 3 ins. deep with a trowel, and some light rich soil dropped over them, they will come up strong, and make a fine display in the spring.

Herbaceous Plants.—The present is a good time for obtaining and planting these, and it may be well to mention a few of the most useful, among which are Delphiniums, which are grand for the backs of borders, especially the tall shapely varieties that have long spikes of bloom, and rear their heads to a height of 3 ft. or more.

Phloxes.—Too much cannot be said in praise of these as they are magnificent when in flower, and may be had in almost any shade of colour; but to grow them well they must have great depth of soil, and be planted where they can be kept moist at the roots. The way to give them a good start is to dig large holes for the plants, and work in at the bottom some rotten manure for them to drive down and feed on, which will enable them to produce fine heads of bloom.

Pæonies.—These are gorgeously beautiful, but being of large growth and spreading, they must have plenty of room, and like the Phloxes require the ground trenched and enriched, and to be placed where they can get plenty of sun.

Pyrethrums, &c.—Both the single and double Pyrethrums are a most useful class of plants, as they are not only exceedingly showy in beds or borders, but are very valuable for cutting, as they not only dress well and last long in water, but come in early, before there is much else in the open to cut. As the Pyrethrums are of dwarf habit, the most suitable place for them is in the front of a border, and if an increase is desired, they may be cut through the crowns and divided.

Harpalium rigidum is a showy plant, and so is Helianthus multiflorus, and its double variety, the two being of tall growth, and fine for planting in the foreground of shrubs. Of Everlasting Peas, there are two that should be in every garden, the one white, and the other purple, both of which will succeed almost anywhere, and are good for growing up a trellis, which forms a good support for the tops.

Asters, or Michaelmas Daisies, are fine showy things, and come in at a time when flowers are scarce; as do likewise the handsome Anemone japonica, and japonica alba, the last named of which is a gem, with its large pure white salver-shaped blooms, and their conspicuous discs, surrounded by rich golden anthers, which set them off to advantage.

Christmas Roses must not be forgotten, as they come in at quite the dead of the year, let the weather be what it may, and only need a common handlight to protect their blossoms, which under its shelter turn almost pure white, and are of great service for cutting, as they open and last almost as long in water, in a room, as they do on the plants.

THE FRUIT GARDEN.

Indoor Peaches.—One of the most frequent causes of failure with these is allowing the trees to get dry at the roots, which brings on bud dropping at the time they should begin to swell, when instead of enlarging they shell out and tumble, and thus stop all chance of a crop. To prevent the great disappointment of not having fruit, the borders (if they be inside) should have a thorough soaking of water, and to make sure of this soaking in, and not being lost through escaping down cracks, it is necessary to just break up the surface of the soil, or ridge it up around each tree, so as to form a basin or saucer-like receptacle to hold it where wanted, and if this is done now no more will be required till the flowers are set.

Vines.—In cases where these have Grapes hanging on and they are wanted to be kept, every care must be bestowed on maintaining the house cool and dry, for though it is requisite to have a fire going when the atmosphere is unfavourable, it should only be sufficient to expel damp without raising the temperature, and to prevent this the ventilators must be always a little way open.

Looking Over the Bunches.—As one mouldy berry soon contaminates others, it is necessary to look over the bunches frequently, and to clip out any decaying; but this work requires a steady hand, or the operator will soon spoil the blooms.

Apples and Pears.—These are keeping badly this year owing to the glut of wet in the autumn after such a dry time, and to prevent waste the store should be examined once or twice a week, and any spotted ones picked out and used before the rot spreads.

Planting Trees.—This has been already touched on, but those who have not commenced operations ought to lose no time in beginning, as every day lost now is of consequence, for trees moved at this early season stand a far better chance of doing well than those shifted later on, when they are less able to make fresh roots and get hold of the ground before they start in the spring.

Choice of Plants.—For small gardens the most suitable stock for Apples is the Paradise, as on it trees may be kept quite dwarf, bushy, and very prolific, and the same with Pears on the Quince, which do well in deep, rather stiff soils, and produce some of the finest of fruit. A good way of growing both Apples and Pears is cordon fashion, either single or double, trained upright or obliquely on wires, as then every fruit is exposed to the full action of the sun, which paints the cheeks of the Apples or Pears, and finishes them up in quality and flavour.

THE VEGETABLE GARDEN.

Clearing the Ground.—Now that the leaves of all root crops, Cauliflower stumps, and other vegetable refuse has to be cleared from the ground, all should be laid in some out-of-the-way place, and preserved, as though many regard such gatherings as rubbish, matter of that kind, when decomposed, is most valuable to wheel on the land, which it improves and enriches more than many kinds of manure. To cause it to rot quickly the best way is to lay it together in bulk, which will bring on fermentation, and when in that condition it should be turned over, and at the time that is being done it is a good plan to cast over it some salt and lime to kill insects in it, and render it more convertible for plants to feed on. Anything that will not readily decay, such as the prunings from fruit bushes, and clippings from hedges, may be either charred or burned, as wood-ashes are of great use for dusting over seed beds and young growing crops to prevent the attacks of birds or slugs, for which purpose they should be kept dry in some shed.

Cauliflowers.—The autumn is still favouring these, and that grand late variety, Veitch's Giant, continues turning in, and will be succeeded by the equally useful Broccoli sent out by the same firm; but as we may now expect sharp frosts, both Cauliflower and Broccoli will need close watching to turn the leaves down over the hearts, or to cut the heads as they become fit, before they are injured, as laid in a damp cool place they will keep fresh and good for some time.

Brussels Sprouts.—The heavy rains we have had have been very favourable to all the Brassica tribe, and Brussels Sprouts have benefited greatly; but to prevent harm from a further continuance of wet, all yellow and decaying leaves should be removed from the stems, which will let in light and air, and improve the quality of the Sprouts, as well as stop them from rotting.

Lettuces.—All of these that are of any size will do no good out of doors after this, and should be taken up with large balls, so as to check them as little as possible, and placed in pits or frames up near the glass, where, if protected, they will yield a supply during the greater part of the winter.

Endive and Spinach may be treated in the same way, but any wanted for present use will do well laid in in any dark shed, where it will blanch without being covered. Late sown beds of Spinach will need the final thinning, leaving the plants about 8 ins. apart, which is quite near enough, and after the thinning is complete the rows should be hoed between for the purpose of destroying weeds and stirring the soil.

TRUMPET DAFFODILS.

What are these? it may be asked. They represent a section of very fine single Daffodils, having long trumpet-shaped corolla, bold and striking. At the base of the flower, and at the point of the flower stem, there is a ring of florets which is known as the perianth, and from the centre of this issues the long tubular-shaped trumpet or corolla, forming a single Daffodil. They are all very beautiful, and singularly handsome in the spring months when in flower.

This section of Trumpet Daffodils is divided into four groups. There is first of all what is known as Medusa's Trumpet Daffodils, or N. Bulbocodium or Hoop-Petticoat Narciss. This is the rush-leaved Hoop-Petticoat Daffodil of southern Europe, and it is said there are many varieties all easily recognised by the expanded crinoline-like corona, and green rush-like leaves. Why termed Medusa's Daffodil I cannot say. The three best forms, and those most easily obtainable, are the Medusa's Golden Trumpet, rich golden yellow, valuable as an edging or for pot culture; Medusa's Silver Trumpet, rich clear sulphur-yellow, and further the same with pure snow-white flowers, both suitable for pot culture; the latter should be grown wholly in pots. When planted in the open ground, the Hoop-Petticoat section should have a light, moist, sandy loam, and be planted fairly deep in the soil.

The Golden Trumpet Daffodils form the second group, the best are Abscissus, perianth sulphur-yellow, trumpet very long and deep rich yellow, late flowering. Emperor, perianth deep primrose, trumpet full yellow, and very large; Lincolnshire Yellow, perianth and trumpet full yellow; Major, deep rich yellow, large and fine; Maximus, perianth rich yellow with an elegant twist, trumpet deep full yellow, very large and gracefully recurved at the brim; Nanus, rich fine yellow, very dwarf and early; in March the flowers of these miniature Daffodils thickly bespangle the ground like golden stars. Obvallaris or the Tenby Daffodil, perianth and trumpet rich yellow, flower medium size, and possessing all the finer qualities of a florists' flower; Rugilobus, perianth primrose with full rich yellow trumpet, in colour and form not unlike Emperor; Spurius, almost deep yellow, perianth broad, imbricated and hooded, lying forward on a large expanded trumpet; and Thomas Moore, perianth light yellow, trumpet rich yellow, long and narrow, and regularly lobed at the brim.

Of the Golden Trumpet Daffodils the finest is N. maximus, which in good rich light soil attains a height of from 2 to 3 ft., bearing its great golden flowers aloft, alike in wind and rain. Emperor is also a stately variety, but paler in colour. The two commonest of the dwarf kinds, N. minor and N. nanus are confounded with each other in gardens, but N. nanus is easily known by its broadly imbricated perianth segments, while in N. minor the segments are narrower and barely overlap each other. The most robust and effective of the garden Daffodils for ordinary garden culture, are N. maximus, N. major, N. rugilobus, N. Emperor, N. obvallaris, N. abscissus, and N. nanus.

The two-coloured or bicolor Daffodils are all beautiful and deservedly admired. The leading and best obtainable varieties are, Empress, large white perianth of great substance, large, rich, full, yellow trumpet; Grandis, perianth pure white and imbricated, trumpet large, full, and yellow, this is considered the finest of the two-coloured section; Dean Herbert, perianth full primrose, changing to sulphur, trumpet, rich yellow, very large and distinct; Horsfieldii, perianth pure white, trumpet full yellow, very large and early; and James Walker, large sulphur white perianth, elegantly imbricated, large, rich, full yellow trumpet. The foregoing are all varieties of N. bicolor, the remainder of the group which are recommended, are, Cambricus, perianth sulphur-white, trumpet yellow, very neat and early; Pseudo-narciss (the Lent Lily), whitish perianth and yellow trumpet; Princeps, sulphur white perianth, very large yellow trumpet; and Scoticus (the Scotch garland Lily), whitish perianth and the full yellow trumpet, elegantly serrated. Undoubtedly this group comprises some of the most effective varieties; they are mostly distinguished by having a white perianth round a golden crown or trumpet. Empress, grandis, Horsfieldii, and Dean Herbert are very fine, perhaps the third is the best of all of this section for general culture and effect in gardens. Horsfieldi is also well adapted for growing in pots for spring flowering in the greenhouse; it is one of the most showy of all hardy bulbs, and roots of it potted up will bloom in March quite readily.

The white Trumpet Daffodils form a smaller group, at least, such of them as we can commend for garden culture. They are, Albicans (the great white Spanish Daffodil), the perianth white, the trumpet primrose, passing off to white; Cernuus (the drooping white Spanish Daffodil), perianth silver-white, trumpet sulphur, changing to white; Ceruuus pulcher, perianth silver-white, with a large white spreading trumpet, sulphur, passing to white; and Pallidus præcox, sulphur-perianth and trumpet, the earliest, and considered by many growers to be the most beautiful of the Trumpet Daffodils.

The white Daffodils have a peculiar charm of their own, and are very beautiful when grown in pots in the greenhouse; but it should be borne in mind, however, that artificial heat is not necessary to their culture, all they require being shelter from wind and rain. In warm, light, rich soils they are perfectly hardy. Parkinson tells us that originally these lovely white Daffodils came from Spain.

In his lecture on the Narcissus, Mr. F. W. Burbidge says, in regard to the culture of Daffodils:—"It is of the most simple kind, and one of the most pleasing of all the spring. Effect in our gardens is absent where they are not. Even a clump or two of the common double yellow kind in a cottage garden brightens up all around it; and planting bold beds or masses of these

The Hoop-Petticoat Narciss.

bulbs among the margins of woods, or even in the grass of lawns and in home meadows where they do not naturally exist, is a means of adding beauty to natural vegetation of such localities, for, as someone well said, a group of golden Daffodils on the young grass is as 'sunshine in a shady place.'" When planted in quantity, one of the results gained is a plentiful supply of flowers for cutting, and of all spring blossoms these are the best for the indoor decoration of vase or pitcher.

A handful of common yellow Daffodils, with a good length of fluted stalk, placed daintily in an old brown jug with a few green leaves, or with slender willow shoots when silvery buds or "pussies" grace them, is a picture that all may enjoy. There is no garden so small, no home so humble, in which these golden Daffodown dillies may not be grown and enjoyed. In large country places they should be planted along the grassy margins of walks, "beside the lake, beneath the trees," where they may dance, and sway, and nod, and flutter, as well becometh the joyous sisters of "an April Daffodilly."

The Daffodil is supposed to be one of the flowers which Proserpine was gathering when she was seized and carried off by Pluto. The earth, at the instigation of Jupiter, had brought forth the lovely blossom for a lure to the unsuspecting maid. Shakespeare, in "A Winter's Tale," alludes to this story:—

"O, Proserpina,
For the flowers now that, frightened, thou let'st fall
From Dis's waggon! Daffodils
That come before the swallow dares, and take
The winds of March with beauty."

Other accounts of a similar legend, slightly varied, state that it was at the instigation of Venus that Pluto employed the Narcissus to entice Proserpine to the lower world.—*R. D.*

THE YEWS, WITHINGTON.

Bearing in mind what has been done with the Cyclamen during the last ten years, the ease with which in the hands of a skilful cultivator the seed is sown, the young plants reared, and a good flowering plant presented in a period of from twelve to sixteen months, it may, perhaps, be rank heresy to say that a Cyclamen is not at its best till it is three or four years old, and that from that age till the plant has passed from ten to twelve summers is the time when the greatest perfection is attained, and the display of blooms is at its highest development. And yet such was the statement made to me only yesterday by one who certainly, so far as his own success is concerned, is qualified to speak on the matter, Of course no reasonable man could or would pretend to express anything but surprise and satisfaction at the plants as now produced by the great growers in the south, and, in fact, in other districts also. They are objects of wonderful skill, and always gather around them a host of admirers; and then they pass into the hands of others, the first season are moderately grown and flowered, and afterwards discarded.

That is the time, says Mr. Hastings, the gardener at The Yews, Palatine Road, Withington, when they should be taken in hand; and certainly fifty plants now at this place under Mr. Hastings charge would fully seem to bear out all he said respecting them. I must confess to some scepticism at first; but when immense bulbs, or, more correctly speaking, corms, 6 ins. in diameter, grown in 8 and 9-inch pots, some of which were twelve and sixteen years old, and covered with vigorous and healthy foliage of splendid colour, and with flower buds now coming up by, not merely scores, but hundreds on a plant, there was little room for further doubt that here, at least, Cyclamen culture is a pet hobby, and that great success attended such careful and persistent labour. These fifty plants are now rapidly pushing up their flowers, and in a month or six weeks' time will be a picture worth seeing, and one that will, I venture to think, give some surprise to beholders. After flowering, say, in February or March, the foliage losing colour, &c., the bulbs are just dried a short time, and then, about May, are potted and stood on a shelf in a vinery; here, with such treatment as good vine culture demands, they soon start away, and develope fine foliage. On this shelf they remain till about September, when, on account of more air and less heat being needed, they are placed in a house where double Primulas, &c., are grown, and there they are to-day, many measuring 18 ins. across.

Of Primulas there are about 300 plants in flower; the double, semi-double, and single forms being each and all represented by numerous sorts. Such a mass of Primula flowers were most interesting; the different shades of colour in some, and the purity of the white more or less in others was very noticeable. The double ones were the most advanced in regard to flowering; the trusses of flowers being stout and strong, and well up above the foliage. Among these were Marchioness of Exeter, beautiful pure white, fine, and large; atro-rosea plena, rich crimson; King of the Purples, a very effective variety; alba plena fimbriata and alba plena. There were also many forms of the single-flowering type, white, rose, and salmon; the whole making a display that was most interesting and effective.

Of Fuchsias, Gustave Doré, Le Cygne, and Wave of Life were still well in bloom. The two former are splendid double varieties with white corollas. In a fernery adjoining the vinery a Lapageria rosea is loosely suspended from the roof, and the ends of the growths hang down over and among the Ferns, and are now full of its bright showy blossoms. The Ferns here are mostly of the greenhouse varieties, with such plants as Polypodium vulgare cambricum, Woodwardia radicans, W. cristata, &c., of the more choice of the hardy species. Of course a few Orchids are present, Pleiones being represented by about a dozen pots; Dendrobium densiflorum, a plant 4 ft. over, with twenty new leading growths; D. chrysanthum, full of bloom; D. Schroderii, just finished plumping up its bulbs; Lælia purpurata, very strong; Oncidium Barkerii, in flower,

with others just coming away. The whole of the plants under Mr. Hastings charge are in the best of health and condition, and for months to come, with dwarf Chrysanthemums, Zonal Pelargoniums, Primulas, Cyclamens, &c., the houses will be kept well stocked with gay and showy flowers.—*W. Swan, Fallowfield.*

SUMMER-FLOWERING CHRYSANTHEMUMS.

In our last we gave an illustration of some new early-blooming Chrysanthemums of the tall-growing and large-flowered section, and which perhaps give better results under pot culture than if grown in the open borders. The small-flowered section now under notice, and of which four varieties are here illustrated, is on the other hand a most valuable one for early autumn blooming, either in pots or borders, and it is difficult to say under which system of culture they are most useful. Those who have to meet large demands for cut blooms will, of course, plant them out, but the amateur who has a greenhouse and only a limited amount of garden space, would derive the greatest pleasure from growing them in pots, and especially if they are manipulated so as to get them in bloom early in September when the beauty of the summer-flowering plants begin to wane. It is then that a little house can be made gay and interesting until the large-flowered Show and Japanese varieties come in.

Early-flowering Chrysanthemums.—1, La Bien Aimée; 2 Surprise; 3, La Petite Marie; 4, Pomponium.

The varieties illustrated are, 1, La Bien Aimée (new), a charming variety for growing in 48-pots, its average height being about 16 inches; it is a very free bloomer, and the flowers, which are very neat, are of a deep shade of carmine, lightly tipped with white. 2, Surprise (new), grows about 2 ft. high, and is also a free bloomer, its flowers being larger than those of the first-named, and in colour pure rose with the petals tipped with white. 3, La Petite Marie, is a great favourite of ours, a variety that seems to please all who see it, being very dwarf in small pots; an early and continuous bloomer, and its flowers pure white. 4, Pomponium (new) is a first-rate novelty, growing about 2 ft. high, and producing its extra double deep yellow flowers very freely. For the opportunity of illustrating the new sorts we are indebted to Mr. W. E. Boyee, from we have also received cut blooms of many other good varieties.

TUBEROUS BEGONIAS.

These beautiful plants, which year by year are becoming such prominent ornaments in the flower garden, will now need some attention if the tuberous roots are to be saved. For some years past, a few of these Begonias have been grown extensively for conservatory decoration, and as such were duly admired. As bedding plants, however, they are a comparatively new race, and even yet the public mind is not sufficiently aroused as to their undoubted value in the flower garden. The Zonal Pelargoniums are not done with yet, however, and it takes a good deal of persuasion to dislodge a group of plants which has withstood the severe test of so many years, and the still severer criticisms of those who have so much opposed the "scarlet fever," which has had so much to do with bedding arrangements generally. As summer and autumn-flowering plants the tuberous section of Begonias admirably adapt themselves, and from the many free-flowering and dwarf sturdy habited kinds which are now procurable in nurseries, where they are made a leading feature, it may safely be predicted that there is a great future in store for them, a future of popularity which will long hold its own. One of the points favouring this prediction is, that these Begonias may be grown equally well for bedding purposes by those who are not possessed of heated structures as by those who are, and if spring gardening is indulged in, in the early part of the year, there is nothing less expensive and so productive of good results, that can be planted to follow as the Begonia.

The attention they require now, however, is lifting and storing them away at once, as a few degrees of frost plays sad havoc among them; lose no time, therefore, in lifting them and shaking off a good part of the soil, for they make quantities of roots when planted in a free generous soil. Place them in shallow boxes, and take them to the potting shed, where they may be covered with light dry soil. The tubers should not remain exposed to external influences, and, when covered over, may be placed in any shed or out-house where they will remain dry; anywhere, in fact, where artificial heat is not needed. There will be sufficient moisture in the soil to keep the tubers sound and plump till the foliage and stems are thoroughly matured and ready to fall off, at which stage they should be overhauled, removing all dead foliage and stems, which if left about them, will only assist in rotting the tubers; when this is done, place them again n the boxes, and cover them with dry soil. They may now be stored in any cellar, shed, or similar place from which frost is excluded, and which is practically dry; the chief points to aim at, being to keep them quite dry and secure from frosts, at the same time avoiding heated structures.

When I say, keep them quite dry, I do not mean to infer that there is any necessity for so drying them, as to cause them to shrivel—far from it; as to dry any tuber or bulb to this extent tends only to weaken them; but to render my meaning the more obvious, I will cite an example. Presuming we have say a dozen kinds, and in as many colours, which it is necessary for bedding purposes to keep separate and distinct, the simplest and best way of wintering them safely is this:—Obtain as many small wooden boxes (cigar boxes will do capitally if large enough for the tubers) as you have varieties; place the tubers in these, with their respective label, and sprinkle a little dry soil, or soil and cocoa-nut fibre mixed, among them. When all are thus complete, obtain a box sufficiently large to hold twice the number of boxes you have filled; and having a bushel or so of cocoa-nut fibre refuse at hand, put three or four inches of it in the bottom of the box; upon this place your boxes of tubers, and when all have been put in, fill in the box with fibre. In this way, covered in and lined with the fibre, they will remain as plump and sound as when lifted from the ground, and the safety of the tubers is guaranteed. The box, if placed in a damp cellar, should be stood on a couple of bricks; in this way a great many tubers may be wintered in a space of 3 ft. square. So much then for the bedding portion.

For those which have been grown in pots, a different plan is necessary. In most cases the pot plants will have done their work, so far as flowering is concerned, for the present, and water must be gradually withheld. At this stage, great care should be taken to keep the water from getting a lodgment in the hollow at the top of the tuber, and when the stems are sufficiently mature and loose, to come away freely, they may be removed, and the hollow part filled with soil. Being in pots, these will not be got into so small a compass as the bedders, so that the floor of a cold house, having a good ash bottom to keep away worms, or a brick pit from which frost can be excluded, will suit them well. Place them close together, and cover with 6 or 8 ins. of cocoa-nut fibre refuse, spent hops, or tan, and they will be safe.

In the case of such things as these, it is a too common and not very prudent practice to place them under the stage on their sides; and it not infrequently happens that they are too near the hot-water pipes, which dries the very life out of them. Because a plant or bulb requires a season of rest, it does not follow that compulsory measures should be taken to bring it about; rather let their resting period be one of extreme quiet, uninfluenced by artificial heat, which should only be given in case of very severe frosts. As I have previously stated, I prefer giving them a good depth of loose material for a covering, to ensure their safety than of resorting to fire heat, as with the former no water is needed throughout their resting period, while it is necessary where fire heat is used; so that, between heat and water, the tubers are invariably excited into action prematurely, which is anything but beneficial to their well-being. A cool uniform temperature is much the best for these plants, and such as they require is within the reach of all.—*E. J. L.*

The Botanic Garden, Glasgow. — The Town Council of Glasgow have decided to allow the Society to continue in the possession of the gardens until March 31st, 1887, any deficit then remaining to be made up by the sale of plants and other moveable property of the Society.

VEGETABLE CULTURE AT PORT ELIZABETH.

The regular arrival of your most interesting Journal constitutes one of my greatest pleasures, as you know I have been out here over six years, and am becoming quite a colonist. Indeed, I like the colony very much, but at the same time I am much interested in what is going on at home, and your well-filled columns keeps me well posted up. If I thought it would be of any interest to your readers to know what is going on in this part of the world, I would, with pleasure, send you a few lines from time to time.

I am myself chiefly interested in the cultivation of Vegetables for the Port Elizabeth market, and may say that most kinds of Vegetables do well here. Asparagus grows well, and is ready to cut the second season. Of Artichokes, both the Globe and Jerusalem do well. French Beans crop splendidly, and we have them nearly all the year round in sheltered places. Broad Beans are not so good. Of Beet, the Egyptian or Turnip-rooted is principally grown; it is grown all the year round, and largely used. Brussels Sprouts I have not yet succeeded with, nor do I know anyone else who has. The hardy Broccoli we do not require. Cabbages are good all the year round, and range in size from Little Pixie to Robinson's Defiance. All are used at table, the growth being quick, and the flavour consequently sweet and good. In Cape Cabbage we have the best variety for summer use. It stands the drought and fierce sun without flinching or changing colour, in fact it is the best Cabbage I ever had brought under my notice. It is like your sugar loaf, dark green in colour, solid, and sweet. I send some thousands of it to market every year, and do not care to grow any other. All kinds of Cucumbers do well during our short summer. I say short summer advisedly, for our real summer is of very short duration. I am, of course, alluding to Cucumbers planted out on ridges, for our resources at present do not extend so far as glass-houses for them. Carrots of all kinds do well; and Celery comes very good, especially in our winter. Onions grow up to 3 lbs. and 4 lbs. in weight, but do not keep long when grown so large. Peas crop well, dwarf kinds in particular, but they are rather apt to rust.

Potatos do fairly well, and we can get three crops during the year—splendid work this, you will say, but I must add that Potato growing in this locality is not a very profitable business. In some parts of Africa Potatos do much better, for instance, in the Transvaal and Zululand, and I saw plenty of them in Basutoland some five or six years ago. Cauliflowers do well for eight or nine months in the year, if seeds are sown in November, the plants come into use in April, and the succession is kept up until the following Christmas. Those which are planted out during our hottest and driest season are always the best; all they get in the shape of watering is one application when they are planted out, and a dull day, if we can get one, is taken advantage of for planting them. The soil is so warm that the roots strike into it in two days, when they are practically safe. As to going blind, well, not above one or two per cent. do this, and of clubbing we have none. The land is, of course, well prepared and heavily manured, and under such conditions we get large solid heads; larger, in fact, than any I ever saw at home

Pumpkins do well, and are much esteemed here as a vegetable by the natives and all old colonists. Lettuces we have all the year round, both Cos and Cabbage, but the latter are most preferred. Everyone here who has a bit of ground grows Sweet and Water Melons. The latter will grow on any fairly good, sandy, dry ground, and quite out in the open fields, without any manure of any kind or water either, except what they get in the way of rain. The seeds are sown broadcast and harrowed in, and the hotter and drier the weather the better they do, provided it is fairly moist at the time of sowing, September and October. They are, of course, all the better for a shower of rain when the fruits are swelling off, and they grow to a great weight, sometimes as much as 40 lbs. The Sweet Melon, however, does better in well prepared and heavily manured ground, and likes more moisture than the Water Melon. The seeds are sown where they are to grow, and the plants are well thinned out and kept clear of weeds; but they have no pinching or pegging of any kind. They grow splendidly, and are well flavoured. It is quite an usual thing to see them up to 20 lbs. and 25 lbs., and heavier than that in the western province.

The Tomato crop is a most important one. The variety principally grown for market is The Trophy. On well prepared ground we can either sow the seeds where they are to grow, or plant them out from 4 ft. to 6 ft. apart. The plants are kept clear of weeds, and encouraged to spread themselves over the ground without any trimming or pegging, and from about December to May the crop is a sight to be remembered. As in all hot countries, Tomatos are largely used here, being eaten raw, either with or without Onions, baked, boiled, fried, in stews, or made into pies, and they are good, no matter how treated. I mention this, because though I grew them largely at home I never appreciated them.

The season for sowing such things as Carrots, Onions, Beet, Turnips, &c., is during our autumn, when the earth is cool and moistened by rains; but Mealies, Marrows, Pumpkins, Sweet and Water Melons, Cucumbers, and such like produce can only be sown during spring and early summer—August to November. After landing here with a full knowledge of the proper seasons for sowing at home, one feels some difficulty in adapting one's self to the altered circumstances; but after a year's work all comes right.—*James Hall, Port Elizabeth.*

[We feel sure our readers would much appreciate an occasional letter from our friend, and if he would give us some information on the colony, likely to be useful to gardeners desiring to emigrate, we should be very greatly obliged to him.—*Ed.*]

FLORIDA.

For those who have to depend solely on their own exertions, Florida offers few inducements, and success is almost impossible. Anyone intending to grow Oranges should have at least £800; but other pursuits can be followed successfully with about one-half that sum. I would advise those with little capital to leave Orange-growing alone, and try some other business better adapted to their means. If they go south they will have much greater chance of success.

The north of South Florida unquestionably has the best groves and gardens in the state, but they are much older, as the railroads have more recently brought the lands of the south in communication with the northern markets. The southern portion of Florida is the only spot in the United States that is free from severe frost. The winter storms are moderated, as they pass down the narrow peninsula, by the counteracting influence of the ocean and gulf, and when they reach the warm waters of the large lakes that compose the great lake region of Florida they are rendered harmless. The lake region lies in Orange and Sumter counties, and is the finest section of Florida, The chain of lakes is recognised as the dividing line between the cold and warm portions of the State. I can support the accuracy of this statement from personal experience. I have seen injury done by frost north of this line during three different winters. The winter of 1883-4 was one of the coldest ever known in the State, and many large Orange trees were killed north of this line, but little harm was done to the south. Well-grown trees can endure many degrees of frost, but nursery trees cannot, and sometimes the Orange nurseries north of the lake region suffer severely. Many fruits, such as Bananas, Guavas, and Pine Apples, cannot be grown north of the lake region without protection from frost.

Vegetable raising or "trucking" is now a leading industry in Florida. It can be carried on with great success everywhere, and offers inducements to those who have not much capital. Tender vegetables cannot be grown north of the lake region without risk until spring; but in that section and to the south of it settlers can make two crops every winter. Truckers commence to send vegetables to market in December, and continue to do so until the produce of other States is ready for market. Even if vegetables get hurt by frost, the loss is not serious, as the settlers can replant and have ample time to make a successful crop. As "trucking" is over in May, truck farmers have little to do during the hot weather. This business ought to be carried on by Orange growers until their groves commence to bear. Groves require little attention from September to February, so there is time to devote to some remunerative business during the cool months. "Trucking" has advantages over Orange growing, as it is carried on during the cool season; it requires less capital, and gives quicker returns for the money invested. With its climate so well adapted to the growth of fruits and vegetables, and so beneficial to invalids, Florida must have a great future, and is attracting great attention.

Middle-class emigrants are arriving from England in large numbers. Few of these Englishmen are aware that delay and caution are necessary on arriving in Florida, and many buy land and commence to prepare it for Orange trees before they have been longer than a few days in the State. From experience I can say that those who are not in too great a hurry at first, invariably succeed best here. There are many things that settlers have to keep in view in selecting localities for their groves, and Englishmen ought to travel round for several months and get information and experience before making a start. The money thus spent would never be regretted if it procured for the settler a locality desirable in every way for his permanent home, and as Orange growing will not yield a profit for many years, a few months' delay at first makes little difference. The plan of paying premiums to learn Orange growing is useless. —*E. Hay Barclay, Lane Park, Florida, in The Field.*

CASTLE ASHBY.

In the gardens at Castle Ashby, the princely residence of the Marquis of Northampton, many good old-fashioned plants are well cared for. Luculia gratissima is represented here by a fine specimen bearing many dozens of fine trusses of its sweet-scented rose-coloured flowers; of Brugmansia sanguinea and B. arborea there are huge specimens flowering freely; and Cassia corymbosa with its bright golden blossoms, is also a most conspicuous object at the present time. Mandevilla suaveolens is also extensively grown.

A span-roofed vinery 86 ft. long, 20 ft. wide, and 25 ft. high, is just now a prime feature in the garden, the crop of mixed Grapes being a remarkably fine one, the bunches being large, and the berries well coloured. The following varieties are well represented:—Frankenthal, Muscat Hamburgh, Gros Colmar, very fine, Barbarossa, bunches over 7 lbs. in weight, and well coloured, Lady Downe's Seedling, Alicante, superbly finished, Muscat of Alexandria, Mrs. Pearson, Raisin de Calabre, White Tokay, Mrs. Pince's Black Muscat, Ashby Black Seedling (what is this?) and Trebbiano, all very good indeed. The Black Hamburghs have also been very fine, but are now over.

The collection of hardy fruits is a very good one, and good crops have been gathered in. The kitchen garden is a large one, and well situated, and contains abundant crops of vegetables. The place is well kept, and reflects great credit upon Mr. Birch, who is known in the craft to be a good all round practitioner.—*A. O.*

FRUITS, FLOWERS & VEGETABLES.

Lemoine's New Double Bouvardias.—These are very welcome additions to this useful class of plants. They should prove very valuable for cut purposes, their compact trusses of beautiful double flowers being particularly adapted for sprays or button-hole bouquets. B. V. Lemoine is the brightest colour, being of a bright fiery scarlet. Lang Lorrain: This is also a scarlet, but of rather a different shade to the first-named; the plant is of very vigorous growth and remarkably floriferous. Gloire de Nancy: This is rather a delicate grower; the flowers are soft rosy salmon, and produced very freely. It is somewhat remarkable that we should get so few new single varieties of Bouvardias, as the double varieties that have lately been added prove that they have not been neglected by the hybridists.—*A. Hemsley.*

Alnwick Seedling Grape.—At p. 139 I observe an answer to a correspondent who is anxious to know the weight of the heaviest bunch of this variety that has been grown. Mr. Campbell's 4 lb. bunches are certainly very good, and much above the average; but it may interest many of your readers to know that Mr. Murray, of Culzeau Castle, has cut and exhibited many bunches of this variety over 5 lbs. in weight, and which for size, shape, and finish have been considered the finest examples of this variety yet exhibited. I will send you a photograph shortly of a bunch of this variety, grown at Culzean this season, which will give you some idea of their fine appearance.—*D. B.*

Gregory's Late Peach.—This is the latest variety we have, and on one occasion it was in use a fortnight after Walburton's Admirable. If any of your readers have had the opportunity of comparing it with other late Peaches of recent introduction, I should be pleased to have their opinion. Anyone having seen a tree of Gregory's Late loaded with fruit cannot forget its appearance, or confound it with any other variety I have seen, on account of the strikingly pale green colour of the fruit on the shady or under-side, changing to a pale straw as the fruit ripens, with a splash of bright red on the sunny-side. The tree is a vigorous grower and the fruit sets freely, and grows as large as its neighbour, Dr. Hogg. Early Beatrice, Royal George, and Walburton's Admirable gave us almost a constant supply from the 2nd of August to the 17th of October, and fourteen days after Bellegarde from the open wall. The house has rather a flat roof, and is so much shaded by trees that the sun has very little effect on it after mid-day, which will, in a measure, account for their lateness.—*W. P. R.*

Pine Apple Nectarine.—Here, this is prefered to all other Nectarines, and I must say its handsome appearance and rich flavour justifies the choice. The only tree we have is in the latest house, and we gathered our last fruit on the 26th of last month, and the last two were sent to table on the 1st of November, simply that it might be said that some Nectarines were eaten in that month. We have to confine our tree to a small space, which lessened the chances of supplying a full dish at that late date.—*W. P. R.*

Dipladenia Boliviensis.—Anyone who is on the look-out for first-rate autumn and early winter-flowering plants, will find in this a very valuable subject. Early in the year I purchased a good-sized plant, intending it to be in flower in August, for which time it was rather late. However, it began to flower then, and the plant has continued to bloom ever since, and has still a lot of buds to open. For bouquets the flowers are very well adapted; also for sprays and other purposes; indeed, I have never seen a better flowering plant for the purpose just named, in the end of October, when there is not much variety to be obtained, and little else than Chrysanthemums to be seen. This plant is growing in a stove, trained on a trellis close to the glass.—*R. M.*

Duke of Buccleuch Grape.—"W. C." has gone far astray when he tries to make out that I meant size and quality to be understood as synonymous terms. I mentioned the great size of the "Duke," and remarked that no other Grape can approach it for quality, meaning of course, that the combination of size and quality is so extraordinary, that no other Grape can approach it. We have large Grapes which are large without being first-rate in quality, and we have small Grapes which have quality, but in the case of the "Duke" we have both combined, and I maintain that when the berries of the "Duke" are 4 ins. or 5 ins. in circumference, no other Grape can approach it for quality, that is to say for the quality of size, of lusciousness, and of sweetness without being too rich and cloying to the palate. I have substantial grounds for thinking that "W. C." did use the words "luscious" and "watery" in such a way as to lead one to conclude that he meant to imply the same thing. He said "it (Duke) is refreshing and luscious; but juicy—well—I always think it rather watery." Note the "always"! Under all conditions, "W. C." finds the "Duke" "*watery*," though at the same time "*luscious*." I cut a bunch of the Duke one day last week (October 29th), the berries were golden, and it was "luscious," without being in the least degree "watery"; large, and first-rate in quality. The "Duke" that was cut in January some three years ago, was written about in the *Journal of Horticulture* about that time, it was A 1 every way, but of course I do not desire to advocate the merits of the "Duke" as a late keeper, I simply desire to record a fact. Candid criticism and unprejudiced discussion are always welcome, but the "Duke" has been often attacked with very apparent bitterness, not so much in the way of benefiting Grape culture, but in order that some petty spite might be indulged in.—*J.* [We must say for "W. C.," that we are certain in what he has written, he has had no unworthy motives in view.—Ed.]

Prizes for Grapes.—The prizes won by the late Mr. William Hill, of Keele Hall, at the Exhibitions of the Royal Botanic Society, Regent's Park, between June 29th, 1853, and June 24th, 1863, were; twenty-three firsts, eight seconds, thirteen thirds, and Mr. Ivery's prize.—*Geo. Bolas, Hopton.*

Notes on Potatos.—I was much pleased with your leader of the 17th of October. It would, I think, be a most important advantage to the growers of the noble tuber if the suggestions there made were acted upon. But there is one other point which I think is just as important, which is that the Royal Horticultural Society lay down a rule, and adhere to it, that no Potato should receive a First Class Certificate unless it is grown at Chiswick, and receives the full number of marks for quality and productiveness. [This is practically the case now.—Ed.] This would shut out such noble-looking, but inferior eating kinds as International. The Society should also insist that no Potato sent for trial shall bear the name of any other variety then in commerce, or which has been already been tested at Chiswick. The last season's trial at Chiswick proved the necessity of some such law. General Gordon, a W. R., received a First Class Certificate, but another General Gordon described as a White Kidney, W. K., was favourably reported on by one of your contemporaries. This, however, may have been an error, and to show how easily errors do occur, I may say that I was sent a beautiful Potato for quality for my opinion; it was called Beauty of Hebron, and though I knew there was a white Beauty of Hebron, I thought the quality too good, and on enquiry found it was Beauty of Eydon, which has also been stated in print to be the same as Fidler's Prolific instead of Fidler's Success.—*H. J.*

Veitch Memorial Prizes, 1886.—The trustees of the Veitch Memorial Prize Fund have decided to offer next year the following prizes, the dates for which will shortly be announced:—At Stoke-on-Trent, a Veitch Memorial Medal and prize of £5 for a group of Orchids with Ferns intermixed; at Stoke-on-Trent, a Veitch Memorial Medal and £5 for a Group of Miscellaneous Flowering and Foliage Plants; at Exeter, a Veitch Memorial Medal and £5 (subject not determined); at the Royal Botanic Society, Regent's Park, a Veitch Memorial Medal and £5 for twelve Amaryllis; at the Royal Horticultural Society, South Kensington, a Veitch Memorial Medal and £5 for a Collection of Forced Salad Plants.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES

Winter Propagating.—During this season of the year, when large fires have to be kept up, there is generally a greater amount of bottom heat obtainable than at any other time. Many things may be propagated which would otherwise have to be done in the spring, a time when all available space for propagating is so much in demand. Crotons: Good-sized tops will root freely where there is a brisk bottom heat, but they should be kept quite close to prevent the cuttings from withering. Well-coloured tops struck at this season make useful plants for spring work. Dracænas: Any of these that have lost their bottom leaves may be taken off and rooted, and the bottoms will give good material for extra stock.

Ficus elastica: This useful plant may be propagated any time during the winter months. The tops should be taken off while they are in a dormant state, and some dry sand should be at hand to apply to the ends to prevent bleeding; a little sand should also be applied to the plants where they have been cut. When it is necessary to propagate from eyes, these should be taken about ten days or a fortnight after the tops have been taken off, as if left until the buds begin to swell, they start into growth much sooner after they are rooted. Dieffenbachias: Any old plants of these may have their tops cut off and propagated now, and the old plants will throw out side-shoots, which should be taken off and rooted as soon as large enough.

Selaginellas: A batch of these should be propagated as opportunity occurs. The Kraussiana (denticulata) section should be done in 48-size pots, putting in about six little tufts of the young growths into each pot. If kept close for a week or so these will soon make nice pots. S. Martensii, or any others of similar growth, may be propagated by putting three or four good cuttings into small 60-size pots, and potted on into 48's as soon as they are well rooted; they will soon make nice plants. For filling the pots for Selaginellas any rough siftings may be used, with a little finer soil for the surface to put the cuttings into.

THE KITCHEN GARDEN.

Heeling Over Broccoli Plants.—In view of early frosts, the advisability of "heeling over" our Broccoli plants as a means of checking exuberant growth if it exists, and also of saving the crop from the fate of the plants in 1880-81 once more forces itself upon us. It is rather a perplexing point to advise upon, seeing that unless the winter be a severe one, the "heeling over" process is not only so much labour wasted, but the produce is also considerably diminished thereby. However, where the plants have made a luxuriant growth, and upon the principle that "half a loaf is better than no bread," it may be desirable to heel over, if not all, at least a portion of the plants, with their heads inclining northwards.

This may be easily done by removing two spadefuls of soil from the end of the row on the north side of the plants, and putting it into a kind of ridge sloping towards the plants—say at an angle of 30° or thereabouts—so that the base of the head may rest against the top edge of the ridge; the spade should then be thrust to its full depth about 1 ft. in front of the plant, and the latter, with the assistance of the spade inclined forward, and the stem, which—when fully exposed to severe frosts suffers from its effects—should then be covered with a couple of spadefuls of soil taken from the front of the next plant, thus making a sort of bolster for the latter. Where the plants have made a short consolidated growth, with sturdy leaves close to the ground, they are less likely to be injured by frost. In fact, dwarf sturdily-grown Broccoli plants which have been transplanted into firm soil, are almost proof against frost, suffering but little injury.

The Mushroom House.—Beds which were made towards the end of August and the middle of September, and spawned a week or ten days later, will, during the last few weeks (providing the spawn and treatment have been both good), have been, and should be still, yielding good supplies of Mushrooms, and those which have been made during the interval should now be showing signs (by the white thread-like surface of the beds) of yielding a like satisfactory result. Collect horse-droppings for successional beds, and place them in a dry airy shed, where they can be turned over three or four times before being taken into the Mushroom-house to dry, and also to allow of the rank heat escaping—a procedure that should be repeated for a few mornings after the droppings have been placed on the shelves with the same object in view. This done, the material should be beaten as firmly as possible, and when the heat has declined to 70° the spawn may be inserted in the bed at about 6 ins. apart, and a little fresh droppings be pressed over it; and when it has been ascertained that the bed is not likely to rise above 70°, it can be covered with about 2 ins. thick of maiden loam of the same temperature, or thereabouts, as the house.

Should woodlice be troublesome, boiling water should be poured along the sides and ends of the beds in the morning, the sliding shutter having been previously drawn back to let the light in on them, which will cause them to retreat to the places indicated, where the boiling water can be applied with effect and without fear of injuring the spawn. Although the droppings have been turned over a few times in a dry shed, as indicated above, prior to their being taken into the Mushroom-house, they are sure to undergo another process of fermentation when placed on the shelf in a close house; therefore, the top ventilator should be opened sufficiently wide to allow of the steam arising therefrom escaping from the house, otherwise the Mushrooms in various stages of growth on the forward beds would be likely to suffer in consequence.—*H. W. Ward, Longford Castle, Salisbury.*

THE FRUIT HOUSES.

Renovating Vines — Late Varieties. — Vines which have not yielded such satisfactory crops as could be desired during the last year or two, should, as soon as the crop has been taken, be examined at the roots with a view of ascertaining and correcting the cause of their unsatisfactory condition. But before proceeding with this operation, a sufficient quantity of suitable soil for carrying out the work should be prepared, so that the process of lifting and laying the roots in a

sweet sustaining compost may be performed as expeditiously as possible. The soil should be in the proportion of five cartloads of calcareous loam, one load of lime-rubble, one load of wood-ashes, one load of horse-droppings, and about three barrowfuls of fresh soot, and the whole should be turned over two or three times to thoroughly mix the various ingredients before being used.

This done, the lifting of the vine roots should be proceeded with by carefully removing the soil with the assistance of four-pronged forks and shovels, taking care to injure the roots as little as possible in doing so. The roots of the individual vines, as much to prevent them from being injured as to facilitate the lifting and re-planting, should be tied separately together in a damp mat to keep them fresh while the exhausted, and, probably, sour soil is being removed from the drainage. The latter, if found defective, should be re-arranged, and covered with a layer of turf, grass-side down. As the soil will subside some 6 ins. or 7 ins. within a few months from the time of planting, allowance to that extent should be made in forming the borders, after which the process of re-planting may be proceeded with in the following manner: untie the roots and spread them out regularly over the surface of the border, at the same time cutting off any portion of the same that may have got damaged in being lifted, and shorten back the joints of all the other roots more or less, according to their length and strength.

Incisions should also be made about the base of the individual Vines, and longitudinally on the strongest and somewhat bare roots, to encourage the emission of young fibrous roots, and with the same object in view; cover the latter slightly with sand, then with 6 ins. thick of the soil forming the border. This done, give the whole sufficient tepid water to settle the soil about the roots, and then lay on 3 ins. thick of rotten dung as a surface-dressing, and over this, if the border be an outside one, a thickness of 18 ins. of Oak or Chestnut leaves. The latter, in order to prevent them from being blown about, should be covered with long stable dung.

From the time the lifting of the roots is proceeded with until they have been re-planted, and the Vines have shed their leaves, they should be shaded—heavily at first—from bright sunshine, with a view to retaining the leaves on the Vines until they have performed their ordinary functions, and the roots have pushed into the new soil; and in furtherance of this object the Vines should be syringed, more or less, twice a day during the interval from lifting the roots until the fall of the leaf. Vines so treated should be allowed to come on in their own time next year—that is, to start into growth naturally, about the end of March or early in April, and if managed with ordinary skill during the various stages of growth, from the disbudding to the thinning of the bunches, &c., they will be capable of ripening a better crop of Grapes next year than they did. But the Vines should be cropped lightly notwithstanding.—*H. W. Ward.*

ORCHID NOTES AND GLEANINGS.

Growing, Resting, and Watering Orchids.—A correspondent writes:—"I have often been puzzled by little matters in Orchid culture which a professional grower would no doubt regard as self-explaining. It would help me and other amateurs, I am sure, if you would briefly reply to the following questions:—(1) how to judge when a plant has made its growth for the purpose of resting it; (2) whether to water when forming buds?; and (3) how long to keep it resting?"—*P.*

1. How to judge when a plant has made its growth for the purpose of resting it. There being so many different forms of growth in the Orchid family, the appearances of the newly finished growths necessarily vary according to the section to which they belong; but in all cases the test of finished growth and required rest (not necessarily absolute drying off) are much the same—be they pseudo-bulbs, leafy, or stem-like—viz., when the last-made growths are fully made up, as shown by the previously made and matured growths; when the tissues of the new growths are seen by comparison with the old ones to be hardened like them; and when there is an appearance of new and active growth coming up from the base, or whatever part the new growth has to proceed from. These are tests which will warrant restricting the water supply to almost any Orchids, and at any season, until new growths and new roots demand a freer supply of moisture; and, which, during that period between this time and the end of February, which may in the majority of cases be regarded as the proper resting season, and that in which for many reasons it is advisable to induce as many to rest as possible, should be strictly regarded, and water withheld, or more sparingly given, and the plants placed in a temperature not likely to excite them into growth, in order to rest them and put off their new growth as far into the next season as possible. Most Orchids rested in a rather dry temperature of from 50° to 60° may be kept inactive a long time, and benefited by it, their growths, when they do fairly start, being better, and made in a much shorter time than those which circumstances have compelled to take a short period of rest.

Ærides, Saccolabiums, and others of the same habit, present difficulties to the novice in determining when not in active growth, but two general signs will generally tell plainly, viz., when the last made pair of leaves are fairly as long as the others, and no active growth in the centre is visible, and when the tips of the roots, which are soft and fleshy in the growing season, are, as it were, sealed, the white skin coming down nearer the point. In my opinion it is very easy to overdo the resting of Orchids, so far as drying off is concerned; and that a fair lowering of the temperature, with occasional watering to keep off shrivelling, is much more conducive to the health and flowering of the plants, than severe drying off. If the temperatures we give every month are adhered to, all things will pass through the winter sound, even although they may not receive quite the proper treatment in other respects.

The Odontoglossums, Masdevallias, and other occupants of the cold house want no drying off. The Cattleyas and Lælias require water when they are getting dry in winter, and perhaps the only section of Orchids which are benefited by being kept for a considerable time without water while at rest are the leafy-stemmed deciduous Dendrobes. In the resting of Orchids, as in most of the other operations connected with them, the exercise of common sense to know how far to go, and to define the limit beyond which it is not in accordance with nature's laws to proceed, is of more consequence than anything else, and I am bound to say that most amateurs who do not consider themselves skilled Orchid growers have that quality in a marked degree.

2. Whether to water when forming buds? Water should be given when sheaths, buds, and flowers are forming, as they draw supplies from the plants for which they must receive compensation; but in giving water to budding plants, the condition of the plants should determine the quantity. If the plants are not growing, the supply to keep up the flowers only is needed, but if they are they will require more water on that account.

3. How long to keep resting? The period differs greatly in different species; but if the plants are put in a proper place on the completion of their growth and carefully treated, they will each answer for itself to the watchful grower. As before observed, if the resting time comes between now and February, the better way is to use all fair means to keep off active growth as long as possible, in order to keep them over until the brighter weather lends its aid to them to form healthy tissues. With respect to some side issues bearing on our correspondent's questions, I will deal with them on a future occasion.

The Temperatures in the Orchid Houses for the month of November should be—

Warm House or East Indian, 65° to 70° by day, 60° at night.

Cattleya or Intermediate House, 60° to 65° by day, 55° at night.

Cool or Odontoglossum House, 55° to 60° by day, 50° at night.—*James O'Brien.*

Orchids at Lake House, Cheltenham.—Like most extensive collections of Orchids, that at Lake House contains some very fine examples of several rare species, and which illustrate in a marked degree the fact that good culture here prevails. At present there are some very fine things in flower, though at the time of my visit many choice gems had been cut, among which number was Vanda Sanderiana, Cymbidium affine, with six spikes, a fine specimen; and Dendrobium Falconeri, which has borne some 290 flowers. Among a nice batch of healthy plants of Cypripedium Spicerianum, several are flowering; this is one of the gems of the present time in the Orchid house, and a favourite here, as in many other places. So also is Dendrobium formosum giganteum, a Dendrobe which of late years has come to the fore, whereas formerly it baffled many to grow it successfully; plenty of heat whilst growing, and a light position near the glass are well appreciated by it. D. bigibbum, very useful species, had three spikes of flowers, and to follow shortly there is a good batch of Calanthes, with many spikes of flowers, which will enliven the dull days of November.

Remarkable for its fine growths, is Dendrobium Dalhousianum. These are stout and vigorous, and 6 ft. high; such growths as these tell their own tale, and they are certainly much the finest which have come under my notice. I also noted a huge specimen of Oncidium ornithorhynchum fully 3 ft. across in the spread of its numerous flower stems; the blossoms are just beginning to expand and presently the mass will be almost impenetrable. Near by is Vanda cœrulea, not a scrap, but a magnificent specimen of which the owner, Mr. Nevile Wyatt, is justly proud. There are several fine breaks constituting the plant, and eight flower spikes; several flowers are already open showing its colour, the pleasing blue. When at its best in a fortnight or three weeks, with a total of nearly eighty flowers, it will be a grand sight. This is probably the finest specimen under cultivation, and the characteristic blue of its flowers renders it unique. So great a rarity are specimens of similar size, that one is anxious to ask why, seeing that of late years, there have been so many fine importations of it. To keep a large specimen, in perfect health for several years together is no easy matter, and if it has flowered exceptionally free, this may to some extent account for it, and as it would appear to exhaust all its energies in its flowers, the question arises as to the prudency of allowing it to carry the greatest possible number of either spikes or blooms; would it not be advisable to thin out the number of spikes, and so allow the breaks to flower alternately, marking those which are allowed to flower now, and not allowing them to bloom again till the second season ensuing? Would not such a practice be as well as allowing the plant to mature the maximum amount, at the risk of losing a leaf or two, and probably a lead? Whichever course is followed it is not advisable to allow the flowers to remain too long upon the plant, which suffers in consequence.

In the Cattleya house a remarkably handsome form of Oncidium Jonesianum was flowering, the large pure white lip of which is beautifully fringed, and on the upper margin on either side the yellow column are three or four richly coloured crimson spots, the sepals and petals being studded with Chestnut-purple spots, and it is, as Mr. Simcoe aptly remarked, "a perfect gem." Another form of Jonesianum flowering by its side showed in a remarkable manner the vast superiority of the plants in question. Cattleya Trianæ, a large piece, seemed perfectly happy on a log of Apple-wood near by, and the Cœlogynes are much earlier than usual, for they are already pushing their flower spikes. Some very large pots of the old and still valued Cypripedium insigne were pushing up plenty of flowers, and also some very large specimens of Dendrobium speciosum, one of which is nearly 3 ft. across, and the flowers prominent in bud. The spikes of this plant last season were 2 ft. long. I may add also that Eucharis and Poinsettias are both well done here. The former are in quantity, and are producing their flower spikes unusually free. The latter group are represented by a batch of plants, mostly in 7 in pots, between 3 ft. and 4 ft. high, with large vigorous stems, with the foliage down nearly to the rim of the pot, and from which some fine bracts may presently be expected.—*J.*

Collecting and Packing Orchids.—Seeing that you make a special feature of Orchids in your excellent paper, I should be glad if any of your correspondents would give me through the medium of your journal, their experience of how Orchids should be collected, and how best to pack them to ensure their safe carriage. I do not want the information for trade purposes, but merely to enable me to send a few to my friends, so that they may arrive in a more satisfactory condition than they have hitherto done, although I have taken much trouble in establishing them, and drying them off before packing.—*M. G., Calcutta.*

CHRYSANTHEMUM SHOWS.

CHRYSANTHEMUMS are again to the fore, and for the next two or three weeks will engross the attention of gardeners and amateurs whether exhibitors or not. The popularity of the Queen of Autumn is still rapidly extending, the shows increase in number every year, and fortunately come at a time when floral attractions are scarce, affording a most agreeable break in the proverbial month of melancholy. So many varieties, too, have been raised, that a surprising diversity is now obtained both in form and colour. In the Japanese, we have all the grotesque forms and brightest colours; in the incurved section, we have the perfection of form from a florist's stand-point; while the Anemone-flowered, Pompons, and singles afford other distinct forms, each of which has its admirers, and all are useful as conservatory plants, or to produce blooms that can be cut by the bushel. The Chrysanthemum is indeed everyone's flower, and submits to the poisonous smoke of cities with much better grace than any other plant, rendering many a town-dweller's garden or greenhouse as gay on a smaller scale as the ducal conservatory.

Such public exhibitions as those at the Temple Gardens and Finsbury Park, have contributed much to the increased popularity of the plant, there can be no doubt; while most of the leading nurserymen now make it one of their specialities, and provide exhibitions at this season. Thus, during the present and two following weeks, visitors to the nurseries of Messrs. J. Veitch & Sons, Messrs. J. Laing & Co., Messrs. Cannell & Sons, Messrs. W. Cutbush & Son, Mr. B. S. Williams, Mr. N. Davis, and many others, will find extensive displays of new and old varieties, admirably exemplifying the beauty and variability of the Chrysanthemum. The general autumn exhibitions have also commenced, and of the principal we intend giving brief notices, pointing out their chief characteristics and naming the owners of the most important prizes.

Peckham.—*Nov. 2nd and 3rd.*—The Surrey Chrysanthemum Society had the honour this year of commencing the exhibition season, and did so with a pretty little show, which for their second venture was highly creditable to all concerned. The show was held in the large Public Hall, Rye Lane, a building well adapted for an exhibition of this kind, though it would have held many more exhibits than those which were entered. However, there is good evidence that the society will advance in importance, and that their show may rank among the best of those in South London. One of the most successful competitors, was Mr. Sadler, Oak Hill Place Gardens, Streatham, who was awarded no less than five first prizes for blooms of great merit, and proving, as did the fine Elaines at Kensington recently from the same gardener, how well Mr. Sadler understands the requirements of Chrysanthemums. His stand of twelve incurved and twelve Japanese varieties, would not have disgraced any exhibitor, especially as they had not been submitted to any dressing, this being contrary to an express stipulation in the schedule. One grand bloom of M. Astorg deserves notice, for it was a wonderful example of this variety, and will probably not be surpassed this season. Mr. Stevens, of Putney, succeeded in winning the Silver Cup (value five guineas), offered for a group of plants, with a collection similar to, but better than the one he had at Kensington recently. He also had the best twenty-four incurved blooms, undressed, which comprised wonderfully substantial examples of Lord Wolseley, Alfred Salter, Beethoven, Queen of England, Jeanne d'Arc, Emily Dale, Prince Alfred, and Mr. Bunn. Some praiseworthy blooms were also staged by Mr. Howe, Tulse Hill House Gardens, and with several other smaller contributions served to make an interesting show.

Ealing.—*Nov. 3rd and 4th.*—The Lyric Hall, Broadway, was selected for the annual Autumn Show of the Ealing Horticultural Society, the affairs of which have been for several years so satisfactorily conducted by the Secretary, Mr. R. Dean. An especial feature is made of the Chrysanthemums, but classes are also provided for miscellaneous plants, fruits, and vegetables, in all of which the competition is invariably keen. Indeed, the Ealing show is one of the brightest and neatest held in the neighbourhood of London. Cut Chrysanthemum blooms were capitally shown by numerous exhibitors, Mr. J. Beesley, gardener to A. Fraser, Esq., Esthenia House, Ealing, being deservedly awarded several of the leading prizes. His premier stand of twelve incurved varieties was remarkably meritorious, comprising fine even blooms of Lord Alcester, Golden Queen, Lord Wolseley, and Emily Dale in the back row, very clean samples of Refulgence, uncommonly good, Prince Alfred, Jeanne d'Arc, and Baron Beust occupying the fore-part of the stand. Seven boxes of a dozen Japanese varieties were staged, Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Chiswick, securing the first place for richly-coloured and full blooms of Margot, Thunberg, Comte de Germiny, Jeanne Delaux, Source d'Or, Madlle. Lecroix, Madame C. Audiquier, Hever Fleuri, Madame B. Rendatler, Elaine, and Madame Moulix. A handsome stand of nine incurved blooms gained Mr. C. Long, gardener to E. B. Ridges, Esq., Orchard Dene, Montpelier Road, the first prize, a trio of blooms of Prince Alfred, Prince of Wales, and Refulgence being remarkably fine. Mr. Long also had six handsome Japanese blooms of the varieties Criterion, Madlle. Lecroix, Fanny Boucharlat, Dolores, Hever Fleuri, and Jeanne Delaux, the last-named being of surprising substance. Mr. C. Smith, Oakville Gardens, Castle Hill, had the best twelve bunches of Pompons, and Mr. Collyer, gardener to Mrs. Murrell, The Elms, Uxbridge Road, showed the finest six Pompons, Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, leading with six reflexed varieties.

Apples formed the principal part of the fruit display; Messrs. C. Lee & Son, Hammersmith, having a large collection of good samples, and Mr. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton, was the premier exhibitor, both with dessert and culinary varieties. He also won first honours with three bunches of Grapes, excellently coloured examples of Alicante, Alnwick Seedling, and Muscat of Alexandria, the berries being of good size in each instance. Messrs. Sutton & Sons prizes for four dishes of Potatos attracted eleven competitors, all the tubers being very even and creditable. The miscellaneous non-competing exhibits comprised handsome groups of Chrysanthemums from Messrs. C. Lee & Son; Cyclamens from Mr. H. B. Smith; Carnations from Messrs. Hooper & Co.; and most tasteful group of Scabious, Nerines, and other flowering plants from Mr. Roberts, Gunnersbury Park Garden. Mr. Fountain, gardener to Miss Wood, The Elms, Hanger Hill, had a beautiful group of Ferns, and Mr. Fulford had a good collection of Chrysanthemum plants. Mr. Harman, gardener to F. C. Capps, Esq., Crown Point, Ealing, staged some exceedingly fine blooms of Japanese and incurved, La Puréte, Curiosity, and Fabian de Mediana being certificated. The judges were: Mr. J. Roberts, Gunnesbury Park, and Messrs. E. Sanderson and W. Holmes, the president and secretary respectively of the National Chrysanthemum Society.

Lambeth.—*Nov. 3rd and 5th.*—There are few really amateur societies, but this is one of the most successful and interesting that we know. The plants and blooms are grown by members of the society within a mile and a half of the Elephant and Castle tavern, Newington, and the good specimens shown are strong proofs of what can be effected in a smoky city by enthusiastic amateurs. The exhibition was held this year in the Hawkstone Hall, Westminster Bridge Road, and though the competition was not quite so keen as usual, the blooms and plants were in capital condition, fresh, clean, and of good substance. The Japanese, which included more new varieties than are commonly seen at small exhibitions, being remarkable in this respect. We understand that the president, Mr. Harman Payne, has introduced many of these, and the members have certainly grown them well. The prizes comprise money awards, but those most appreciated are the silver cups, teapot, knives, and other articles provided in several of the classes. Considerable taste is exercised in selecting these, and the example might be followed by many similar societies. The leading prizes were secured by Messrs. H. Ellis, W. L. Tracy, C. J. Fill, J. J. Hillier, A. Ball, W. Clark, T. F. Davison, and T. Child.

Brixton.—*Nov. 4th and 5th.*—This may be truthfully termed a model show, for though a comparatively small hall sufficed to hold it, the exhibits throughout were distinguished by an evenness of merit that is seldom seen at larger and more pretentious displays. The district which includes Streatham and neighbouring parishes is a good one, there being several gardens of note, especially in the Leigham Court Road which has acquired some degree of horticultural celebrity, owing to the number of meritorious products which have been sent from there to the principal London shows. Chrysanthemums have long been a speciality with many of the gardeners, and they annually bring their specimen plants or blooms together to test their skill as cultivators. A practical committee with an experienced secretary, Mr. W. Hall, and careful judges, have gained the confidence of the exhibitors; the result being well filled classes and high quality exhibits.

Cut blooms were exceptionally good, both incurved and Japanese in the leading stands being of considerable size and excellent substance. Mr. J. Holmes, gardener to G. M. Starkey, Esq., Balham, was the champion competitor with incurved blooms, securing first prizes with twenty-four and twelve varieties. In the former the back row included magnificent specimens of Queen of England, Prince Alfred, Empress of India, Lord Wolseley, John Salter, Lady Harding, Alfred Salter, and Prince of Wales; while in the front rows were smaller but compact blooms of George Glenny, Refulgence, and Cherub. Mr. C. J. Salter, gardener to J. Southgate, Esq., Leigham Court Road, was a very close second; one grand corner bloom of Golden Empress being remarkable. Messrs. Holmes and Salter were in the same relative positions with twelve varieties, followed by Mr. J. Howe, gardener to Mrs. Fletcher Bennett, Tulse Hill. With six incurved Mr. C. J. Salter was placed first, and Mr. J. T. Salter second, but the positions ought to have been reversed for the second blooms were several points superior to the first. The best twenty-four Japanese came from Mr. G. Pell, gardener to A. Margetson, Esq., Leigham Court Road, brightly coloured substantial blooms of Jeanne Delaux, Dr. Macary, Pere Delaux, Ferdinand Feral, Margaret Marronch, and Agrement de la Nature, amongst others. Mr. T. Sadler had the premier stand or twelve Japanese, his grand bloom of Mons. Astorg again figuring prominently, as at Peckham. Mr. J. T. Salter took the lead with twelve large anemones; Mr. T. Sadler with six reflexed; and Mr. C. Livermore, gardener to Fred. Webb, Esq., Roupell Park, with six Pompone anemones, very beautiful and fresh. Messrs. E. Cherry, and Mr. Weston, were the principal exhibitors of trained plants, both having good specimens.

Orchids were the principal feature of the general plant classes, Messrs. Salter, Mursell, Luff, and Weston, carrying off the prizes with healthy well flowered plants. In addition, Mr. Salter contributed a handsome group of choice Orchids arranged with Ferns, forming a charming bank at one end of the hall. Vanda cœrulea, with sixteen flowers on a spike; Cattleya imperialis, with three grandly coloured flowers; Phalænopsis amabilis, and Odontoglossum grande, were notable. Mr. H. Wright, gardener to J. Whittard, Esq., Streatham Hill, was first with four Ferns, most praiseworthy vigorous plants, Gymnogramma schizophylla, over 4 ft. in diameter, with graceful arching fronds, being one of the best examples we have seen. Apples and Pears were well shown, Mr. A. Sandy being first with the former, and Mr. W. Hall with the latter; the last named exhibitor also gaining the premier award for black Grapes, with three finely coloured bunches of Alicante weighing 12 lbs. The best white Grapes were Muscat of Alexandria from W. Roupell, Esq. Vegetables and other miscellaneous exhibits occupied all available space, and left but little room for the numerous visitors.

Highgate.—*November 5th and 6th.*—The first exhibition of this Society was held in the Northfield Hall, Highgate, and a most excellent display was arranged by Mr. T. Bevan, the superintendent of the show. For the president's prize for a group of Chrysanthemums arranged for effect, Mr. W. Theobold, gardener to A. Goslett, Esq., Westhill, Highgate, was deservedly 1st, taking also the National Society's Certificate; and Mr. Witty, gardener to the London Cemetery Company was 2nd. Mr. J. Brooks, gardener to W. Reynolds, Esq., the president of the society, was a very successful exhibitor, taking the premier prizes for twelve incurved blooms, and six plants of Elaine, which were simply perfection, and gained the National Society's Certificate. Nine plants of Lady Selborne, were also very good. Of Japanese blooms some splendid specimens were put up by Mr. J. P. Lowry, gardener to — McAndrew, Esq., Millhill, to whom a Certificate was awarded; Mr. J. Hodges, gardener to Mrs. Crossley, Cholmeley Park, was also very successful with incurved blooms; and Mr. Calvert, gardener to B. Kent, Esq., Highgate, also secured several first prizes. Dinner-table decorations were also a tasteful lot, and Mr. W. Theobald secured the first prize after a close competition. Trade growers were represented by Messrs. T. S. Ware; S. Dixon & Co., who had some good specimens of Mr. John Laing, Marguerite Marouch, &c.; while Mr. B. S. Williams,

and Messrs. W. Cutbush & Son, of Highgate, had capitally arranged groups of miscellaneous plants.

Among the amateurs, Mr. A. Rundle was very successful, taking honours in classes for Pompons, incurved and reflexed flowers. Great interest was exhibited in a small, but excellent, exhibit of Mr. John Wright, gardener at the Middle Temple, who had some new varieties. among which were Val d'Andoirre, Madame Catroll, Mr. John Laing, &c. On the walls of the hall were a series of plans for laying out gardens from the humble cottage to a nobleman's estate, which had been prepared by Mr. T. Bevan, of Dartmouth Park, Highgate. The judges were Messrs. Coomber, Kemp, and Douglas.

HORTICULTURAL SOCIETIES.

The Royal Southampton Horticultural.—The autumn show of Chrysanthemums and Fruit, held on Tuesday and Wednesday last, was a success in every way, notwithstanding the downpour of rain which continued all the first day and on the morning of the second, and the Committee and their energetic Secretary, who arranged everything in the best possible manner for the convenience and comfort of exhibitors, judges, and visitors, are to be congratulated upon the excellence of their show.

The trained plants of Chrysanthemums were not so numerously shown as usual here, but they were good, being large and well flowered. In the class for four Incurved varieties, Mr. Wills, gardener to Mr. Pearce, The Firs, Bassett, was a good first, with large well-flowered plants, and Mr. A. Pragnell, gardener to F. B. Turner, Esq., was second. Mr. Wills was again to the fore with four grandly flowered Japanese varieties, showing among others La Nymphe 6 ft. through. Mr. Pragnell was second here also. Mr. W. Joy had the best specimen Japanese in Madame Bertie Rendatler, and Mr. Wills the second best in Lady Selbourne, and a good Fair Maid of Guernsey secured third place for Mr. J. Allen, gardener to J. Burley Esq., Elmfield Hill. Mr. Wills had also the best specimen incurved or reflexed variety. In the corresponding class for amateurs, Mrs. Broodie, Belmont Hotel, Portswood, was first with Golden Christine; and Mr. F. E. Chamberlain, Fitzheugh, was first with four plants, Mr. Reeves being second, and Mrs. Broodie third. Mr. W. Joy had the best six plants, showing grandly flowered specimens of Peter the Great, Bouquet Fait, 6 ft. through, La Nymphe, the Cossack, and Madame Bertie Rendatler; Mr. J. Allen was a good second. Mr. W. Joy was again first for a like number of Japanese, showing among others Peter the Great, 7 ft. through. Mr. J. Allen took the first prize for six plants, incurved or reflexed, only one lot being staged. Extra prizes were awarded to Messrs. Blandford and Wills, for miscellaneous collections of Palms, Crotons, Orchids, Ferns, &c., tastefully arranged, and Mr. Bushnell, nurseryman, Burgess Street, was first for six Cyclamens.

Cut Blooms.—The thirteen classes devoted to cut blooms were not so keenly contested as in previous years, though the blooms were nearly, if not quite, as good as those shown at any previous exhibition; excepting, of course, those staged by Mr. Molyneaux, of Swanmore Park, who did not enter the list of competitors this year, but who will be heard of at Kingston and elsewhere later on. For twenty-four blooms, incurved, distinct, Messrs. W. & W. Drover, Fareham, were first, their best blooms being Nil Desperandum, Lady Slade, Empress of India, Lord Alcester, Lord Wolseley, Baron Beust, Prince Alfred, and Mrs. G. Rundle. Mr. C. Penford, gardener to Sir J. Fitzwygram, Bart., Leigh Park, Havant, was an excellent second, and Mr. J. Allen third. For a like number of Japanese, Mr. Penford was a good first, Mr. F. W. Flight, Twyford, coming in second, Messrs. D. & W. Drover third, and Mr. Allen fourth. Mr. Penford's best blooms were Fair Maid of Guernsey, Oracle, M. Ardene, Peter the Great, Soleil Levant, Comte de Germiny, and M. Astorg. For twenty-four blooms, eighteen varieties, there were eight good stands put up, and Mr. F. W. Flight's were the best; second, Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury; third, Mr. J. Allen; and fourth, Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, all showing well. For twelve incurved blooms, distinct, Messrs. Drover were first, Mr. T. Seldon, gardener to Mr. Brooke Firman, St. Thomas's, East Cowes, second, and Mr. Wills third. In the class for twelve Japanese, distinct, Mr. Penford was first, showing a fine stand of blooms, Mr. Wildsworth, gardener, Heckfield Place, Hants, being a good second. For twelve blooms of Anemone-flowered variety, distinct. Mr. Penford secured first place with fine blooms; and for a like number of blooms, shown with foliage as grown, and not less than 4 ins. of stem, Mr. J. Allen came in first. For twelve Pompons, three blooms of each, Mr. Molyneaux, Swanmore Park, came in first; and in other classes the leading awards were secured by Mr. Wildsmith, Mr. W. J. Ward, gardener to the Rev. F. L. Covill, Kempsay, Bournemouth, Messrs. Drover, Mr. Carter, of St. Deny's, and Mr. W. Reeves, Brinston Road.

Vegetables.—These were shown largely. For a collection of eight kinds, Mr. Cox, gardener to R. K. Wyndham, Esq., Corehampton House, Bishop's Waltham, was first, showing very good even and clean samples of Veitch's Autumn Giant Cauliflower, "The Lyon" Leek (very fine), Canadian Wonder Bean, Rousham Park Onions, Pragnell's Exhibition Beet, Grand Brussels Sprouts, and Improved Magnum Bonum Potatos, and Tomatos; second, Mr. Pope, whose best dishes were Sutton's New Intermediate Carrot and Major Clarke's Red Celery; third, Mr. Saunders, gardener to J. East Esq., Longstock House, Stockbridge. This collection contained splendid samples of Sutton's Intermediate Carrot; Mr. Molyneaux was a good fourth. Mr. Budd, gardener to F. G. Dalgety, Esq., Lockerly Hall, Romsey, was first for a collection of salading, and Mr. Jackson, Finchingfield (an amateur) had the best collection of six kinds.

Fruit, such as Grapes, Apples, and Pears, made a fine show. In the class for three varieties of Grapes there were five contestants; first, Mr. H. W. Ward, with Mrs. Pince's Black Muscat (4 lbs.), Muscat of Alexandria, and Barbarossa; second, Mr. Budd, with Alicante, Muscat of Alexandria, and Lady Downes; third, Mr. T. Hall, gardener to Captain Davison, Stoneham House, near Southampton; fourth Mr. J. Allen. Out of six stands of two bunches of white Grapes, Mr. Saunders was first with Muscat of Alexandria. Mr. H. W. Ward second, and Mr. Budd third with the same variety. Mr. Molyneaux had the best three bunches of black Grapes out of seven lots, three large, even, well-finished bunches of Gros Guillaume. For two bunches of black Grapes (not open to exhibitors in the preceding classes), Mr. C. Penford was first with nice bunches of Alicante; second, Mr. J. Allen; third, Mr. A. W. Rooke, gardener to W. Gascoigne, Esq., Byams, Marchwood. Mr. Penford was also first in the corresponding classes with Muscat of Alexandria; Mr. Allen being second with Foster's Seedling; and Mr. Rooke was third. Mr. H. W. Ward had the heaviest bunch of Grapes, showing Gros Guillaume, 10 lbs.; second, Mr. T. Hall, showing Black Alicante, about 4 lbs. weight, and well coloured; third, Mr. Grant, with that seldom met with variety, Venu's Black Muscat. There were only two Pines (Cayenne) put up for competition by Mr. Wildsmith and Mr. H. Morris, gardener to A. P. Vivian, Esq., Fairbach, Glamorgan, who took the prizes in that order for nice fruit. Mr. Wildsmith also staged six fine fruit of the same variety (Smooth Cayenne) not for competition. Apples made a grand show, the fruit being large and highly coloured. There were fifteen lots of four varieties (ripe or unripe), six fruit of each; and Mr. G. Bushby, gardener to F. Williams, Esq., Thornhill Park, Bitterne, was the most successful competitor with Emperor Alexander, Waltham Abbey Seedling, Lady Hennicker, and Golden Noble. Mr. Wildsmith led the way for three dishes of dessert varieties, seventeen lots were shown in this class: and fourteen in the next for Kitchen Apples, which Mr. S. H. Goodwin took first honours. There were ten lots of Pears (ripe or unripe), four varieties, and Mr. Saunders secured the first prize for very meritorious fruits of Pitmaston Duchess (the six fruits weighing in the aggregate 8 lbs. 5 ozs.) Doyenné du Comice, Général Todtleben, and Uvedale's St Germain. Mr. Saunders was again to the front in the corresponding class for dessert varieties, Mr. Wildsmith being a close second. Messrs. Lucombe, Pince & Co., of Exeter, showed, not for competition, a large collection of Pears and Apples in grand form; they covered two long stages, and attracted a great deal of attention.

QUESTIONS AND ANSWERS.

Fertilizing Moss.—Can any of your readers tell me where I can procure some of the Fertilizing Moss, which a lady friend of mine finds so useful for growing plants in-doors?—*Amateur.*

Lily Bulbs.—A lady is desirous of exchanging some good Lily bulbs for other sorts that she has not got. We shall be pleased to forward any letters that may be sent to us, addressed "Amateur."

Propagating Hollies.—*Amateur.*—You can propagate them either by means of cuttings, budding or grafting. Cuttings of the hardier young shoots should be put in sandy soil in autumn, on a north border. For budding or grafting, you must get some seedling green Hollies, and either bud them low down with pushing buds in May, or dormant buds in August; or you can graft them from May to September, side-grafting being the best to follow.

Apples and Pears.—*H.T.*—Rambour Franc is the right name. The rest is a budget of errors, but as they are not ours, we cannot find space to correct them.

Pelargonium Cuttings.—*Engstrom.*—You have failed to hit the happy medium in watering, giving one lot too much, and the others not enough. It is best, however, during the winter months, to keep them on the dry side, but of course they must have enough water to keep them plump and fresh, and very little is sufficient if the house is cool, and the plants are not growing. Give those which have drooped a good watering on a fine morning, and they will not want any more until they commence to flag again.

Mushrooms for the Million.—*Constant Reader.*—It is published at 171, Fleet Street, E.C., price 1s. Fruits next week.

Names of Plants.—*F. M. Howlett.*—1, Adiantum pubescens; 2, Nephrodium molle; 3, Adiantum hispidulum; 4, Adiantum tenerum; 5, Pteris hastata; 6, Asplenium bulbiferum. Two of the tickets were lost.—*J. W. Fleming.*—Cœlogyne occelata maxima.—*W. J. Frost.*—Pyrus Sorbus pyriformis.

Communications Received.—W. B. G.—J. T. P.—W. G. S.—T. W.—A. C.—T. S.—J. B. C.—A. F. H.—Constant Reader.—H. T.—Scotia.—H. C.—W. B.—E. J.—E. H. M.—R. M.—H. T.—G. B.—T. B.—J. W. F.—W. G.—J. T. P.—Strebor.—T. H. H.—W. B. G.

TRADE CATALOGUES RECEIVED.

Thomas S. Ware, Hale Farm Nurseries, Tottenham, N.—Roses, Climbing Plants, Ornamental and Flowering Shrubs, Hardy Florists' Flowers, &c.

LONDON SEED TRADE.

November 4th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a very small attendance at to-day's market. Red Clover has advanced fully 2*s.* per cwt., owing to demand caused through buyers operating in consequence of reported failure of English crop of this seed through the continued wet weather. White and Alsike Clovers are firm; Trefoil unchanged; no change in value of Bird Seeds.

COVENT GARDEN MARKET.

November 5th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes, per lb.	1 0	3 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	24 0	25 0	Plums		
Melons, each	0 6	1 6			
Peaches, per doz.	3 0	8 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, per doz.	2 0	3 0	Herbs, per bunch	0 2	0 4
Beans, French, per lb.	0 4		Horse Radish, bundle	3 0	5 0
Beet, per dozen	2 0	3 0	Lettuces ..per dozen	2 0	2 6
Cabbages....per doz.	1 6	2 0	Mushrooms, p. basket	1 0	1 6
Carrots, per bunch	0 6		Onions, per bushel	5 0	7 6
Cauliflowers, English, per dozen	4 0	6 0	Parsley, per bunch	0 6	
Celery, per bundle	1 6	2 6	Radishes, per dozen	1 6	
Cucumbers, each	0 6	0 9	Small salading, punnet	0 4	
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
			Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Anemone, 12 bunches			Marguerites, 12 bun.	4 0	9 0
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	1 0	2 0	— scarlet, 12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	9 0	12 0
Camellias, 12 blooms.	3 0	6 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	1 6	2 0
Chrysanthemums, 12 blooms	0 6	4 0	Roses (coloured)	1 0	2 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	..	0 6	Roses, per doz. bun.	6 0	12 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays	5 0	6 0
Eucharis, per dozen	4 0	9 0	Tuberoses, per dozen.	0 6	1 0
Gardenias, 12 blooms.	2 0	5 0	Violet, 12 bunches	0 9	1 3
Heliotropes, 12 sprays	0 6	1 0	— Czar, French, per bunch	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Parme	4 0	5 0
Lapageria, red, 12 blms.	1 0	2 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	9 0	12 0	Fuchsias, per dozen	6 0	9 0
Asters, per doz.	4 0	6 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Hyacinths, Roman, per dozen	12 0	15 0
Bouvardias, per dozen	9 0	18 0	Hydrangea, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Lilium lancifolium, per dozen		
Cineraria, per dozen			Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	4 0	6 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	5 0	7 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			

SITUATIONS WANTED.

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CHRYSANTHEMUMS

AT SWANLEY.

WE extract a small portion of a report given in the last issue of *Journal of Horticulture* :—

"As is well known, Chrysanthemums form a special department in the 'Home of Flowers,' and are in charge of an expert who devotes his whole thought and time to their propagation and culture. Every section is represented, all established varieties grown, and new ones added from American, French, Chinese, Japanese, and English raisers.

The collection embraces 900 varieties, represented in about 5,000 plants. These are arranged in five new span-roofed structures, each 100 ft. long; a walk passing down the centre and the soil excavated on each side, so that the pots are 2 ft. or so below the floor level, and the blooms are consequently brought literally 'under the eyes' of the spectators."

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MR. ADAM FORSYTH, Kakanui, *via* Oamaru, New Zealand, *July 4th*, 1885.

"I received all the Chrysanthemums (but two) in fine condition; one happened to be the Hero of Stoke Newington (one of my children), so you can guess my vexation; Primulas and Cyclamen came up splendid; the former are immensely showy; such colours I never expected to see."

H. CANNELL & SONS,

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SWANLEY, KENT.

SHOW.

Liverpool Horticultural Association.

THE SIXTH GRAND EXHIBITION of CHRYSANTHEMUMS, FRUIT, &c., will be held in St. GEORGES HALL, LIVERPOOL, on Tuesday and Wednesday, November 24th and 25th.

£200 IN PRIZES.

A TEN GUINEA SILVER VASE, given by J. WILLIAMS & Co., Manure Manufacturers, 62, Mount Pleasant, Liverpool, for 36 Blooms of Chrysanthemums.

Entries close Tuesday, November 17th. For Schedules apply to the Secretary, EDWARD BRIDGE, Huyton, Liverpool.

Gardeners' Royal Benevolent Institution. Change of Address.

THE COMMITTEE of MANAGEMENT beg to give notice that they have secured permanent offices at 50, Parliament Street, Westminster, S.W., and request that on and after November 16th, all communications may be sent to that address.

By order. E. R. CUTLER, Secretary.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 14, 1885.

THE AMERICAN EXHIBITION. — Allegorically there may be seen hovering over West Kensington, though yet very indistinctly, the outline of that ambitious bird, the great American Eagle. As the winter wanes, and the spring of 1886 advances, the outlines of our feathered visitant will become more clearly defined; and, about the 1st of May, so near will the soarer have approached *terra firma*, that it will then be distinctly seen to settle down and nestle on a spot in the locality referred to. This sovereign of air, and omnipotent bird in the land of the stars and stripes, comes to us with no warlike or foul intent. He comes the emblem of peace and of cousinly affection; indeed, though an eagle in name, yet he will present the form and embody the spirit of a dove, bearing in his beak the olive branch of good feeling and kindly regard.

Whilst thus assuming so pleasing a form and so genial an aspect, we must not, however, assume that our visitor comes for no other purpose than to display good feeling; with the quietness of the dove there will be found allied in him the wisdom of the serpent—not wisdom which is trickery and deceit, but wisdom which is allied to honourable trade and business integrity. So that when, next autumn, departing for his home far across the broad Atlantic, this American Eagle shall return, not in the fashion of the bold and cruel marauder of the mountains, but leaving behind some sense of good results and hopeful prosperity; taking in exchange better aspirations for international trade and commerce between Anglo-Saxon cousin and cousin than now prevails.

To drop to plain prose, we have amongst us now forming an American colony, which is busy preparing for the ensuing summer season a truly remarkable display of the productions which Uncle Sam, Brother Jonathan, and all the family of the children of Washington are creating from day to day in the vast territory which—once an English colony—is now geographically and physically one of the greatest nations of the earth. Whilst at South Kensington, in the extensive area of buildings—during the passing year the home of the inventions—there will, in the coming year, be seen one of the most remarkable collections of colonial productions ever brought together, and to which immense British as well as continental interest must attach, it was but natural that our old colonists of the American States—once our children, now our cousins of the third and fourth generations—should also be anxious to display, right in the lap of Old England, and almost side by side with the true colonial productions, evidences of their genius, fertility of invention, prosperity, and business pursuits; that we, of the mother country, might be able thus, at the same time, to measure the nature of the progress made by attached and Imperially governed colonies, with those of ancient colonies, which, a hundred years since, threw off the Imperial yoke, and became a great and a free people.

To that end the promoters of this display have acquired possession of a large and admirably situated area of land at West Kensington, with the Midland and District Railways abutting upon one of its largest sides, and it will have easy access from all parts of the kingdom, because in this way connected with all the cheap lines of railway. The well-known station of Earl's Court abuts upon one end of the site, and that of West Kensington upon another, whilst the West London Railway runs through the grounds, so that easy access is assured. Then it is easily connected with the Great Colonial Exhibition at South Kensington, both by rail and omnibus route, so that in getting from one to the other little time need be wasted. Thus we shall have in London next year, exhibitions which will be so unique as never to have been previously paralleled in any country in the world, for they will be displays in which our people take no share or part, beyond acting as observers, and it is hoped eventually as liberal customers, with the further result that our visitors will in return trade liberally with us.

Earthly, and especially international millenniums are too remote for present consideration; but it is obvious that most exhibitions of this kind, provided that no trade jealousies are provoked, will do much to smooth away those ruffling thoughts and fears, which now and then agitate the bosoms of nations, and lead to warlike outbreaks of prejudice and passion, which are as injurious as they are hateful and deplorable. Whilst the American Exhibition will thus appeal to the sight-seeing public for patronage, it will not omit many features with which we, as horticulturists, are essentially interested. A gentleman well known to many of our readers, Mr. W. Goldring, holds, in connection with this American gathering, the post of Horticultural Director, and we believe he is sparing nothing to obtain such a display of American horticultural productions as shall render that department specially interesting. The States are famous for their grand trees, and our gardens already have reaped a rich harvest of denizens from the vast continent over which the American Eagle so proudly soars. It is purposed to congregate within the extensive grounds appropriated to the Exhibition at West Kensington—an area of some ten or twelve acres

being set apart for that purpose—all the varieties of American conifers obtainable, and arranged in climatic sequence, or geographical order. With very many native trees, shrubs, and flowers, the area farther will be ornamentally laid out and planted to form attractive features, without which now no great exhibition can hope to be prosperous.

As these shows, whether American or colonial, will not be for the purposes of trade, it cannot be averred of them that they will take money out of the country; whilst they will assist large sums now lying dormant freely to circulate. Still farther, they will lead to the visits of myriads of colonists and foreigners to England; hence we have every reason to hope that they may help to resuscitate trade, and promote international prosperity. Let us hope that gardening may derive some little benefit from these gatherings, and to that end our home trade and profession must spare no efforts to attract the attention and custom of our cousins from all parts of the world.

GARDENING MISCELLANY.

Chrysanthemum Shows for next week.—*Tuesday*, Manchester (two days), Lincoln (two days), Winchester (two days), East Grinstead, Devizes, and Yeovil. *Wednesday*, Birmingham (two days), Northampton (two days), Bristol (two days), and Burton-on-Trent (two days). *Thursday*, Taunton, Aylesbury, Hammersmith, and Hull (two days). *Friday*, Sheffield (two days).

Marie Louise Violets.—We have received a few fine blooms of this admirable Violet from Mr. John Crawford, The Gardens, Coddington Hall, Newark-on-Trent. The flowers, deliciously fragrant, were, we are informed, gathered from plants growing in frames on gentle hot-beds, a system which certainly seems to suit them. Violet culture is such a failure in so many places, that we should be much obliged if our correspondent would give us further details of his method of culture.

Chrysanthemums at the Exeter Nursery.—Devonians are most essentially a garden-loving people, and this trait of character is particularly distinguishable in the neighbourhood of Exeter, a fact evincible by the many well kept gardens and greenhouses to be met with there. In this respect, Messrs. Lucombe, Pince, & Co. are fortunate, for it is highly encouraging to promoters of horticultural as well as other shows, to be freely patronized by visitors. Although their Chrysanthemum shows of former years have been very good, yet, this season's display eclipses any previous one; not so much in point of number as in quality. About 500 specimens are on view, and these present a beautifully coloured floral bank of much splendour, the front row being composed principally of the dwarf Pompone-flowered sorts, and the unbroken mass of flowers and foliage rising gradually to 7 and 8 ft. in the back row.

The Irish Farm, Forest, and Garden, which for ten years has been published by Mr. Thomas Moore, 67, Middle Abbey Street, Dublin, last week appeared in a greatly improved form, and reduced in price to the popular penny—the first penny agricultural paper published in Ireland.

A New White Rose.—The American *Gardeners' Monthly* states, that Mr. John N. May, Summit, N.J., is the fortunate possessor of a new Rose, which is destined to make its mark in the near future in this flower-loving world. This candidate for public favour is a sport from the well-known Tea Rose, Catherine Mermet, than which there is no better shaped flower amongst the whole list of Roses, and its off-spring is like it in every respect, excepting in colour, which is pure white. Strange as it may appear, this Rose originated in two different establishments at about the same time, viz., Mr. Taplin's, Maywood, N. J., and Mr. De Forrest's, Summit, in the same State. Mr. May wisely secured all the plants from both the proprietors of the places where it, or they, originated. It is understood that the stock of both will be kept separate and thoroughly tested, to ascertain if there is any difference between them. Some persons may think that this procedure is not necessary; but when we consider that Mabel Morrison, Marveille de Lyon, and White Baroness, all originated as sports from Baroness Rothschild, and as it will not involve much trouble to keep them separate, even if they should eventually prove to be identical, it will be infinitely more satisfactory to know that there is no essential variation between them. It has not yet been decided when this rare novelty will be distributed.

Manchester Horticultural Improvement Society.—At the first meeting of the session 1885-6 of this Society held recently in the Memorial Hall, Albert Square, Mr. Bruce Findlay, the president in the chair; there was a large attendance of members. The financial statement of Mr. Robert Tait, treasurer, showed that the session starts with a balance in hand of £4 2*s.* 7*d.*, as compared with £5 8*s.* 4*d.* last year. Mr. Findlay was re-elected president for the ensuing year, and Mr. Tait, treasurer, and Mr. William Swan, honorary secretary. Mr. Findlay then read an interesting paper on the subject of the visit made last autumn to "The Dukeries," the substance of which will be found in another column.

Leaves.—Some amateur gardeners have such a notion of tidiness in their gardens, that they will have swept up and thrown away every leaf that falls on their garden walks or lawns. Surely this is a great mistake; it is so easy to make up a kind of bed in a spare corner where they can lie and rot, or, if this cannot be done without risking the tidy appearance of the garden, surely a kind of pit can be dug in which the leaves can be placed, so that they will not blow about. The leaves of trees, makes such a valuable fertilizing vegetable mould that it can be ill spared, especially in suburban gardens where it is difficult to procure fresh soil or manure. If no other resource is open, throw the leaves among other plants, and sprinkle a little soil over them to keep them from being blown away by the wind.

Gishurstine.—Though we have been familiar since its first introduction with the merits of this admirable composition for dressing boots, we have not in these pages before called attention to it, and perhaps as it has become so popular among horticulturalists it may be superfluous to do so now. However, be that as it may, we have to acknowledge with thanks the receipt of a liberal supply from its manufacturers, Price's Candle Co., Belmont Works, Battersea; and while doing so, take advantage of the opportunity thus afforded of commending it to the notice of any of our readers who may not yet have used it, as the best water-proofing composition for boots that we have ever used. It has no unpleasant smell, and boots dressed with it, will the next day take a good polish with blacking with only the usual application of "elbow grease." To those who appreciate dry boots, we say dress them, tops, welts, and soles occasionally with Gishurstine, and you will soon discover the potency of the application. Furthermore, if you well dress new boots with it before using them, you will not have so often to trouble your bootmaker.

The Proposed International Horticultural Exhibition of 1887.—At the adjourned meeting, held on Tuesday, which was well attended, the chair was taken by Sir Trevor Lawrence, who, in opening the proceedings, briefly reviewed the proposals which had been made for the holding of an international horticultural exhibition in 1887. The Colonial exhibition to be held next year will be the last of the present series of exhibitions, and the Commissioners of 1851 were anxious that the buildings at South Kensington should be used in the way that had been suggested. Dr. Masters moved the following resolution:—"That in view of the great and increasing importance of Horticulture, and in order to preserve the high reputation in which British Horticulture is held by other nations, it is desirable to hold at no distant date an International Show and Congress of Horticulture in the widest sense of that term; and that the year 1887, being the jubilee year of Her Most Gracious Majesty the Queen, would be the most fitting time for such an undertaking." This was seconded by Mr. Watts and carried unanimously. Mr. Shirley Hibberd moved "that should Her Majesty's Commissioners of 1851 be prepared to afford adequate facilities, such a Show and Congress would be most advantageously held on some part of the Commissioner's grounds at South Kensington, provided that any use which the Commissioners propose to make of the rest of the grounds during the year 1887 be found to be in harmony with the character of the projected Show and Congress." This was seconded by Mr. Bruce Findlay and also carried unanimously. The third resolution was—"That this Meeting requests the President and Council of the Royal Horticultural Society to take measures to ascertain the views of the Commissioners of 1851 on the matter, and assures the President and Council that should the proposals of the Commissioners be of such a nature as to afford reasonable hope that the Show and Congress may be carried out in a manner worthy of British horticulture, no effort shall be wanting on the part of those present to secure the success of the undertaking." This was proposed by Mr. Wm. Paul, and seconded by Mr. A. H. Smee, and Mr. H. J. Elwes, and Mr. John Fraser having addressed the meeting, this also was carried unanimously. Mr. Harrison of Leicester moved, and Mr. Cheal of Crawley, seconded the fourth resolution—"That this Meeting do now adjourn till such time as it shall be summoned by the President and Council of the Royal Horticultural Society, in order that the results of the negotiations with the commissioners of 1851 may be laid before it." This was also carried unanimously, and the proceedings closed with the usual vote of thanks to the chairman.

VANDA SANDERIANA.

Had all the great gatherings of this superb Orchid made by Messrs. F. Sander & Co. and Messrs. Hugh Low & Co. survived, there would be none too many; but, unfortunately, the plant is a bad traveller, and only just enough survived the journeys to make us long for more, now that its beauties become better known to us by seeing it in flower in most of our best collections. The flowers are borne on upright spikes, from six to twelve on each, and each full-sized flower measures about 4 ins. across and 5 ins. in length. The three upper segments are of a delicate rosy lilac tint, the two side ones being tinged with yellow and freckled with crimson near the column. The two lower segments are each about 2 ins. across, the ground colour a delicate fawn tint; this is handsomely veined over with a crimson-maroon network. The column is greenish yellow and the labellum a dull crimson, the whole flower thus presenting an unusual combination of colours, the beauty of which is enhanced by their appearing wax-like when seen before a background, and crystalline when viewed in the sun.

Vanda Sanderiana is of very easy culture, and will grow well either in a pot or a basket; but the latter is, perhaps, the safest. At present the plant is generally kept in the East Indian house, but ultimately it will be found to be quite at home with Cattleyas and the varieties of V. tricolor; and, indeed, some good examples have already been so grown. The flower from which our illustration was taken was from an immense spike produced in Sir Trevor Lawrence's noted collection at Burford Lodge this year.

NOTES ON PEACHES.

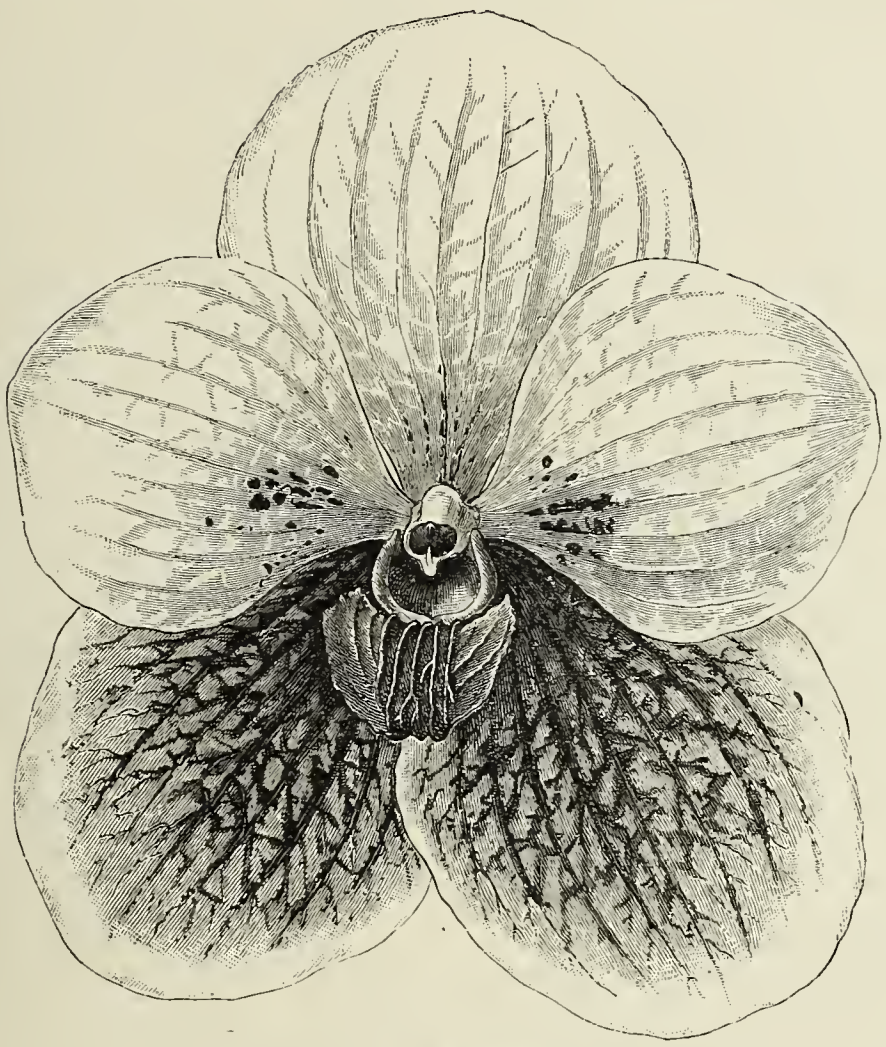
I was pleased to see the Thames Bank Peach brought under notice by Mr. Ward in his notes on Tyninghame, and to hear that Mr. Brotherston thinks highly of it, for it is a favourite with us, and is undoubtedly an excellent late variety, ripening almost simultaneously with Prince of Wales. Although it appears to be little known we have grown it for years, and I am at a loss to account for its remaining in the background as it does, while several other kinds which are in season about the same time and are unquestionably its inferior, have become generally known, both by being pretty commonly planted and frequently exhibited. In appearance the Thames Bank Peach is one of the most handsome in cultivation, and many of its fruits when well grown attain to over 10 ins. in circumference. It is like an Apricot in colour, with a cheek flushed with crimson when exposed to the sun, and closely resembling Exquisite, but in my opinion is superior to that esteemed kind. Like Exquisite it is yellow-fleshed, and notwithstanding the fact that Peaches possessing flesh of this colour are by some authorities condemned as being badly flavoured, it is rich, and all that can be desired in this respect.

We have to thank Mr. Rust, of Eridge Castle Gardens, for this variety, he having raised it when gardener at Broom House, Fulham, but it appears to be overlooked by nurserymen, for I have searched in vain to find it catalogued. The tree we possess, I believe, came from one of the Chester firms; I found it here when I took charge, planted as a supernumerary in a large house

which had been recently erected, and had it not happened to carry a fruit it would in all probability have been sacrificed, for the trees were becoming crowded and required revision, and as I was unacquainted with this sort and failed to find it noticed, it would perchance have been looked upon as having no particular merit, and on that account would have had to give room to those known to be deserving. It may, however, be thought that I am taking up too much space with uninteresting matter, and I must admit that good Peaches are so numerous as to cause it to be almost unnecessary that any addition should be made to the already well-known varieties.

Perhaps better service may be rendered by condemning some few kinds which have proved to be unsatisfactory, and foremost amongst these rank Lord Palmerston and Stump the World, the latter an American variety. These in many respects are very similar to each other, in their blossoms, also in colour, flesh, size, and the quality of the fruit, as well as the season of ripening, and are both unworthy of space under glass, particularly so in late houses where they have to mature without the aid of artificial heat. Under such conditions they are dry and tough, and perfectly worthless except for kitchen purposes. Lady Palmerston and Princess of Wales are likewise unworthy of room, and although the latter—which is the best of the two—grows to an enormous size, and sometimes captivates judges at exhibitions, it is wanting in quality, and for that reason can easily be dispensed with. It may, however, be remarked, that all the above possess better flavour when ripened in or before August than at a later date.

Having been disappointed with the varieties named, which were all more or less eulogized when they were distributed, I became wary, perhaps prejudiced with regard to the newer sorts, and have of late, with few exceptions, planted only old standard kinds. Of these few exceptions, Sea Eagle which has been frequently recommended for late use was one, and I may say that as far as my limited experience goes, I am more than pleased with it. The tree, a two years' trained one, was purchased last autumn, and planted against an outside south wall, where it ripened five fine highly flavoured fruits, the largest of which measured nearly 11 ins. round; the tree has now displaced one of Lord Palmerston under glass. We have discarded Salway, the popular Walburton Admirable being the latest Peach we now grow, this gives during October a supply of large although pale fruits, the quality of which surpasses all that might reasonably be expected at so late a date.—*C.*



Vanda Sanderiana.

THE SHALLOT.

This is *Allium ascalonicum*; it is a native of Palestine, found near Ascalon, hence the specific name. It may be denominated as a mild form of the Garlic, as it does not possess its offensive odour, and it is mainly used in a raw state for flavouring steaks and chops; also boiled in soups, stews, and some other dishes. It is said that the Shallot is not nearly so much grown as it used to be, but it be true that the culture of the root has declined in the south, it is yet much grown in the northern and midland districts, where esculents of this character are much more appreciated. In not a few parts of the country, prizes are offered at summer flower shows for Shallots, and we have occasionally seen very fine bulbs set up for competition.

A highly successful cultivator of the Shallot grows it in this way. Finding that it succeeds best on a rather dry rich soil, this is dug over in November, and left in a rough state until the beginning of February, when equal quantities of salt, soot, and bone dust is spread over it, at the rate of five bushels to a quarter of an acre, and the soil afterwards levelled down with the spade. In this state it remains until the first week in March, when it is forked over to the depth of 6 ins., and broken fine. Ridges are then made in the soil about 1 in. high, 3 ins. wide, and 9 ins. apart, in which the bulbs are planted, 6 ins. distant from each other. Previous to planting the bulbs, they are divided, as far as practicable, into single bulbs, which are so planted as to let the crown of each be visible above the soil. As soon as they are firmly rooted, the ridge is removed by loosening the soil, and pouring water on the bulbs; in consequence of which they are quite out of the ground. If the months of May and June prove hot and dry, water is occasionally poured between the rows; the best time for doing this is in the evening.

The excellent character of the Shallots produced in this way justifies this method of culture. The growth of the plants in their early stage greatly resembles that of the common Onion; so much so, as not to be readily distinguished from it, till the irregularity of form, resulting from the numerous germs within the bulb, become conspicuous. The bulbs, when fully formed, take a somewhat different shape to those which are grown in the usual manner, being much broader and shorter; the crop is also much more abundant, and decidedly better in quality. In July or August, according to the state of the weather, when the leaves turn yellow, the bulbs are taken up, dried in the sun, and then roped in the same way as Onions; or they are placed in a net, and hung up in a dry cool place.—*R. D.*

WINTER DRESSING OF FRUIT TREES.

Gardeners have got so much into the habit of dressing their Vines and Peach trees after they are pruned, that very few escape receiving some kind of application or other, in many instances more as a preventitive than from any actual need of it. I have a lively recollection of the mixture of clay, soot, sulphur, soft soap, and tobacco water, and the time it occupied in applying it to the trees, with, I fear, very doubtful results. At any rate I never had sufficient faith in its efficacy to induce me to prepare any for my own use, and for years I only washed the Peach trees and Vines with a strong solution of soft soap or Gishurst compound; but when I took charge of scale and bug affected trees, I found even the Gishurst did not give the necessary relief. I found it, however, in turpentine and soapy water, and the interior surface of each house was syringed with it as well as the trees, which annually reduced the number of the pests. Turpentine is a dangerous insecticide, and I remember on one occasion destroying the tops of two vines so that they had to be cut down, but they threw up some excellent canes, which were easily kept clean compared with the corrugated bark of the old vines.

I never could account for the escape of the others, whilst the two alluded to sustained so much injury, unless it was that two or three syringefuls of the liquid were drawn before it was properly mixed. Just about the time this incident occured, the merits of paraffine as an insecticide became recognized, and I have used it for winter dresssing with satisfactory results ever since. Work that took days to accomplish in my early experience, can be more effectively performed now in as many minutes.

As a preventitive, a lump of soft soap the size of a bantam's egg, dissolved in a gallon of warm water, to which a wine-glassful of paraffin may be added, and applied with the syringe forcibly to the trees, will maintain them in a cleanly state, and will also destroy all insects that are fully exposed. Old trees with rugged stems that may have been infested with scale or bug will need it stronger, or two wine-glassfuls to the gallon, so that the slightest touch of it may prove deadly to the insect; extra applications should also be given to the old wood at intervals of a week or two. The trees must be syringed from all directions to make sure that every portion is wetted, and the mixture can be kept sufficiently agitated by drawing one-fourth of the syringe full and forcing it back again, and then quickly dip the syringe well down into the vessel and draw it full as rapidly as possible. Scores of mishaps have occurred through simply skimming the surface with the syringe, whereby the oil is abstracted by the first two or three draws of the syringe and applied to the plants with disastrous results.

Four years ago, an old tree that was supposed to have been well syringed with the view of ridding it of scale, became partially infested towards the following mid-summer, and in order to arrest its further progress, a man was set to work with a soft brush and the mixture, and in a couple of hours the infested parts had been dressed. Occasionally more scale made their appearance during the season, but by having a pan of mixture and a brush close at hand, only an odd one could be seen at pruning time. I may state here, that it is my practice to dress infected trees before they are pruned, for the obvious reason, that if shoots with insects on are cut and left on the border for any length of time—and some infected pieces may be entirely overlooked when clearing up is done—the insects travel from these—at any rate mealy bug does—and find a temporary lodgement, and in a short time they appear in sufficient

force to render our previous operations negatory. The interior of the house should be syringed with paraffin and soft soap with the view of destroying all insects that may be secreting themselves in crevices of the wood and brick-work.

Infested vines should be syringed before they are tied down along the front of the house; first, before they are untied from the trellis, so as to make sure of the underside; and again, after they are untied on the top sides; and thirdly, after all are tied in the usual way along the front of the house, for the convenience of syringing.—*W. P. R.*

PRODUCTION OF NEW FRUITS.

In fulfilment of my promise to urge upon you while I live the importance of producing from seed new improved varieties of fruits adapted to the various soils and climates of our vast territory, I have substantially to repeat what I have said in my former addresses. These are the means, and the only means, which God and Nature have provided for the improvement of our fruits, and the better we understand and practise them the nearer shall we approach to that divine beneficence which gives flavour and richness to our fruits, and to the sense the highest types of beauty, grace, and gratification.

Thus from time to time I have spoken to you, and, were these my last words, I would again impress them upon you as of the utmost importance. With a careful study of the tendency of the varieties, and a judicious selection of parents, as breeders, we shall go on to produce fruits which will be adapted to every climate or condition of our land where any species of fruit may be grown. When we see what Nature has done without the aid of manipulation in the cold region of the North, as in Russia, from whence came the Oldenburg and Tetofsky Apples, the Black Tartarian Cherry, and other good fruits, as seen by Professor Budd and Mr. Charles Gibb, who can doubt our ability to produce fine fruits, even in the colder regions of our country?

When we consider that the art of crossing varieties for their improvement was scarcely known until our day, and see what wonders have been accomplished by it, who can doubt that we may yet produce a Pear with the richness of the Seckel, the form and size of the Bosc, and the vigour and productiveness of the Boussock? And so we may go on to improve other fruits, until all shall be made as perfect as ever were grown by "the grand old gardener" in Eden. But to do this we must study the characteristics of varieties, and thus help Nature to perfect this work.

Thus Providence has placed in the hands of man a power to assist Nature in the production of her most perfect and beautiful creations. But whatever some may think of variation, evolution, transmutation, or transformation of species, the great fundamental laws of life and its reproduction will remain unchangeable and immutable as long as the earth bears a plant, or a tree yields a fruit, or Nature holds her place in the universe.

Nature is a kind handmaid, and, by her lovely creations, is constantly inviting us to come up and assist in her glorious conquests. Her voice is heard throughout the earth. To us, she says: "Come up and sit with me, and you shall have plenty and perfection. Come, and I will give you fruits which shall delight the eye, gratify the taste, and satisfy your souls."

O! Yes! Thou Queen of Grace,
We'll come and take thee at thy word;
We'll take thee, Nature, as a bride,
And, hand in hand and side by side,
Our loves and labours we will join,
And bless the hand that gives us thine.

We have now many excellent varieties of fruits from foreign lands which are suited to many of the soils and climates of our country. But when we reflect upon the number that have proved worthless, and are not suited to our condition, and consider the large number of good American sorts that have been raised, we are forced to the conclusion that we must, hereafter, rely mainly on the production of new varieties from seed to supply the necessary kinds for our constantly increasing territory for fruit culture. We therefore rejoice in the great interest which has been awakened in this subject, so that what was a few years ago considered by physiologists and philosophers a mysterious art or science, is now practised extensively by cultivators in the various families of vegetable life. And now that we have the knowledge of this art, there is no limit to its use for the improvements we may desire; and, strange as it may seem that the knowledge of this process of helping Nature was withheld from us until our day, it is capable of indefinite application as long as the sexes of plants shall be known, and is the only means to revolutionise and improve the fruits of the earth.

When we reflect on the improvement which has been realised by cross-fertilization in the various species of the vegetable kingdom, we can scarcely fix a limit to its potent influence for good on our fruits; and we may thus go on from one degree of excellence to another, until we shall produce fruits as fine as were ever grown by our father in Eden. Go on prospering and to prosper in this most promising and beneficent work. You can do nothing better for the generations that are to follow us; and so again, with line upon line, and perhaps for the last time, I leave with you my old injunction: "Plant the most mature and perfect seeds of the most hardy, vigorous, and valuable varieties; and as a shorter process, insuring more certain and happy results, cross and hybridize our finest kinds for still greater excellence." Go on! Go on! while you live, and when we are gone, others will rise up to chant our old song:—

Plant the best seeds of all your best fruit,
Good fruits to raise that some lands may suit;
Fruits which shall live their blessings to shed,
On millions of souls when you shall be dead.

Plant; plant your best seeds—no longer doubt
That beautiful fruits you may create;
Fruits which, perchance, your name may enshrine,
In emblems of life and beauty to shine.

Thus have I summed up some of the most important considerations and suggestions of my former addresses, thinking that I could do nothing better than to call your attention to them again, and reinforce them as principles upon which must depend the successful prosecution of our work.

And now, gentlemen, in conclusion, let me again congratulate you on what our Society has already accomplished. "The past is secure"; but the great duty still remains of extending, fostering, and rightly directing the pomology of our country.

Other societies have arisen, and will continue to arise, and help forward our noble designs; but the American Pomological Society will still bring together the most distinguished cultivators of our land, and will be the great head, guardian, and guide of the pomology of this western world. When we reflect on what has been accomplished in the thirty-seven years of its history, and think of the immense territory in our favoured land which is yet to be occupied with fruit culture, and of the increasing demand for these products so necessary for the health and happiness of life, we feel the great responsibility which rests on us as protectors and conservators of one of the most important branches of American husbandry. Let me then urge you to persevere in this work, and preserve our bond of union throughout the land. "Union is strength"; and in nothing is this better illustrated than in the associated efforts which have given such influence and importance to our Society. Perpetuate it, that the blessings which it confers may go down to posterity, and grateful millions shall bless the memory of those who laid its foundations, and shall aid in carrying out its benevolent designs. Think once more my friends of the great blessings which you may confer on mankind by the multiplication of good fruits. Next to saving the soul is the saving of health, and I know of no better means than an abundant supply of ripe fruits.

Fruits are the overflow of Nature's bounty; gems from the skies which are dropped down to beautify the earth, charm the sight, gratify the taste, and minister to the enjoyment of life; and the more we realise this, the more shall we appreciate the divine goodness to us, and the duty of providing them for others.

Like morning's first light, that gladdens the sight,
So may the best fruits spread over the earth.
And when we shall reach that still fairer land,
And round the life-tree in mercy shall stand,
May each pluck its fruit, and nevermore feel
The serpent's sharp tooth, once close at his heel.

—*Extract from an address by the Hon. Marshal P. Wilder, delivered at the twentieth session of the American Pomological Society.*

SCOTTISH GARDENING.

Gardeners, Young and Old.—I have frequently been curious to know why a lad cannot be retained on the place as a journeyman after his three years' "tuition" has expired. Is it because the tutor has no confidence in the lad who has been employed under him that he is compelled (as is often the case) to send to a nurseryman for a man to do the work which the "three-yearling" should have been entrusted with? It is most disheartening to young men to be sent to places where character, talent, activity, and the usual host of other qualifications are required, and on their arrival to be paid lower wages than the most ordinary labourers employed on the place, who have only their quota of work to perform, no Sunday duty, nor late hours at fires, and yet have (it may be) two or three shillings a week more than the men who have to purchase books, appear respectable, pay travelling expenses, and a variety of other expenses unknown to the contented labourer, whose sole physical duties are to eat, drink, work, and sleep. The chief cause of this migration of young men is the enormous amount of rearing of "freshmen" (many who would match Mr. Verdant Green in any form) who would be far better employed in some other sphere where such difficulties as are too often experienced in "journeymen's" careers would be unknown, and the reduced stock might have a chance of receiving payment commensurate to their worth, and proportionate to the labourer who has no concern for the future beyond the certainty that six o'clock closes his day's work.

Reverting to the subject of the proper tuition of young men in the rudimentary portion of their work, I would say that this is what masters should take in hand. Discipline should always be maintained, and while precept is given example should accompany it. It is not difficult to judge of a master through the man whom he has professed to teach. I never yet knew the youth, when he attained to manhood, who would thank his preceptor, or even respect him for allowing loose discipline. I have little fault to find with nurserymen as I happen to know how severely they are tried when endeavouring to accommodate all parties. They are often obliged to act against their better judgment. The instructions they receive from the applicants for men are often so diverse and rigid that it is impossible to find men with all the necessary qualifications required to fill the vacancies, many of which do not require the work of skilled men at all. Nurserymen should, however, be as faithful to their trust as circumstances will allow. I could give many examples of difficulties which nurserymen have to contend with, and how they have to meet them. One case may suffice. A large firm had a request from a customer in Ireland to send over two "journeymen." Their qualifications were to be of a very peculiar kind; discipline was of the most severe form, and wages were at the lowest rate. Every "journeyman" in the nursery was offered the berth—all refused to accept it; in fact, most of them were afraid to cross the Channel for such employment. A sturdy highlander was found to brave the difficulties, and as a comrade for him the writer (then turned fifteen years old) was offered the "tempting bait" and accepted it cheerfully, and was ever afterwards thankful that he did such a fortunate act, the head gardener being a high-principled man and one of the most advanced horticulturists I ever knew. A year (the term of our engagement) being completed, we then found employment in Messrs. Low's nurseries, near London, another (with the writer) doing all the work connected with the then Orchid-house, now one of the most extensive Orchid and general plant nurseries in the kingdom.

Having for the best part of a quarter of a century been employed in English gardens as journeyman, foreman, and head gardener, I could give a pretty fair criticism of the weak points connected with the training of young gardeners throughout the sister country, which differs in many respects to the system north of the Tweed. The titles "apprentices" and "journeymen" in the south are not general, and proportionately few young men are employed in comparison with the north. This is a strong point, as labourers are numerous, and (except in a few counties) are paid from a half to a third less wages than Scotch labourers, besides, in many districts of the south, the men work 10½ hours daily, while in the north, when 10 hours is exceeded it means payment for overtime.

It is not general in England to find systematic training of young men. The first start about gardens is as message boy, looking after the garden pony, and doing work of a very menial character generally. The next move is to the houses as "crock-boy," working gradually till age and experience entitles the youth to engage in work of a more trustworthy character. I have known youths rise step by step till the foreman's place was given them, and in some cases, the position of head gardener was filled. But oftener the youth goes out into the world to push his way, overcoming difficulties as best he can, and one of the most insurmountable is the fact that his "training" has not been general (if he has had any at all), outside work in many cases he never has tried, he may be an adept under glass, and here, his experience ends. Often as a head gardener he has to depend on the experience of the labourers under him for conducting the work, till through the course of time, his observations gradually initiate him in practical parts of outdoor work. There are, however, many other sides to the question, in which, many of the leading men throughout the country fortunately became familiar with in their youth. When they showed talent and a liking for their work, their superiors took them by the hand, initiated them into the practical working of every department on the place, and if the youths proved worthy of the training which they received, efforts were made to advance their interests, and promotion was sure to follow. This, in my opinion, is as it should be.—*M. T.*

Gardeners' Association of Sterling. — This prosperous Association meets on the last Thursday of the month for mutual improvement, and the reading of papers on theoretical and practical horticulture, and discussions of the same by the members, takes up several hours at each meeting. One very pleasing feature in connection with these gatherings, is that some of the young men attend and take part in the discussions. I attended a very enjoyable meeting on the 29th of last month, when a paper, carefully prepared by Mr. Ritchie, gardener at Polmaise, was read by that gentleman on the preparing and cultivation of plants for room decoration. Cultivators can hardly know too much of this branch of their duties. Most of the plants referred to were foliage kinds, which, I suppose, means that one on flowering plants will come next. Mr. James Mitchell occupied the chair, and a number of members discussed the subject—all approvingly. The meetings being held in Dowdy's Temperance Hotel seems to give a kindly character to them. —*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Watering.—One of the great difficulties with amateur cultivators of plants is to know when to water, at least it would appear so from the numerous inquiries made as to that particular operation, and it would seem from the way the query is put that they are expected to require liquid at set times, and almost as often as the interrogators take their meals; but though such frequent applications may do little harm in the height of summer, anything approaching such a wet condition would be certain death now. The thing with most greenhouse subjects at this season is to preserve the happy medium, and have the soil just moist, and no more; the only exceptions to this being with such plants as Salvias, Cinerarias, Primulas, and Chrysanthemums, the last named of which if in small pots and well rooted, can scarcely be overdone, and to let them get the least dry, would injure and perhaps spoil the whole of their blooms. This being so, they should be looked over daily, and have sufficient water given to soak right through the balls; but as this liberal supply is apt to engender damp, that enemy to the flowers must be got rid of by driving it out.

Air and Warmth.—Although Chrysanthemums will not bear much warmth, a very little heat in the pipes or flues, to set and keep the atmosphere in motion does good, but at the same time there must be air on the house, and if the ventilators are slightly open by night during mild weather, the better will it be for the plants.

Roof Climbers.—As there is little or no growth in these now, and most of them will be resting, the borders should be kept moderately dry for the winter, which has a sweetening influence on the soil, and enables the roots to remain in a strong healthy condition, ready for action when spring comes to start them again.

Thinning Out.—Light being essential and of the greatest consequence to the plants standing below, it will be necessary to thin out or cut back all shoots of the climber that can be spared, without making the house look bare, but Roses should be left intact, as they flower on the young wood already made; almost every bud on which will yield a flower, if the shoots are well-ripened.

Bulbs.—Besides Lilies which were touched on recently, there are many bulbous plants that are easily managed, and of great value for greenhouse decoration, and it may be of use now to mention a few of the best. Lachenalias, are very showy, and the way to grow them is to pot about a dozen bulbs in 5-in. or 6-in. pots, the most suitable soil for them being a light rich loam, in which they should be just buried and then stood in a cold frame up near the glass, where if they are preserved from frost, they will come up strong and bloom freely in spring.

Ixias, Gladioli, &c.—Ixias are charming and very beautiful in the rich shades and markings of their flowers; the treatment requisite for the bulbs being precisely the same as that for Lachenalias till they begin to grow, when the last named require more water, and the same all through till they ripen. The small varieties of Gladioli, such as G. ramosus, and G. Colvilli, are invaluable for pot culture, and especially the one of the latter named the Bride, which is a pure white, and of great service for cutting and working up in bouquets. As the Gladiolus mentioned start early, they should be potted at once, the way they look best being about six in a 6-inch pot, and the proper place for them is a damp frame or pit, where they can come slowly on till forward enough to be removed to the greenhouse.

Spanish Iris.—Next in point of usefulness to the Gladiolus just mentioned are the Spanish Iris, which in form of flower and lovely rich shades of markings, almost rival some of the best kinds of Orchids, and as they can be had for three or four shillings per hundred, everyone who has a garden should grow some, as they will do well either indoors or out. Being of a spare upright habit, the roots may be potted three in a 4-inch pot, and if the soil is just moist at the time they are put in, no water will be required till the leaves show.

Hyacinths.—The Roman varieties of these will soon be sending up bloom, and to forward and get them to open as soon as possible, the plants should be placed where they can get a little warmth; and the same with a few of those first potted of the large-flowered or Dutch, as by managing in this way a long succession of bloom may be had. In taking the plants out of the plunging material, care is necessary not to injure the tops, which from being covered and blanched are delicate and tender, and will only bear gradual exposure to light, but by having an inverted pot over each for a week or so they will be safe.

Lily of the Valley.—Imported crowns of this charming plant may now be had in quantity, and of a size and strength that they are sure to throw plenty of flower, but to get the spikes to come freely out, the crowns require special treatment; the way to manage them being to pot the clumps slightly in rich soil, and after giving a good watering, they should be plunged and covered overhead with cocoa-nut fibre or half-rotten leaves, and there left—unless wanted for forcing—till the turn of the year. Spiræa japonica, Dielytra spectabilis, and Solomon's Seal require just the same management, and all three are cheap and good for greenhouse decoration, or to bring on for the adornment of windows, and only need the protection of a pit or frame to get them in bloom.

THE FLOWER GARDEN.

Transplanting Deciduous Trees and Shrubs.—It is late now to be moving evergreens, but it is the very best time for transplating deciduous trees and shrubs, which always do best if lifted directly the leaves fall, as then they get fresh hold of the ground before winter sets in. In taking them up, every care should be used to secure all the roots, and to work them out of the ground without breaking or bruising them, and if this is done, the plants will start again without feeling much check.

Roses.—There is always a great run on these at the nurseries at this season, and those who give their orders and obtain their plants first, generally get best served; which, being so, those who intend getting any to plant should lose no time, as by having them early there is another advantage gained in the Roses becoming established before bad weather begins.

Preparing the Beds.—To be in readiness when the plants arrive, the ground or beds where they are to be placed should be prepared by being dug deeply, or trenched, and, while this is being done, some rotten manure worked in and kept well down where the roots will find it when most needed, at the time the plants are sending up bloom. As soon as the planting is complete, the next thing is to mulch, the most suitable material for this purpose being half-decayed manure from the stable-yard, which lies light, and is good for keeping out frost.

Briars.—The country has been so ransacked for these that they are becoming scarce, but those who live where they can be obtained should get in a stock and plant ready for budding; besides which, the ripe shoots off them may be put in as cuttings for dwarfs. The way to prepare them is to cut them into lengths of 9 ins. or so, with a bud top and bottom, and after they are trimmed they should be inserted deeply in rows, leaving only the points just out of the ground.

Rosa Manetti.—This Rose makes a capital stock for dwarfs, and will succeed in very light soil, where the Briar would only do poorly and fail. Cuttings of the Manetti strike freely made in the same manner as those just noticed, and inserted in the same way; but the soil about both must be made solid and firm.

THE FRUIT GARDEN.

Pears.—It is to be hoped that the Pear Congress, just over, and the many shows that have taken place this autumn, will do much to bring Pears more into cultivation, for as yet they are scarce and dear—that is, so far as the real good sorts are concerned; but there is no reason why this should be, as they will grow and succeed almost anywhere in an open, sunny aspect, or on bare walls or fences, all of which may be turned to most profitable account by planting trees against them and training them over. We often see houses covered with Ivy or unkempt climbers of various kinds, that would look quite as well, and in many cases far better, clothed with Pears, a striking instance of which has recently presented itself to the notice of the writer of this, where a villa might be seen with over 800 fruits on its walls.

Planting the Trees.—To give the trees a fair start, the ground should be broken up to a good depth, and if at all poor, have a heavy dressing of rotten manure worked in, and as soon as this is done all will be ready for planting. In carrying out this work, the chief thing to be particular about is the spreading out of the roots and keeping the plants at the same level as before, for if buried deep at the collar they seldom do well. The soil most suitable to the Pear is a deep light loam, especially for trees worked on the Pear stock, which is the best if they are wanted to grow large and to cover much space. For dwarfs, pyramids, cordons, or other forms that are small, and the plants have to be restricted, the Quince must be used, and this throws the trees quickly in bearing.

Training.—For Pears on houses, fences, or walls, the simplest modes of training are the horizontal and vertical, and the way to lay the foundation and start with the first-named is to run the main shoot upright, and after that to lead others away at about 9 ins. apart up each side. To begin with the vertical, two shoots are required within 1 ft. or so of the ground, one to be led straight along to the right and the other to the left, and from these others to be carried regularly at 9 ins. apart right up the wall.

Useful Varieties.—The most useful to come in early is the Jargonelle, to be succeeded by Williams's Bon Chrêtien, Louise Bonne, Beurré de Amanlis, Beurré Superfin, Fondante de Automne, Comte de Lamy, Marie Louise, Doyenné du Comice, Glou Morceau, Winter Nelis, Josephine de Malines, Bergamot Esperen, and Beurré Rance; but the last four must have a favourable aspect to be good. All the others mentioned will succeed and ripen well in the open on pyramids, bushes, cordons, or espaliers, which in small gardens, without wall surface to spare, is the best way of growing them, as they may be planted and trained alongside of the walks, where they take up little room and look well.

"THE DUKERIES."

There is—said Mr. Bruce Findlay in a paper read at the last meeting of the Manchester Horticultural Improvement Society—no county in England which contains so many stately homes in so confined a space as does Nottingham. Take up a map of that fine shire and notice the number of ancestral houses grouped amid wooded undulations and spacious parks. There are the Dukeries, amid the sylvan seclusion of Sherwood Forest, right in the heart of Robin Hood's country, and embracing the estates of the Duke of Newcastle at Clumber, the Duke of Portland at Welbeck, and that of Earl Manvers at Thoresby; whilst adjoining are broad acres of swelling hill, devious valley, and belted woodland belonging to the Dukes of Norfolk, Rutland, and St. Albans. Near by is Newstead Abbey, where Lord Byron lived, and Anersley Hall, where he loved and lost Mary Chaworth. Taking Nottingham houses in alphabetical order, he mentioned such retreats as Babworth, Bestwood, Bramcote, Bunny, Chilwell, Clifton (some of his hearers would remember Kirke White's Clifton Grove), Colston Bassett, Flintham Grove, Kulham, Kirklington, Norwood, Osberton, Oxton, Rampton, Rufford, Sherwood Lodge, Stapleford, Thumpton, Watnalls, and Worksop Manor. Engaging as the majority of these places are, not only by reason of their architecture and associations but by virtue of their scenic surroundings amid old oak forests in which Saxon hid and Norman hunted, none of them are so interesting, so curious, so attractive, so astonishing, and so eccentric as Welbeck. By its vast size, and its startling surprises, it is calculated very considerably to enlarge what the phrenologists call the bump of wonder.

Welbeck Abbey.—Assume that the visitor approached Welbeck from Worksop; the sun lies warm and bright on the grassy meads and wooded uplands of the Sherwood country. Suddenly, and without seeming warning, your horses leave the light, the visitor plunges into a resounding dim vault; he might have been precipitated into the Catacombs. This subterranean carriage-way is but one of the many interminable tunnels with which the late Duke of Portland perforated Welbeck and its approaches. He is reported to have spent between two and three millions sterling in making these vast underground walks, drives, and hall, some miles in extent. The kitchens too, are subterranean, and the dishes are conveyed to the guests in the Abbey above by a miniature railway and an hydraulic lift. The library, a magnificent building, as well as the noble picture gallery crowded with works of art, and the reading rooms are also below the ground line. The picture gallery is 236 ft. long and illuminated by 1,100 burners. This gave access to a further subterranean hall of splendid proportions and delightful appointments. It is meant for a ball-room. Like all other chambers it was excavated out of the solid clay at a fabulous expense of time and capital. Internally these cavernous buildings are perfectly cheerful and most lavishly decorated; the word palatial conveys but a remote impression of their grandeur. Externally all one sees is a lawn diversified with shrubs, broken here and there by a disc of glass, which sends natural light below, and small iron structures that are the ventilators for the gas. The lodges also on the estate are treated also to the late Duke's mole-like mania. The death of this eccentric nobleman cut short further designs suggestive of the ancient cave period. At the date of his death, December 1879, the beautiful surroundings of Welbeck Abbey were in the possession of an army of artificiers and navvies carrying out the capricious nobleman's designs. Shedding and workshops, forge-fires and machinery in motion, had converted a fairy scene into a huge contractor's yard. By his death two thousand men, who had worked there for years, were thrown out of employment. It was not likely that the young Duke, if he would preserve his reputation for sanity would prolong the proceedings of his predecessor.

Oddities of the Duke of Portland.—William John Cavendish Scott Bentinck, fifth Duke of Portland, was certainly no ordinary nobleman. History might be searched in vain for another such patrician. He stood alone in the solitude of his own odd, isolating originality. His character was a study. Why did he build underground? It was not for want of space above. The Bentincks own 160,000 acres. He built magnificent stables, but he never strode a horse; he built a ball-room, which is almost without a rival, but he never danced; he erected skating rinks, but never skated. He was called the "Invisible Prince," because of the air of mystery with which he clothed himself. A member of four leading London clubs, he never entered their portals. His shooting and hunting parties were unsurpassed, but he never saw his invited guests. He cultivated flowers and fruits whose fragrance and flavour never ministered to his enjoyment. He bred trout by the 40,000 a year, and yet he was not an angler; a great farmer, but agriculture attracted him not. "Can't you leave me alone?" was the life-long aspiration of the Hermit of Welbeck the Wonderful. He lived to his eightieth year.

Thoresby and Clumber.—Speaking of Thoresby, the seat of Earl Manvers, Mr. Findlay said the garden there is one of the best kept ever visited by him, and reflected great credit upon the noble owner and his able gardener. The noble mansion may be considered as one of the most splendid modern additions to the long roll of baronial houses that dot the land so pleasantly, and with their parks and avenues give us some of the finest thoughts of England and its people in their national home-like character. Clumber, the seat of the Duke of Newcastle, which was built about 1770, and was destroyed by fire a few years ago, occupied a central position on the north side of the lake, and was said to embrace more magnificence and comfort than any other nobleman's seat in England. Let them leave the buildings and wander at will about the green glades.

The Sherwood Oaks.—Tennyson's Talking Oak is a modern shoot compared with some of the historic trees of the Dukeries. The age of the Greendale Oak, the Methuselah of its race, has been estimated at 1,500 years. It is still alive, comfortably supported, as a patriarch should be, with crutches under his arms, Robin Hood's Larder, like the Greendale Oak, has lost his heart, but in the veins of his great sinewy gnarled limbs the life-sap flows freely. This tree, sometimes called the Shambles Oak and sometimes the Butcher's Shambles, had its inside burnt wantonly out by a party of picnickers from Sheffield in the summer of 1878. The idyllic scenery could not have had much influence over such savage minds. The venerable tree is now held together by chains, a charred remnant of its former glory. Close by there are other patriarchal Oaks bearing specific names. After passing the Central Oak comes the Major Oak, in whose hollow trunk a dozen people may dine, and round the trunk twenty people may join hands. Though the inside of the tree has gone, its branches retain their pristine freshness. The Parliament Oak is another veteran of Sherwood Forest, so called because Edward the First held a parliament under the amplitude of its shadow 600 years ago. The whole of this country of the Dukeries is picturesque. There are woodland wanderings in these old-world glades of ancient Oaks and silvery Birches that will make one wish he were an Orlando to linger in such an Arden, even if he did not find his Rosalind. The spaces between the gnarled old Oaks has been filled up with delicate Birch trees. The contrasts between the lady of the wood and the scathed, grey, sturdy, tottering old Oaks is poetically suggestive; it is the contrast between the bent, tottering, seamed, and furrowed old man and the winsome maiden, soft and tender, smiling with fairness and beauty. It is the contrast between May and December, age and youth, life and death, hope and despair.

THE DEODARS, MEOPHAM.

Picturesquely situated close to a main road stands The Deodars, Meopham, in grounds well studded with fine specimens of Cedrus Deodora, from which it derives its name. The mansion is approached by a beautiful drive, to the right of which, on the lawn, stands a fine specimen of the mammoth tree, Sequoia (Wellingtonia) gigantea, planted twenty years ago. It has reached the height of 60 ft., has a girth measurement of 5 ft., and being sheltered by a row of Chichester Elms, Ulmus glabra variegata, the situation suits it well. Previous to my visit great alterations had been in progress, a large space being thrown into the lawn, dotted here and there with ornamental trees and shrubs, including such handsome conifers as Picea nobilis, P. Nordmanniana, P. Pinsapo; also Cupressus Lawsoniana, C. Lawsoniana gracilis, Thuja aurea, T. Sieboldi, and many others. From the mansion to the stables is another drive, between raised banks thickly planted with gold and silver Hollies well set with berries.

The Conservatory, which is 40 ft. long, 20 ft. wide, and 25 ft. high, is well stocked with plants, including some fine specimen Camellias, such as C. alba plena, fimbriata alba, Lady Hume's Blush, and many others. Of Tree Ferns, there are grand specimens of Alsophila excelsa, Dicksonia antarctica, Blechnum corcovadense, and Lomaria gibba; and of large Palms, Corypha australis, Areca lutescens, Latania borbonica, &c. Tacsonia Van Volxemi, Solanum jasminoides, Lapageria rosea climb along the roof, and are flowering freely. Among flowering plants I noted Lasiandra macrantha, Polygala cordata, grand flowering specimens; also the old Libonia floribunda. Other Ferns noted were a grand specimen of Neotopteris Australasica, and Nephrolepis exaltata, Platycerium alcicorne, and many others. In a small span-roofed stove were some good Crotons, C. Disraeli, C. pictum, C. Veitchi, C. majesticus, C. Wiesmanni, a grander specimen seldom seen; Dracæna Baptisti, D. Bausei, D. Fraseri, and many others; Anthurium crystallinum, a grand plant; Dieffenbachia Bausei, Pandanus Veitchii, and Alocasia metallica among the foliage plants; and Stephanotis floribunda, Allamanda Hendersoni, climbing the roof; Euphorbias, Poinsettias, and the old Tabernæmontana coronaria, Hibiscus, Centropogon Lucyanus, among flowering plants. Suspended from the roof were Stanhopea grandiflora, and Cœlogyne cristata, the pseudobulbs looking plump and well grown. Of other Orchids, Dendrobium nobile, Oncidium flexuosum, and Lælia anceps, were showing blooms; Zygopetalums and Cypripediums are also in variety.

From the stove we entered the warm greenhouse, 10 ft. by 12 ft., chiefly used for propagating Pelargoniums and other plants; and in which Marechal Niel, and Gloire de Dijon, Roses are grown for early cutting; Cyclamen, Cineraria, and Primulas are also grown. On one side are Tomatos trained to the roof, Dedham Favourite, Hackwood Park, Trophy, and a seedling of Mr. Phillips' own—a free setter, and good in size and quality. Salvia rutilans and S. coccinea are flowering freely.

The next house is a vinery, 60 ft. long, 20 ft. wide, and 20 ft. high. This is for early forcing, Black Hamburghs being chiefly grown. The vines are planted on each side, and amongst them are a few late sorts, such as Gros Colmar, which is specially well done, having large berries and handsome bunches; Lady Downe's Seedling, covered with a dense bloom; Alicantes, also well grown, and Duke of Buccleuch, which is worthy of special mention—it does so well with good management.

Leaving this structure, we enter a Peach-house and vinery combined, 60 ft. long and 20 ft. wide, in which Grapes are grown on one side, Peaches on the other. No doubt, some of your readers will wonder how these can be grown well in the same house, but it is done. Mr. Phillips, whose skill and perseverance counts for a great deal, succeeded in gathering good crops of Early Beatrice and Hale's Early (early varieties) in good condition, and Royal George, Violette Hâtive, and Crimson Galande, later sorts. The principal Grapes grown are Gros Colmar, Foster's Seedling, Trebbiano, and Syrian, which produces the largest bunches, some of them weighing about 10 lbs. the bunch. This is the second year of trial, and the fruit gathered was extremely good.

There is also a late Peach-house, 30 ft. by 20 ft., which has recently been built, and contains Royal George and Barrington Peaches, Elruge, Hardwicke, and Pine Apple Nectarines; and the trees look promising for a future crop. On the border were a collection of early-flowering Chrysanthemums in pots, and one mass of bloom, such as Lyon, Mdme. C. Desgrange, Jardin des Plantes, Frederick Marronet, Précocité, and many others useful for decorating early.

A considerable amount of space is allotted to the fruit garden. Pears do well here as pyramids, especially such varieties as Beurré Superfin, Beurré Diel, Beurré d'Amanlis, Williams's Bon Chrêtien, Louise Bonne of Jersey, Marie Louise, Josephine de Malines, and many others. Apples are chiefly grown as standards, Blenheim Orange, Stirling Castle, The Queen, Lord Suffield, Ribston Pippin, Cox's Orange Pippin, and many other good varieties. Of Plums, Prince Englebert, Washington, Green Gage, Coe's Golden Drop, and Victoria are the main varieties, and the trees are all looking healthy. The kitchen garden is about half an acre in extent, and along the borders were a few good standard Roses; Cauliflowers, Veitch's Autumn Giant, and Aigburth Brussels Sprouts were excellent, and other crops also looked well.—*T. H. H.*

WILLIAM HOLMES.

It is fitting that on the occasion of the holding of the second exhibition of the National Chrysanthemum Society, at the Royal Aquarium, a portrait of its hon. secretary should be given. The best monument to his ability, his high administrative capacity, and the confidence he inspires among Chrysanthemum growers and fanciers, is the National Chrysanthemum Society. Originally the Stoke Newington, and afterwards the Borough of Hackney Chrysanthemum Society, and never, despite its change of name and locality of operations, losing in any degree the continuity of its important work, it two years ago took upon itself the larger title, and gave a much wider scope to its operations. It is to the prescience and courage of Mr. Holmes that the change is mainly due. He saw the need for something in the form of a national organisation to which Chrysanthemum growers all over the country could look for advice, counsel, and guidance, doing the work of the National Rose Society, but on a more comprehensive scale and resting upon a broader basis. Many doubts were expressed as to the expediency and wisdom of the change; but events have completely justified the new departure. See what has been done within the space of nine years. In 1877 the Borough of Hackney Chrysanthemum Society had a roll of fifty-five members, a total income of £84 14*s.* 6*d.*, and it offered prizes to the amount of £57 6*s.* 6*d.* In the present season it has a roll of 309 members, a total income of £380, and it offers in prizes £250. In addition, it has affiliated a large number of societies; it has issued an authoritative catalogue of Chrysanthemums; it has struck medals that, unlike some others, are worth the money value set on them; and it has a floral committee sitting during the season to take cognisance of new Chrysanthemums, &c. It is not to be wondered that so large a measure of success has fallen to its share.

William Holmes is the "worthy son of a worthy sire"—the son of the late William Holmes, for some years gardener to Dr. Frampton, and the founder of the Frampton Park Nurseries. The floral tastes of the father descended to the son. He was born on May 10th, 1852, and was fortunate enough to receive a sound general education at Madras House Grammar School, and was the first wardsman's son admitted to the institution. When quite young he caught something of the floral enthusiasm which animated his father, and made a hobby of Pelargoniums and Chrysanthemums, growing a collection of each, and having the daring to enter the lists as a competitor against his father, who was for years a most successful exhibitor.

On the death of his father in June, 1878, he took over the management of the Frampton Park Nurseries, and now carries on a general business as nurseryman, seedsman and florist. As a landscape gardener, William Holmes (and his father before him) have done good work in laying out many of the Open Spaces and Recreation Grounds within the Metropolitan area which have from time to time been inaugurated. Elected as the hon. secretary of the Borough of Hackney Chrysanthemum Society in 1877, he holds that office still, and possesses what is so encouraging to a secretary—the entire confidence of a large representative committee.

Locally, William Holmes is by no means unknown, as he is a member of several district organisations and a life member of the Hackney Trustee Board. He is also an active politician, and greatly assists his party in the locality in which he resides. That he may long live to be identified with the development of the Chrysanthemum is the earnest wish of a vast majority of the admirers of this popular flower, to whom the portrait now published will, we feel sure, be welcome.

William Holmes.
Secretary of the National Chrysanthemum Society.

THE OLDFIELD NURSERIES, ALTRINCHAM.

From small beginnings this establishment has gradually and continuously increased by the addition of land and stock, houses and plants, until at the present time it is perhaps the most important undertaking of its kind in the neighbourhood of Manchester. The past season has been one of exceptional briskness, and at the present time though so much has been despatched to all parts of the United Kingdom, there is still an abundance of everthing for which this nursery is more especially famed. Nearly 50 acres are taken up chiefly with forest and fruit trees, also such as are of an ornamental character. Large breadths are also occupied in the growth of all kinds of plants for the herbaceous borders. In this department the proprietors, Messrs. W. Clibran & Sons, pride themselves in having one of the most comprehensive collections in the county. That there is now a far greater demand for this class of plants than formerly, is a fact of significant importance. Doubtless, the first desire for an extended acquaintance with hardy herbaceous plants, sprung up in consequence of a few specialists continually bringing them to the notice of the public at our various shows and exhibitions, and the admiration of their beauties led to a desire for their possession, and so in time many fine collections were made in private gardens, that had hitherto been almost strangers to their richness and usefulness. It is to be hoped that still further additions may be made in gardens where they are already so freely grown, and that those who have charge of others though of limited size, will speedily see to the formation and planting of this useful adjunct to the garden—a hardy herbaceous border. To give an enumeration of sorts and names, would take up space to no profit; suffice it to say that the best of everything is kept here, and every new one of proved merit is added to the stock.

Passing into the glass erections, some additions to which have been made during the past season—houses of large dimensions, though of very plain structure, the stock is noted as truly surprising in quantity. There is so much that is useful of a decorative character, and large quantities of foliage and ornamental-leaved species, that the running over of thousands of plants of one particular sort, fails to convey the idea that many others though in lesser quantity, still of equal usefulness are grown. Small Palms such as Euterpe edulis, Cocos Weddelliana, Latana borbonica, Areca lutescens, &c., are in great demand, while it goes almost without saying that Ferns by the thousand are grown, and as quickly disposed of. Let all new additions be made to our Ferneries that are possible, in the way of species or varieties, there is nothing that can be grown for general and useful purposes, that can compare with Adiantum cuneatum. Of Begonias large numbers are raised from seed, and as seed only from the best forms are used, it will readily be seen that fine form, colour, and substance must be present, so that they may commend themselves to intending purchasers. The majority of these are now passing into the resting stage, to come out again next spring in all their freshness and beauty.

Solanums are also grown by thousands, and the same may be said of the Bouvardias, which, being grown in three distinct batches, have the flowering period considerably lengthened, and, of course, there is a more extensive sale. Ten thousand Pelargoniums were grown last season, and vast quantities are now coming on for the coming spring. Only the best sorts are grown, old and inferior varieties having no place here. Zonals, both single and double, are also in large demand, whilst the splendid double varieties of the Ivy-leaved section are now being grown and increased at a very rapid rate. There are few things of recent introduction that can compare with this latter class of plants for growing in baskets, training up pillars in conservatories, &c., and for cutting when blooms are required for the small vases now so much in use for dinner-table decoration. There is less fear of their falling to pieces than is the case with the single varieties, and the splendid shades of colour now observable are quite distinct from the older doubles of the zonal and decorative section.

House after house are set apart for the things just mentioned, each house measuring 150 ft. long, 12 ft., 14 ft., and 20 ft. wide, in a clear and open locality where there is no obstruction whatever to the plants receiving every ray of light, so essential to their perfect development and well-being. A house, 150 ft. by 24 ft., is just now a perfect sight. A path runs through the centre, and on either side are stood about a thousand splendidly grown Chrysanthemums. These range from 3 ft. to 5 ft. in height, and are producing, in most cases, from five to eight blooms of large size and substance. The foliage of these is of an excellent description, large, stout, and of that dark green colour so indicative of health and vigour. But the blooms! Well, they are as good as, perhaps, it is possible to have them, remembering that they are not grown on the single rod system for the exhibition boards. Taking them altogether, this house contains the finest lot ever got together in one establishment in this part of the kingdom. Every good sort—incurved, Japanese, Anemone, reflexed—are here, with many new ones that have only been known during the past season or two.

In another house we noticed a large and healthy stock of Eucharis amazonica, many just pushing up their useful blooms. The sweet-scented Rhododendrons, as well as the brighter coloured greenhouse varieties, are also numerously represented. Camellias and Azaleas are indispensable; among the latter, two of the most useful for cutting purposes are the white A. Borsig and Narcissiflora. Some beautiful Platyceriums are grown in pans and blocks, grande, Williuckii, and biforme being numerous and remarkably strong. Nice plants of Davallias are grown on blocks, and well they look. Of course, more attention in regard to watering is necessary when grown in this manner; but by constant dipping and a moderately moist atmosphere, really splendid plants can soon be obtained; and once established, are objects of considerable interest. Microlepia hirta cristata is grown in baskets, and proves itself to be a most useful acquisition. It requires, however, a little more warmth during the winter months than many that will grow with it during the summer; otherwise, if kept too cool, it will damp off and soon become disfigured.

We were pleased to see a very healthy stock of Luculia gratissima, a plant seldom seen, yet most beautiful when well grown. Of Acacia pubescens (R. S. Yates' variety) Messrs. Clibran pride themselves on having the finest stock in the trade. Large quantities of tree Carnations and Gardenias, Poinsettias, Callas, double and single Primulas, Cyclamens, &c., are coming on in their various stages. Choisya ternata, the new Abutilons, Daphne Indica rubra, Glonera jasminiflora, Jasmiunm gracillimum, &c., are also grown. A fine lot of Marechal Niel Roses have made growth of from 12 ft. to 15 ft. long, and are now stood outside to ripen and harden. Such plants as these cannot fail to give a fine crop of bloom during the coming spring. Of pot vines, also, a capital lot are also ripening outside, and, in fact, are now ready for sending out to customers who purpose planting new vineries of a permanent character, or such as intend fruiting a batch more rapidly in pots.—*W. Swan, Fallowfield, Nov. 9.*

FRUITS, FLOWERS & VEGETABLES.

Alnwick Seedling Grape.—I can fully endorse what your correspondent "D. B." says at p. 154, as to the perfection to which this fine looking Grape is grown by Mr. Murray, of Culzean Castle Gardens, Maybole. The bunches which were staged at the late Edinburgh show, from this fine gardening establishment, were, in point of size, form, and perfect shape, everything that could be desired—in fact, I have not before nor since seen such meritorious specimens of the Alnwick Seedling—and I can honestly say the same of the grand bunches of Golden Queen, which were staged at the same show from the Culzean Vineries. Indeed, so favourably was I impressed with the Golden Queen, as there staged by Mr. Murray and Mr. Hammond, of Brayton, that I have resolved to add it to the varieties growing in the Longford Vineries, believing, as I do, that if such a high standard of excellence can be attained in the culture of any plant or fruit by one set of practitioners, it is quite possible for another "intelligent set" who have not previously attempted the culture of whatever the subject may be, to succeed equally as well, providing the accommodation is suitable. Still, I am not so rash as to say—though I see no reason why I should not—that I shall ever attain to such success in the culture of the Golden Queen as Messrs. Murray and Hammond have reached. I may remark that the specimen of Muscat Hamburgh, which was staged in the same show in the 4-bunch class by Mr. Boyd, of Callander Park, Falkirk, and the Lady Downes by his neighbour, Mr. Murray, of Parkhall, were grand specimens, the best I have ever seen of the respective varieties, and they attracted great attention from Grape growers including *H. W. Ward.*

Griffinia hyacinthina maxima.—Of the many species of Amaryllids which are grown either in stoves or greenhouses, this Griffinia from its novel and beautiful colour, is one of the most desirable, and yet how seldom is it met with in good condition, or even at all in collections of plants. In some gardens it is found to be most easily cultivated, whilst elsewhere it is of uncertain habit and unsatisfactory. Having grown it for many years, my experience of it has been that it takes occasional fits of prolonged repose as if preparing for another effort, and suddenly starts off for growing and blooming. There are now two bulbs of it in bloom with me, each bearing two heads of flowers, of twelve and fourteen blooms on a head, and a charming sight they are, the delicate mauve and blue tints of the flowers contrasting well with Eucharis, Tydæas, and other plants now in bloom in the stove, where this bulb is best grown at least for the greater part of the year, with a rest in an intermediate house after the young growth is made. Sandy loam and leaf mould suit it, with ample drainage and careful watering.—*J. T. Poë, Riverston.*

Greenhouse Rhododendrons at the Handsworth Nurseries.—In the extensive and valuable collection of greenhouse Rhododendrons at these well-known nurseries, there are many choice varieties now in flower, and amongst them several promising seedlings of different shades of colour. Princess Royal is well represented by many fine specimens, as full of bloom as well-grown Azaleas. This fine old variety should be grown in quantity where choice flowers are in demand, whether they be for market or private use. Duchess of Connaught, with its globular and compact trusses of bright vermilion-red flowers, freely produced on some very small plants, is very effective. Duchess of Edinburgh is also very bright in colour and free-flowering. Prince Leopold, Princess Frederica, and Maiden's Blush are also among these floral treasures. Messrs. Fisher, Son & Sibray make a speciality of these plants and grow them by thousands, house after house being filled with the best varieties in commerce, and the plants in the best possible condition, indicating good treatment on the part of the excellent manager, Mr. Williams.—*J. W. S.*

Matricaria inodora flore plena.—Might I ask your correspondent, "J.," who furnishes the very interesting and instructive notes on "Select Hardy Perennials," why he thinks "this is probably not a true perennial"? That it is hardy there can be no question, and as I have several large plants—even still with hundreds of expanded blooms—that have stood in the same place for the past three years, I cannot doubt its perennial character. Of its usefulness for cutting none can speak too highly; the pure white colour, and the fact that even in summer they will retain their beauty for three weeks, at least, in water, makes them very desirable. Cuttings, well watered, and exposed in rich soil, give most satisfaction; old plants get woody, and give smaller flowers.—*W. J. Murphy, Clonmel.*

Plant Cultivation.—In no other profession than that of gardening is the point of excellence attainable by so many varied roads. Who has ever heard of two gardeners treating their subjects precisely alike? And yet, in walking through an exhibition tent, it is marvellous to behold the similarity of plants that have been subjected to the most widely different treatment. Of course, it does not follow that the results brought about by attention and industry will be rivalled by the result of inattention and carelessness, if ever such cases occur. In perusing the different gardening papers, the same circumstance is prominently noticeable. One asserts, for instance, that if Adiantums are to be grown with success, you must use nothing but pure peat; while another, with laudable purpose, says that anything but pure loam will have the most detrimental and ruinous consequences. Indeed, though interesting it is often amusing, sometimes even laughable, to read these little differences of opinion and experience; and to those who are not thoroughly initiated they are often inexplicable. "Necessity is the mother of invention." And so it often happens that gardeners have to do with, not what they desire, but what they can get. As regards soil, the fundamental principles should always be understood. Plants will live and thrive so long as the chemical constituents necessary to their construction and progress are supplied; it does not matter whether they are given to the plants in the form of peat, loam, or sand; the essentials must be there or the plant will die. There are also atmospherical conditions on which the life of a plant as much depends as on those which regulate the application of soil. To all plant cultivators these conditions are more or less widely known, and it is only by careful personal experience and observation that we are enabled to arrive at any fixed conclusion regarding the atmospherical requirements of a plant. Were gardeners of a warlike disposition, there would often be more than discussional battles over these and similar matters. But it is not so. They always accept the experience of their friends with the utmost thankfulness, and generously impart any result of abnormal treatment.—*M. Barker.*

Old Apples.—At the recent autumn show at Richmond, an Apple shown under the name of Gooseberry Pippin was sent by someone, who also sent fruits from the same tree as the fresh fruits were obtained from last year's and the preceding year's crop. Those of the present year were very good samples, those of the previous year of fair size, but soft in texture; and those of 1883 rather small, shrivelled, and spongy. Probably, both lots thus carefully kept were quite useless; the exhibit so far was a curiosity and nothing more. The sort no doubt was Alfriston, as all the fruits were conical and angular, whilst those of the Gooseberry Pippin are smaller and rounder. As a rule, very few Apples keep good beyond six to seven months from the time of gathering, unless very favourable places can be found for storing. No doubt the fruits suffer most from changes of temperature in the winter, which induces sweating, and an atmosphere that is too dry. Probably the best keeper is the old French Crab, but it is not of much value for cooking after the month of May. It is all very well to point out Apples that have kept well, but their merit depends upon quality and if no better than sponges after so many months preservation, then the term "kept" is barely applicable. No doubt the best way to ensure long keeping, is to allow the fruits to hang on the trees as late as possible, because they plump up and mature so much more freely than if gathered too soon. I have this year been surprised at the way in which Apples have held on; I gathered a quantity of Wellingtons, Norfolk Bearers, Russetts, and Cockle Pippins so late as November 6th, and many would have hung longer had I have left them.—*A. D.*

Duke of Buccleuch Grape.—I think your correspondent, "J.," and myself might argue our respective cases for a very long time, if it would serve any practical purpose, which I hardly admit. "J" has put forth assertions respecting the "Duke," with which, speaking from my own practical experience, I cannot agree; but, because I differ from him, he must not consider that I do so from any spiteful motive, because I have not the slightest idea who "J." may be, and, therefore, cannot possibly have any spite against him; and I certainly have no cause to entertain other than feelings of the greatest respect for the raiser of the "Duke." I always endeavour to speak, not only of things, but of men as I find them: I have spoken of the "Duke" as I have found it, and nothing will make me alter my opinion but substantial proof based upon my own practical experience.—*W. C.*

Leucanthemum major.—This fine autumn-flowering hardy perennial keeps in fine form, despite the rain, which affects but little the purity of its blossoms. I would advise any gardener to grow it for flowering at this season of the year. I can, at the present time, cut from a small clump something like fifty fine flowers, so free is it. I find that it grows freely in a strong loam, and increases abundantly. It is, without exception, one of the best late-flowering hardy perennials I know, because it succeeds the white-flowered Japanese Anemone.—*Quo.*

THE GARDENERS' CALENDAR.

THE FRUIT HOUSES.

Peach and Nectarine Trees.—If not already done, no time should be lost in preparing the trees, in the early and second house, for forcing. The first step to be taken in this direction is to wash the glass and woodwork with warm water, and the brickwork and plaster with hot lime, into which a few handfuls of flour of sulphur should be stirred before being used. This done, cut out as much of the old wood as can be dispensed with, as well as superfluous and extra strong shoots of the current year's growth, and some of those left should be shortened back to a wood-bud where necessary to secure a balance of growth in the individual trees. This object should never be lost sight of in pruning trees of any description. Then the trees—unless they have been perfectly free from blight during the past season—should be washed with a soft brush, and a solution consisting of 3 oz. of soft-soap dissolved in a gallon of warm water, with two handfuls of sulphur, well mixed. This should be applied to every particle of the tree, care being taken not to damage the fruit buds in performing the operation.

The shoots should be thinned out to from 4 ins. to 6 ins. apart and these should be trained at the same angle on either side the centre of the tree, and should not be tied too tightly to the wires, otherwise they will not have room to grow without sustaining injury by the ties. This done, prick over the surface of the border with a fork, remove the loose soil, and replace it with a mixture consisting of three-parts of calcareous loam, and one of lime-rubble and wood-ashes, following this with 2 ins. thick of horse-droppings or short manure, and a good soaking of tepid water. If Peaches are required in May next the house should be kept close towards the end of the present month, and the trees be syringed two or three times a day, according to the weather, and only turn sufficient hot-water on in the pipes to prevent the night temperature from falling below 40°. Trees in late and cold houses should in due time be attended to in the manner indicated above.

Fig Houses.—The trees in these structures should be got in readiness for forcing forthwith, beginning, as a matter of course, with the trees in the earliest house, and finishing with those in the latest. In pruning the trees, cut out as many of last year's shoots as will make room for a like number of those of this year's growth being retained to cover the wall or trellis at 6 ins. apart, selecting, of course, for this purpose, those shoots which are best furnished with embryo fruits. Care must be exercised, in washing the shoots with a soft brush and soft soapy water, not to injure these in doing so. The interior of the Fig-house should be cleaned in the way recommended for Peach-houses, and the same remark applies to the surface-dressing of the border. In many places the early crop of Figs is secured from trees growing in pots plunged in a bed of fermenting leaves in a forcing pit, in which case the surface soil, to the depth of 2 ins. to 3 ins., should be removed, and be replaced with some of the same description as that recommended for top-dressing Peach borders, prior to plunging the pots, when sufficient tepid water, to thoroughly moisten the ball of earth and roots, should be given to the individual plants. Aim at a night temperature of 55°; 5° or 10° higher by day with fire heat, and 10° higher by sun heat. Damp the trees more or less morning and afternoon on bright days.—*H. W. Ward, Longford Castle.*

THE PLANT HOUSES.

Flowers for Christmas.—In almost all establishments an extra supply of flowers is required at Christmas, and it is therefore necessary to give timely attention to make the most of resources. Chrysanthemums: the late-flowering varieties should be kept as cool as possible, but if we get much damp weather it will be necessary to give just sufficient fire heat to dry the atmosphere, otherwise the flowers will damp off. Azaleas: where such varieties as Fielder's White or the old white have been previously forced, they will not require much heat to have them in flower by Christmas, but unless the buds are very forward they should now be placed in heat. A few of the earliest varieties of Hyacinths and Tulips may be started at any time now. Helleborus niger: although this usually comes into flower in the open ground by Christmas, yet it is advisable to have a few in pots or boxes, so as to be able to give them some protection in case we get severe weather, and the flowers come cleaner and can be easier protected from slugs and snails than when left in the ground.

Any hardy plants that are required for forcing which have not already been potted, should now be done with as little delay as possible. Hybrid Perpetual Roses: plants that have been established in pots are best for early forcing, but these should be gone through and have the old soil removed from the surface, and the pots top-dressed with good rich compost. If any extra plants are to be potted, the earlier this can be done the better. Although plants potted now will not bear so much forcing as plants that have been established in pots, yet they will come in very useful for succession. Plants potted now should be stood out of doors, and have their pots well covered over with cinder ashes, if the tops are very long they may be shortened back, but they should not be pruned in close until just before they are taken in for starting them.

ORCHID NOTES AND GLEANINGS.

Orchids at The Woodlands, Streatham.—The collection belonging to R. H. Measures, Esq., is certainly one of the best we have in the neighbourhood of London, if the health of the plants in every department and the number of rare things are considered as any tests of merit. Each season seems to bring in a fresh set of things in bloom, and at The Woodlands the plants are expected to do their very best in producing a good show in their season. At the present time a very fine display is made in each department with the plants furnished by each set being arranged together thus:—In the Cypripedium flowering house, a rather lofty structure, a pleasing combination meets the eye, made up of large pans of Cypripedium Spicerianum, C. Mierax (a hybrid of venustum), C. Sedeni, C. insigne, varieties, including that best of all, C. insigne violaceo punctatum and many others.

The intermediate houses are gay with numerous graceful spikes of Oncidium Forbesii, O. prætextum brunneum, O. prætextum olivaceum, and others of that section, which look so well arranged with the rose-coloured O. ornithorhynchum; many Calanthe Veitchii, C. vestita, a few late Lycastes and varieties of Vanda tricolor, Odontoglossum Kramerii, Oncidium Jonesianum, a grand mass of the large snow-white fragrant Pilumna nobilis, with over twenty flowers sparkling like crystal; and a plant of Cattleya speciosissima, which is flowering for the third time this year, and thus departing from its usual custom, which is rather to flower once in three years.

The cold houses contain a few very good Odontoglossum Alexandræ, and just opening the rare Od. Josephinæ. These look very effective arranged with the mauve Mesospinidium vulcanicum; the pretty brown and yellow Oncidium O'Brienianum, which is really handsome when well grown, and some fine tufts of the lovely scarlet Sophronitis grandiflora. Of this last-named plant the Woodlands collection has some very fine specimens, some of them having about fifty blooms. Mr. J. Howe, who is one of the most painstaking of growers, has tried it both in cool-intermediate and cold houses, and he finds that the plants carry their flowers better and are better in colour in the cold house.

Many other good things are in bloom at The Woodlands: but the great attraction at the present time is the fine plant of the very rare autumn-flowering Cattleya labiata Pescatorei, which has two fine spikes, the one with three and the other with four flowers. The sepals and petals are light rose and the lip bright magenta-crimson fringed with lavender, the throat being richly stained with yellow and veined with crimson. The habit of the plant is erect, the bulbs and leaves being bright green without the tinge of red which many varieties of C. labiata have. One of the pseudobulbs has a pair of leaves, and altogether the plant is very distinct, the flowers appearing at their very best by contrast with the clear green foliage. Flowering as it does in November, it will be a strong rival to the great old autumn-flowering labiata.

Collecting and Packing Orchids.—In answer to "M. G., Calcutta," p. 156, I may say that I have been very successful in growing some Orchids which were brought home from tropical South America last spring. The plants were gathered off the trees, and securely placed in some old packing-cases without lids or any packing material whatever, and put on board ship at Bahia. They were more than a month from the time of collecting until they reached here, and yet not one has failed to grow. Doubtless, one great point is to collect them as soon as they finish their growth. They then arrive here without attempting to grow on the journey, and are also not so likely to dry up. Then, as regards establishing them, it is best done steadily, as they are sure to be in a partially exhausted condition when they arrive. Some growers pot them at once, but I prefer laying them out on a bed of Sphagnum Moss in a nice close and genial atmosphere, until they plump up and begin to start into growth, when they may be potted with advantage. The consignment mentioned above consisted principally of Cattleyas and Epidendrums, which have a good store of sap in their pseudobulbs. Probably "M. G." would not be quite so successful with the more delicate kinds of East Indian Dendrobes, &c. In all cases, unless they are accompanied home, they should be met on arriving at the port here, as they are otherwise liable to be detained in unloading, and a few days' exposure in our variable climate does more harm than all the other part of the journey.—*W. H. Divers, Ketton Hall.*

Barkerias.—The handsome display of these lovely plants, made up of five species, which Dr. Duke, of The Glen, Lewisham, sent to the Royal Horticultural Society's last meeting, should give fresh courage to those amateurs who have not been so successful with them to try again. Dr. Duke's plants are in perfect health and very heavily bloomed. They are grown in a cool airy house in baskets without much peat or moss, or on blocks, and they are most liberally watered while growing. The white B. Barkeriola with crimson blotch in the lip, the handsome rose-coloured B. cyclotelle with white middle to the labellum, and the many varieties of B. Lindleyana and other species, as seen at The Glen, are charming.—*J. B.*

Orchids at the Handsworth Nursery, Sheffield.—There is at the present time a nice display of the following:—Cattleya aurea, Cypripedium Harrisianum, C. Spicerianum, C. barbatum, C. barbatum superbum, C. insigne, Dendrobium heterocarpum Philippinensis, Cymbidium Mastersii, C. Hookerianum, Odontoglossum Andersonianum with two very fine spikes, O. crispum, O. gloriosum, O. constrictum, Oncidium Kramerii, O. tigrinum, O. chrisophorum, O. ornithorhynchum, O. Rogersii, O. incurvum, Masdevallia tovarense, M. ignea, M. Harryana, M. Shuttleworthii, M. amabilis, Trichosma suavis, Lælia Dayana, L. marginata, Sophronitis grandiflora (very fine variety), Maxillaria grandiflora, M. picta, Phalænopsis amabilis, P. violacea, Vanda tricolor Patersoni, and tricolor planilabris, the latter a very fine and valuable specimen. The general collection of Orchids is in excellent health. Cœlogyne cristata and its varieties are extensively grown, and promise a fine display in due course. *J. W. S.*

Growing, Resting and Watering Orchids.—At p. 156 in our last issue, in the sentence "and when there is *an* appearance of new and active growth," read "and when there is *no* appearance of new and active growth."

FLORICULTURE.

The New Dahlias of 1885.—While of the many seedlings shown for the first time in 1885, no flower may be said to possess that marked individuality of character which is possessed by Mrs. Gladstone—a flower of such surpassing character, that it appears only after an interval of a few years. I may say of it, that it was largely shown during the past year, and always in very fine condition, characterised alike by size, refinement, shape of petal, and purity.

My first sight of some of the new varieties was at Trowbridge, in Wiltshire, in the third week in August. At this exhibition classes are provided for seedling flowers, and Messrs. Keynes, Williams, & Co. always exhibit. On this occasion they had Richard Dean, a fine self, the ground colour crimson, flushed and edged with purple; a flower of good size, fine petal and centre; this I take to be the nearest approach to a true purple self Dahlia yet raised. Two others, also purple selfs, named respectively W. J. Cross and Thomas Hobbs were also shown, but they were not in the best condition, as the drought severely affected the Salisbury flowers all through the season. General Grant is a flower full of promise, the ground colour wine-crimson, the basal petals heavily tipped with purple, fine petal and build, and a good back-row flower. William Slack is a very bright red self, one of the brightest selfs in this way, but while there is plenty of substance and a fine outline, there is the old lolipop petal, that is to say, the petals are ribbed in the centre, and not cupped, and they are somewhat reflexed; and yet it will be a very useful flower, and one that will tell in a stand. Of fancy varieties there were Salamander, a General Gordon style of flower, but flaked with crimson instead of scarlet, a good useful fancy; Eva Fisher, buff, heavily flaked and striped with dull scarlet; and George Sanger, yellow, heavily flaked with maroon.

At the National Dahlia Show held at the Crystal Palace early in September, Dahlias in the form of new varieties were produced somewhat numerously. On this occasion, Messrs. Rawlings Brothers, of Romford, were in strong force, showing Bird of Passage, light ground, tipped with pale lilac-pink, a delicate and charming flower of excellent properties; Mrs. John Walker, delicate pink and sulphur ground, with wire edge of pale purple, good petal, outline, and high centre; Mr. Glasscock, the centre of the flower maroon-crimson, the circumference bright purple, a little flat as shown, good petal and outline; and Mrs. G. Rawlings, pink, with stripes and tip of purple, good outline and petal, excellent centre; said to be very constant. All the foregoing are show varieties, and were awarded First Class Certificates of Merit. The same award was also made to Messrs. Rawlings Brothers for fancy, Frank Pearse, bright deep lilac ground, flaked and striped with crimson; fine outline and petal.

Messrs. Keynes, Williams, & Co., had a First Class Certificate of Merit for Pelican, a distinct and good fancy variety, having a pale ground, striped and flaked with purple; the petals slightly reflexed, good close high centre. They also had, but not in good form, Richard Dean, William Slack, Thomas Hobbs, Salamander, and Eva Fisher.

Mr. G. P. Harris, of Orpington, had Lady Holmesdale, white, flaked with purple; Chieftain, a yellow self; Freedom, buff, suffused with ruby-red; and Draughtsman, crimson, shaded with maroon, all in somewhat indifferent form.

Mr. C. Turner, Royal Nursery, Slough, had Irene, delicate lilac, slightly shaded with pale purple, good petal and outline.

Mr. F. Garratt had Tom Garratt, bright red; and Stratford Hero, shaded crimson.

A week later, on the occasion of the Dahlia Show at South Kensington, new Dahlias were produced in somewhat plentiful numbers, when First Class Certificates of Merit were awarded to Messrs. Rawlings Bros., for Bird of Passage, and Mrs. G. Rawlings, already described, and to George Paul, blush, tipped with purple and maroon, bright and showy; but the award was made to this variety as a decorative Dahlia and not as an exhibition flower. In addition, they had R. T. Rawlings, a fine golden yellow self, fine high centre and good outline, striking for its depth of colour and very good; Roundhead, cream, edged with bright ruby-crimson, good outline, high centre, and promising to make a good show variety. Brilliant, vivid crimson rather reflexed, very bright, good centre, but as shown, wanting in shape; Arthur, a large flower of fine shape, colour clear bright yellow, plenty of substance; Mr. Keith, white, tipped with clear bright purple; Mr. Glasscock, and Frank Pearse (fancy).

Mr. G. P. Harris showed Chieftain, a yellow self; Captivation, orange-red, tipped with cerise, good full high centre; and Milkmaid, a bright yellow fancy, with slight tip of white and tinted with lilac.

Messrs. Keynes, Williams, & Co. had Prince Henry, ruby-crimson, suffused with purple in the centre, good petal and centre; Richard Dean, which, it is said, narrowly escaped receiving a Certificate of Merit; Thomas Hobbs; William Slack, delicate ground, faintly edged with purple, fine petal, centre, and outline, very good and promising; Hamlet, bright shaded crimson, fine petal and outline; Pelican and Salamander.

Mr. C. Turner had Irene and Ellen Terry, white, very slightly tinted with delicate lilac on the edge, the centre bright sulphur.

So far, I take it, the best six new show flowers of the year are:—Bird of Passage, Irene, Mrs. G. Rawlings, R. T. Rawlings, Richard Dean, and William Slack. The best fancy varieties are:—Annie Rawlings, one that I omitted to notice in its proper place, the ground colour the very palest buff, almost white, the reverse of the petals orange and gold, which is shown through, good petals, very pretty and distinct; Frank Pearse, Pelican, and Salamander.—*R. D.*

CHRYSANTHEMUM SHOWS.

Richmond.—*Nov. 5th and 6th.*—To impart additional interest to their autumn show, the Richmond Horticultural Society announced that a very important new class had been included in the schedule, in which the unusually liberal prizes of £10, £6, and £4 were offered for forty-eight cut blooms, distinct varieties, half incurved and half Japanese. Such substantial prizes would, it was thought, ensure keen competition and induce some of the leading growers to enter, but though this was partly accomplished and five good lots were staged, only the first and second collection were unusually fine. Probably the date was too early for some exhibitors, but it would have been difficult to fix upon a later date and avoid clashing with other shows. Considering how late the blooms are in many gardens, the shows have proved much better than was expected a week or two since. Mr. Gibson, Morden Park Gardens, Mitcham, was the champion exhibitor in the special class, and won the £10 prize with superb blooms, distinguished by the substance and brightness which always mark his productions. The flowers were remarkable for their evenness, and comprised the following varieties. Incurved: Queen of England, Prince Alfred (good), Empress of India, Refulgence (very fine), Lord Alcester, Lord Wolseley (excellent), Prince of Wales (fine), Alfred Salter, Yellow Perfection, White Beverley, John Salter, Novelty (capital), Princess Beatrice (good), White Venus (neat), Mr. Bunn, Beethoven (an admirable bloom), Lady Hardinge, Prince of Wales, Mrs. Dixon, Mrs. G. Rundle, Mrs. Shipman, Venus, Golden Eagle, and Mr. G. Glenny (excellent). Japanese: Madame B. Rendatler, Elaine, J. Delaux, Criterion (large), Fernand Feral, M. Delaux, M. Farin, Madlle. Lacroix, Comte de Germiny, Madame C. Audiguier, Madlle. Moulise, Madame de Sevin (good), M. Astorg (fine petal), Peter the Great, Val d'Andorre (large and bright), Cry Kang, Fanny Boucharlet, Flamme de Punch, Comtesse de Beauregarde, M. Ardene, Fulgore, Ethel, and Magnum Bonum. Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, and Mr. Elphick, gardener to J. Clutton, Esq., The Orchard, Reigate, were 2nd and 3rd, each showing praiseworthy blooms, but especially the former, who was strong in Japanese. It is probable that the competition would have been increased if the 2nd prize had been increased, as the difference between that and the 1st was rather too great, and the advantage of offering several good prizes was illustrated at the Crystal Palace Show on the following day.

There were many other good examples of cut blooms, especially in the twenty-four and twelve variety classes, in which Mr. Sullivan and Mr. E. Coombs, gardener to Walter Furze, Esq., Roselands, Teddington, were the winners of the premier prizes respectively. Mr. Coomb's twelve included very even clean specimens of Queen of England, Golden Empress, Empress of India, Lord Alcester, Lord Wolseley, Prince of Wales, Alfred Salter, Prince Alfred, Jeanne d'Arc, Mr. Bunn, John Salter, and White Beauty. Mr. J. Bennett, Feldheim, Wimbledon, Mr. Elliot, and Mr. Woodgate, gardener to Lord Wolverstone, Coombe Wood, were also prize-takers with good specimens. Mr. J. Bennett very deservedly won the chief honours for twenty-four Japanese, not less than eighteen varieties, with handsome well-grown blooms of much substance and high colour. Particularly fine were Madame C. Audiguier, Madlle. Lacroix, Criterion, Val d'Andorre, J. Delaux, Joseph Mahood, Flamme de Punch, M. Desbrieux, and Henri Jacotot. Mr. Benson had a capital stand of twelve Japanese, and other notable exhibitors with these varieties were Messrs. Woodgate, Munro, and Coombs.

Specimen plants to which several classes were devoted, were not so good or numerous as might have been wished, Mr. J. Sallows, Twickenham, staging the best six trained plants, but M. Ardene was not nearly out, Hiver Fleuri and L'Isle des Plaisirs were splendid specimens. Mr. Elliot, Mortlake, was 1st with three standards, Mrs Dixon, Mrs. G. Rundle, and George Glenny, having even half-globular heads, bearing good foliage and blooms. The principal feature in this section of the show was formed of the groups from Mr. C. Campion, gardener to W. Cave, Esq., Richmond; Mr. Munro, gardener to E. D. Paul, Esq., Cambridge House, Twickenham; Mr. J. B. Rooke, gardener to J. B. Hilditch, Esq., Asgill House; and Mr. Sallows, gardener to J. J. Flack, Esq., Twickenham, who were awarded the prizes in that order. The first group comprised very dwarf plants of good incurved and Japanese varieties, the blooms large and clean. Messrs. Hooper & Co. staged an exceedingly graceful group of miscellaneous plants, gaining the 1st prize with it. Messrs. Page & Son also had a charming group of Cyclamen in 48-sized pots, and flowering most profusely, white and light coloured varieties predominating.

Fruit was fairly represented by several good collections from Mr. W. Bates, Poulett Lodge Gardens, Twickenham Mr. Campion, and Mr. Osman. Mr. Campion was first in the black Grape class with Gros Colmar, very fine in berry; Mr. Bates gaining a similar honour in white Grapes with Muscat of Alexandria, large, and grandly coloured. Apples, Pears, Tomatos, and vegetables were contributed by numerous local growers, and stands of flowers with bouquets and button-holes afforded still further attractions. The show was opened by Princess Mary, Duchess of Teck, and there was a good attendance of visitors.

Crystal Palace.—*Nov. 6th and 7th.*—A very liberal schedule was provided at the Sydenham show last week, the prizes ranging in value from £10 to 5*s.*, and the result was a display of great excellence, with which the company and the able superintendent, Mr. W. G. Head, had every reason to be satisfied. The cut blooms in all the classes were both abundant and of fine quality, but in the sensational class for forty-eight blooms they were extraordinarily handsome, every one of the twelve collections entered containing admirable examples of the best exhibition varieties. Prizes of £10, £7, £5, and £3 were offered for forty-eight blooms, twenty-four incurved, not less than eighteen varieties, and the same number of Japanese, the premier honours being easily won by Mr. E. Molyneaux, gardener to W. A. Myers, Esq., Swanmore Park, Bishop's Waltham, with superb blooms, which this redoubtable exhibitor has scarcely ever equalled in his previous efforts. The varieties represented were as follows, the incurved being much superior to those from other competitors, while the Japanese could not be easily surpassed for size and colour:—Incurved: Queen of England (two), Lord Alcester (two), Alfred Salter (two), Empress of India (two), Jeanne d'Arc, Princess of Wales (two), Emily Dale (two), Lord Wolseley, John Salter, Golden Empress, Empress Eugenie, Jardin des Plantes, Prince Alfred, Princess Beatrice, Refulgence, Lady Hardinge, Mr. Bunn, and Nil Desperandum. Japanese: Madame C. Audiguier (two), Fair Maid of Guernsey, Belle Pauline (two), Val d'Andorre (two), Meg Merrilees (two), Sceptre de Toulouse, Jeanne Delaux, Criterion (two), Madame Deveille, Madame B. Rendatler, Boule d'Or, Madlle. Lacroix, Margaret Marrouch, Elaine, Duchess of Albany, Madame de Sevin, Soleil Levant, and M. Astorg. The 2nd position was taken by Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, with a beautiful lot of Japanese; but the incurved were weaker generally than Mr. Molyneux's, though there were splendid examples of Lord Wolseley, Prince Alfred, and Queen of England. Messrs. W. & G. Drover, Fareham, Hants, and Mr. A. Holmes, gardener to A. B. Hill, Esq., Clapham Park, were 3rd and 4th with creditable blooms, but several points behind the 1st and 2nd. This class was a great success, and furnished the chief attraction of the show.

With eighteen incurved varieties, Mr. Molyneux, was again the premier exhibitor in a class of nine competitors, winning with even but not large blooms of Golden Empress, John Salter, Alfred Salter, Lord Alcester, Queen of England, Empress of India, Cherub, Empress Eugenie, Princess of Wales, Lord Wolseley, Emily Dale, Sir Stafford Carey, Mr. Bunn, Prince Alfred, Refulgence, Jeanne d'Arc, Prince of Wales, and Novelty. The 2nd and 3rd prizes were awarded to Mr. E. Berry, Roehampton, and Mr. J. Holmes, gardener to G. M. Story, Esq., Nightingale Lane. Eight lots of eighteen Japanese varieties were staged, all very fresh, bright, and of good substance; Mr. John Ridout, gardener to T. B. Haywood, Esq., Wodhatch Lodge, Reigate, was the most successful competitor, securing the leading position with most praiseworthy blooms of Dr. Macary, Japonaise, J. Delaux, Fair Maid of Guernsey, Madame C. Audiguier, Chang, Comte de Germiny, The Daimio, Madame B. Rendatler, John Laing, Soleil Levant, M. Tarin, Red Gauntlet, Peter the Great, Madame Deveille, Criterion, Madame de Sevin, and Madlle. Lacroix. Mr. J. W. Springbett, Cheshunt, and Mr. E. Berry, were awarded the other prizes in this class, both showing well. There were twelve entries with twelve Japanese, Mr. Brown, gardener to A. J. Waterlow, Esq., Great Doods, Reigate, Mr. Molyneux, and Mr. J. Wyatt, gardener to J. Perry, Esq., Bradenhurst, Caterham Valley, gaining the prizes in the order named. Mr. Molyneux had the best six Japanese of one variety, grand blooms of Madame Audiguier; Mr. C. Orchard, gardener to J. Galsworthy, Esq., Coombe Warren, Kingston, was 2nd with Henri Jacotot; and Mr. G. Burnett, The Grange Gardens, Hillingdon, 3rd with Triomphe du Nord, also very fine.

Reflexed varieties were in capital form, especially in Mr. Molyneux's leading stand of twelve, which comprised a magnificent bloom of Cullingfordii, exceedingly rich in colour, Madame Madeleine Tezier, Golden Christine, King of the Crimsons, Distinction, Dr. Sharpe, Felicity, Phidias, and Pink Christine, being the other varieties. Mr. T. Sadler, of Streatham, and Mr. Chadwick, of Ealing, were 2nd and 3rd, each having good blooms. For twelve Anemones, Mr. E. S. Cole, gardener to W. Pethick, Woodside, Sneyd Park, Bristol, was the most successful, staging charmingly fresh specimens. Mr. Molyneux contributed the best twelve Pompones, also the finest twelve Anemone Pompones, each stand being remarkable for the same high quality, which distinguished all the other exhibits from this grower.

Plants were not very well shown, but some of the best were those which took the leading places at the Brixton Show, and which we noted last week. Messrs. G. Stevens (Putney), Laing & Co. (Forest Hill), and Carter & Co. (Forest Hill), were the winners in that order of the prizes for a group of 100 square feet; similar awards being gained in the amateurs class by Mr. C. Orchard, who had one of his customary tasteful and excellent groups, Mr. W. Webster and Mr. Bowman. The nurserymen's prizes, for a group of Japanese varieties, were won by Messrs. J. Laing & Co., G. Stevens, and G. Edwards. First Class Certificates were awarded to Messrs. J. Laing & Co., for John Laing, a Japanese variety of compact form and a deep bronzy brown colour, and Madame Laing also Japanese, with flat spreading florets, white faintly tinged with purple; a bronze sport from Queen of England, shown by Messrs. Carter & Co., being commended.

Stoke Newington.—*Nov. 9th and 10th.*—This old-established Society possesses an especial interest for Chrysanthemum lovers, whether exhibitors or not, for undoubtedly in its earlier days it did much to popularise the plant and to bring into general notice the beauty of the blooms when specially prepared for exhibition. The removal of a portion of its members to Hackney founded another society which has prospered greatly, and under the title of "National" is now doing good work in the Chrysanthemum world. For many years we have been accustomed to seeing blooms of exceptional merit at the Stoke Newington shows, not huge coarse examples, but those distinguished by a primness and finish which only true florists can fully appreciate, and which furnished accurate models for all unskilled exhibitors. This season, unfortunately, the weather has produced some strikingly unsatisfactory results, for not only are the blooms in

the north of London surprisingly late, but those that were exhibited were in too many instances undersized and with suspicions of roughness. There was not quite so many entries either, but this was not noticeable, for the table space was fully occupied, and the plants formed two good banks on each side of the hall, the usual place being selected for the show, namely, the Assembly Rooms, Defoe Road.

The principal classes were those devoted to cut blooms of incurved varieties, of which there was a good representative show, though the defects already noted were observable. Last year, if we remember rightly, Mr. J. Udale, Shirecliffe Hall Gardens, Sheffield, succeeded in winning the 1st prize (a silver cup) in the open class for twenty-four incurved varieties, this year the experienced old exhibitor, Mr. Monk, gardener to W. Fowler, Esq., Forest House, Leytonstone, secured the same position, but we did not see any cup mentioned in the schedule. It would be interesting in connection with this exhibit to know why the Judges considered the bloom of Princess of Wales distinct from Mrs. Heale in the same stand, the former being pure white and possessing none of the characteristic colour. In the opinion of such an experienced, careful judge as Mr. George, of Putney, they were identical, and the stand should have been disqualified. The matter is particularly interesting, because something of a similar nature was discussed last year at the same show. Mr. Monk's blooms in all respects well merited their position if the question of distinction could be satisfactorily settled; the varieties, Queen of England, Hero of Stoke Newington, Refulgence, John Salter, Nil Desperandum, and Mrs. Heales, being beautiful examples of moderate size, but fresh. In the local class for twenty-four incurved, Mr. S. Gilbey, gardener to B. Booth, Esq., Cazenoves, Upper Clapton, was the leading exhibitor, taking the 1st prize with even samples of Mrs. Heales, Alfred Salter, Jeanne d'Arc, Golden Empress, Lord Alcester, Queen of England, and Empress of India. Mr. Payne, gardener to W. A. Mitchell, Esq., Grenville, Upper Clapton, staged the best twelve incurved, and with six incurved Mr. S. Gilbey scored a success. The Japanese were not so meritorious, if the premier twelve from Mr. Monk be excepted, which comprised substantial blooms of Val d'Andore, Comte de Germiny, Madame de Sevin, Fulton, Madame B. Rendatler, and Golden Dragon. Mr. Calvert, gardener to G. Kent, Esq., Southwood, Highgate, had a pretty stand of six blooms, Boule d'Or, Comte de Germiny, and Mons. Astorg, being amongst the best. Other prize takers in the several classes were, Mr. W. Martin, gardener to H. Matthews, Esq., The Cedars, Woodberry Down, Mr. F. Bingham, Mr. W. Goldsmith, and Mr. Peers, gardener to F. Cater, Esq., Enfield Highway.

Several classes were devoted to specimen plants, Mr. Monk, as usual, being adjudged first honours for well-grown, freely bloomed examples of the Mrs. Dixon, G. Glenny, G. Gordon, John Salter, Dr. Sharp, Triomphe du Nord, Tokio, La Nymphe, and Sœur Melanie, neat pyramidal specimens, evenly clothed with foliage. Mr. S. Gilbey had the best four standards and the same number of dwarf specimens, the other principal prizes being secured by Messrs. G. Davey, Lovegrove, and Bass.

A stand of twenty-four handsome incurved blooms was sent from Finsbury Park, and Mr. Smith, Stoke Newington, exhibited a large collection of fruits, the Grapes and Pears of exceptional merit.

Putney.—*Nov. 10th and 11th.*—The Putney and district show was this year the best the society has held, and was one of the most even and satisfactory displays we have ever seen of similar extent, and at a local society's exhibition. The groups of Chrysanthemum plants were extraordinary, and in this respect the show is not likely to be surpassed elsewhere; while such noted exhibitions as the Kingston and the Aquarium were made inferior in those classes. Mr. Knowsley, gardener to Mrs. Egerton, Putney, was easily 1st with magnificent blooms on healthy plants; the incurved varieties being surprisingly fine. The Japanese were also grandly represented, and Mr. Knowsley must have the credit of having staged one of the most meritorious groups ever exhibited. The other prizes in this class were won by Mr. G. Stevens, Mr. Newell (Wimbledon), and Mr. Carter (Heathside Gardens, Wimbledon), each of whom had praiseworthy groups. Specimen plants were not first rate, but much the best were those from Mr. C. Bentley and Mr. J. Bentley, who gained the leading prizes. Groups of miscellaneous plants, Ferns, fine foliage plants, and table plants were well represented by exhibits from Messrs. Methven, Woohams, Sullivan, and Bailey. Fruit was shown in capital condition, Grapes, Apples, and Pears being especially fine. Mr. W. Smith was 1st with Alicante Grapes, very large in the bunch, and well coloured; Mr. Alderman leading with Muscat of Alexandria, excellently ripened. Mr. Alexander, Mr. Smollet, and Mr. Whitehead were the winners respectively, with Pears, kitchen and dessert Apples. Vegetables were clean and good; but the bouquets, except Mr. J. Steven's Chrysanthemums, were not commendable

Cut blooms were first rate, and the competition was exceedingly keen. Mr. A. Holmes, Clapham Park, had the best twenty-four incurved blooms, splendid examples, of good substance, and including the leading varieties. Mr. Sullivan was a close 2nd with better dressed blooms, but not quite so fine; in 12's he was, however, easily 1st. Mr. J. C. Grant lead with six varieties, and was also 1st with twelve Japanese, handsome fresh blooms; Mr. C. Bentley being in a similar place with six Japanese. Mr. A. Holmes had six grand blooms of Queen of England, winning premier honours in the class for six incurved, one variety. Japanese Anemones (the ordinary large Anemones), and Pompones were staged by several good growers; and the exhibits in the single-handed gardeners' classes were very good. The judges were: Mr. Lynes, Mr. Newton, and Mr. L. Castle.

Kingston.—*Nov. 10th and 11th.*—This show fully maintained the high reputation which this suburban society holds among Chrysanthemum growers and fanciers, for in the leading prize collections, especially of cut flowers, truly superb quality was seen; better could hardly have been found at any time, and certainly has not been excelled this year. In the miscellaneous plant groups a very pretty arrangement, though wanting colour, put up by Mr. Filsell, gardener to H. Jeaves, Esq., Twickenham; and a bolder and more gay group, which was brilliantly lit up with Calanthe vestita, and vestita rubra, Pointsettias, Tree Carnations, &c., from Mr. Glover, gardener to W. Evill, Esq., Worcester Park, were placed equal 1st. The best group of pot Chrysanthemums came from Mr. Buss, gardener to A. T. Price, Esq., Ewell, and a dwarfer, finer bloomed, and leaved lot of plants has rarely been seen. Of course the arrangement was, as usual, stiff and formal, but the blooms were splendid. In the specimen plant classes the incurved kinds, especially the deep chestnut buds looked dull, but the three fine Japanese, La Nymph, Bouquet Fait, and La France, from Mr. King, gardener to R. Few, Esq., Esher, each about 3 ft. across, and superbly bloomed, were the ideals of what specimen plants should be. Japanese kinds are now a long way ahead of the incurved as showy pot plants. The customary trio of "Rundles" were trotted out liberally in the mop-headed standard class, and being severely tied were as stiff and lumpy as the most devoted admirer of this kind of thing could desire. Kingston always makes a prominent feature of table plants, and the best nine, which came from Mr. Waite, gardener to the Honourable Colonel Talbot, Esher, consisted of Palms, Dracænas, Crotons, Pandanus, &c. Mr. Bates, Poullett Lodge, Twickenham, who came 2nd, having good plants with soil neatly surfaced with Selaginella. The best six came from Mr. H. Trussler, gardener to F. Maud, Esq., Maldon. A quantity of pretty yellow and red Capsicums were shown in the class for berried table plants, as also some very good Solanums. Chinese Primula were very good also, and a grand lot of Cyclamens from Messrs. Page & Son, Teddington, formed a striking group.

In the cut flower classes the great feature was the remarkable success of that notable grower, Mr. Molyneux, gardener to W. A. Myers Esq., Swanmore Park, Bishop's Waltham, who again for the fourth time repeated his exploit of winning the champion cup with forty-eight blooms. Two years ago this exhibitor carried off the champion cup, having won it twice in succession. Last year he won the new silver champion bowl, and winning it again this year carries a second trophy from Kingston to Hampshire for Mr. Myers, who doubtless is well pleased with the superb ability shown by his able gardener. Mr. Molyneux had in his incurved blooms very fine Queen of England, Golden Empress, Lord Alcester, Empress of India, Alfred Salter, Emily Dale, Sir Stafford Carey, Jeanne de Arc, Prince Alfred, Nil Desperandum, Mr. Bunn, Mrs. Heal, Mr. Howe, and other fine kinds. While of Japanese his finest blooms were Baronne de Prailly, J. Delaux, Madame C. Audiguier, Madame Lacroix, Criterion, Belle Pauline, and John Laing. Mr. Gibson, gardener to H. Wormald, Esq., Wimbledon, was 2nd, having good Japanese blooms, but was weaker than his opponent in incurved flowers. Amongst the former he had good Mr. Burnett, Hiver Fleuri, Margaret Marroch, Madame Lacroix, and Criterion. There were 3rd and 4th prizes awarded. In the class for twenty-four incurved kinds Mr. Molyneux was again a strong 1st with grand blooms, chiefly duplicates of those previously mentioned. Mr. Woodgate, gardener to Lord Wolverton, Coombe Warren, was 2nd with medium sized, but very fresh and perfect blooms. Again in the class for twenty-four Japanese Mr. Molyneaux was invincible, showing that he was strong all round, as well as in one class, indeed his exhibits throughout most materially added to the average high quality of the show. In this class he had Dormillan, Baronne de Prailly, Belle Pauline, Madame C. Audiguier, J. Delaux, Golden Dragon, Criterion, Madame Lacroix, Peter the Great, and Mr. Burnett (very fine). Mr. King came 2nd with some fine blooms of Japanese, Madame de Leoni, Balmoreaux, M. Delaux, Mrs. Mahood, Mons. Ardene, and others; and Mr. Woodgate was 3rd with smaller but very fresh flowers. In other classes Mr. Carter, gardener to Alderman and Sheriff Evans, Esher, was 1st with twelve incurved and twelve Japanese, with twelve fine blooms of seven reflexed kinds, Madame Madeleine Teiser, Cloth of Gold, Golden Christine, Pink Christine, Phideas, Dr. Sharpe, Distinction, and the superb new Japanese reflexed kind, Cullingfordi. Mr. Molyneux was 1st in that class, as also he was the only exhibitor in the class for twelve Anemone Japanese, having large Fabias de Maderanaz, Mdlle. Cabrol, Margaret de Villegeuse, and Sœur Dorothée Souillé; again 1st with six blooms of any one incurved kind, having grand flowers of Princess of Wales; and also 1st in a similar class for Japanese with the new and very beautiful variety, Belle Pauline. Mr. Gibson came 1st with twelve ordinary anemone flowers.

The competitions in many of the classes was good, and space only hinders more liberal reference to the exhibitors. It is worthy of mention, that in a new class for novices in show Chrysanthemums there were seventeen half-dozens, and many fine flowers staged, showing that a taste for Chrysanthemum culture is rapidly developing amongst young gardeners in the district. Certificates of Merit were awarded to Rosea superba, a flattish medium-sized Japanese of refined texture and of a lovely rosy pink hue, this was shown by Messrs. Jackson & Son, Kingston; to Nellie Pauline, shown by Mr. Molyneux, a beautiful Japanese mauve-white, edged with rose; and Cullingfordi, to Mr. Orchard, Roehampton, who had this as a plant, and a grand rich-coloured crimson-chestnut kind it is.

Fruits were unusually good, the collection of six kinds, including some fine Alicante and Muscat of Alexandria grapes, coming from Mr. Bates, Poulett Lodge, Twickenham; Mr. Munro, Cambridge House Gardens, Twickenham, coming next. The best four Pears, two of which were stewing kinds, came from Mr. King, who had Marie Louise d'Uccle, General Todleben, Catillac, and Uvedale's St. Germain. The best four dishes of Apples, to include dessert and kitchen kinds, came from Mr. J. Childs, who had beautiful samples of Emperor Alexandra and Blenheim Pippin, also Cox's Orange Pippin and Adams' Pearmain. Mr. Attril, Kingston, was 2nd with fine Mére de Ménage, Gloria Mundi, Cox's Orange, and King of the Pippins. A grand lot of Grapes in great variety came from Messrs. Jackson & Sons, and included Black and Paper Hamburgh, Black and Kempsey's Alicante, Gros Maroc and Gros Colmar, Mrs. Pince's Black Muscat, Lady Downe's and Alnwick Seedling; and of whites, beautifully-finished bunches of Tyningham and Alexandra Muscats, Golden Queen, and Raisin de Calabre; also twenty-four dishes of Pears and three good Pot Vines, well fruited. Some good arrangements in hardy foliage, berries, and grasses were shown, and there was also a lively competition in half-dozens of button-hole bouquets, always well done at this capital show.

The National.—*Nov. 11th and 12th.*—The annual exhibition of the National Chrysanthemum Society, held at the Westminster Aquarium, on Wednesday and Thursday, showed no falling off either in the quantity or the quality of the plants and flowers exhibited, the numbers staged being about the same as last year, as far as we could judge; but in some respects there were much finer blooms at this show than the previous one. Unfortunately, the fog rendered the place so dark on both days that it was only with great patience and care that the judging was got through in a satisfactory manner, and to make critical comparisons between the varieties was well-nigh an hopeless task. The managers of the Society were most unfortunate in this respect, for their exhibition was in every way a credit to them, and the arrangements made by Mr. Holmes were simply perfect, plants and flowers being staged with a minimum amount of friction, while the general effect left nothing to be desired. The Veitch Memorial medal and prize of £5 for thirty-six incurved blooms, brought out four good collections, and the leading award fell to Mr. Gibson, gardener to J. Wormald, Esq., Morden Park, Mitcham, who had very fine examples of all the leading kinds; and a very close 2nd was Mr. Berry, gardener to the Countess of Leven and Melville, Roehampton. In the class for forty-eight incurved varieties, the 1st prize in which was the handsome one of £10, there was only one exhibitor, Mr. C. Penfold, gardener, Leigh Park, Havant, and the 2nd prize only was awarded. The finest forty-eight blooms of Japanese varieties that we have ever seen, a most remarkable display as regards size and even quality, came from Mr. Lowry, gardener to J. MacAndrew, Esq., Belmont, Mill Hill, and which were well 1st in a very strong class; the 2nd prize going to Mr. Ridout, gardener, Woodhatch Lodge, Reigate.

The President of the Society, Mr. Edward Sanderson, was again successful in securing a 1st prize, a silver cup, for twenty-four incurved varieties, and needless to say, that though not large, his blooms were all quality. For twelve Japanese and the same number of incurved blooms, Mr. Shoosmith, gardener to Canon Hodgson, came in 1st in a good competition, and the 1st prize for twelve large anemone-flowered varieties was won by Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, with a most creditable collection. The specimen plant classes were well filled, and the examples shown by Mr. Gilbey, gardener to F. Moore, Esq., Blendon Hall, were of an exceedingly high order of merit. The trade groups, four in number, and shown by Mr. G. Stevens, of Putney, and Mr. N. Davis, of Camberwell, were the finest that have been seen at the National Society's Shows, and reflected great credit on both growers. In both classes which were for in-

SWANMORE PARK.

The name and fame of Mr. Molyneaux as a Chrysanthemum-grower, and his splendid achievements as an exhibitor of the queen of autumn and winter flowers, are too well known to the readers of gardening periodicals throughout the British Isles to require any comments from me. Nevertheless, I am convinced that readers of The Gardening World will be glad to hear something about the Swanmore flowers as seen at home, although it is impossible to give an adequate idea of the splendid sight to be seen there in the height of the Chrysanthemum season. My visit was paid at a most opportune time, just before the blooms were cut for the great contests at the Crystal Palace and Kingston, so that I had the opportunity of seeing the grand flowers that proved so victorious, and evoked such great enthusiasm at both those places. The plants were arranged in banks, the tallest being from 12 ft. to 14 ft. in height, and the shortest about 3 ft., the whole surface of the bank, from back to front, being literally packed with flowers of wonderful substance and depth without coarseness, and possessing the fine symmetrical outline so necessary for exhibition. The great variety in form and colour make such an imposing display as cannot fail to leave a lasting impression on the most casual observer; but to the enthusiastic admirer of Chrysanthemums it is something more than this, it kindles within his mind a desire to strive his utmost to produce similar examples of skilful culture himself, and the remembrance of these models is not likely soon to fade from his memory.

All classes of Chrysanthemums seem to be equally well done, many of the Pompones and Anemones being of wonderful size for the varieties, while some of the Japanese and incurved were of gigantic proportions and brilliant colours. The following are a few of the varieties that specially attracted attention amongst such a host of good things:—Japanese: Mdme. C. Andiguier, G. Delaux, Baron de Prailly, Golden Dragon, Fair Maid of Guernsey, Grandiflorum, Hiver Fleuri, Belle Pauline, Val d'Andorre, Criterion, and Mdlle. Lacroix. Incurved: Queen of England, Lord Alcester, Alfred Salter, Hero of Stoke Newington, Lord Wolseley, Empress of India, Jeanne d'Arc, Golden Eagle, Princess of Wales, and Barbara. Such a collection of Chrysanthemums is worth going a long way to see, not only for the gratification one feels when beholding such a feast of floral beauty, but also for the knowledge of the varieties that can be gained when they are seen growing side by side, especially when attended by a man of such extensive knowledge of the subject as Mr. Molyneaux, who is ever ready with prompt replies to enquiries concerning his favourite flowers.

Ever since the Swanmore Chrysanthemums were first brought prominently before the public, I have had a great desire to see them at home. That desire has at last been satisfied, and if in after years I chance to obtain a reasonable amount of success as a grower, I shall look back upon my visit to Swanmore as having given me the incentive to greater energy in that direction.—*Visitor.*

ORCHID SALE IN AMERICA.

We learn from *The American Florist*, that at the sale recently of the splendid collection of Orchids formed by the late Mrs. M. J. Morgan of New York, the principal English buyers present were Mr. W. Court, representing Messrs. James Veitch & Sons, and Mr. McKenzie, representing Messrs. Sander & Co.

The most important purchases made by Mr. Court were Aërides expansum Leonis, 70 dols.; Aërides Veitchii, 35 dols.; Cattleya Skinneri alba, the best plant in cultivation, 200 dols; Cattleya sp., 80 dols.; Cattleya Dominiana, 55 dols.; Cattleya labiata, 90 dols.; Cattleya Mastersiana, 90 dols.; two Cattleya fausta delicata, 145 dol.; Cypripedium Morganianum, a hybrid raised by Messrs. Veitch, and which was presented by them to Mrs. Morgan, 750 dols. This is the largest plant in cultivation, there being only a very few of any size. When this plant was offered a supreme stillness pervaded the room. As was expected, a severe fight was made for it. Mr. Kimball started it with 100 dols., he and Mr. Grey, Mr. Corning's gardener, bidding by 50 dols. up to 500 dols.; Mr. Court and Mr. McKenzie then fought until the plant was sold to Mr. Court for 750 dols. Applause followed the purchase. The plant would have been purchased by Mr. Court even if the price had reached 1,500 dols. The next important purchase by Mr. Court was Cypripedium Stonei platytænium, 450 dols.; C. Fairrieanum, 100 dols.; and many other very rare plants.

Mr. McKenzie, for Messrs. Sander, purchased amongst other rare and scarce varieties, Aërides Schrœderii, 80 dols.; Cattleya exoniensis, 250 dols. and 80 dols.; Cattleya labiata, 160 dols., 96 dols., and 55 dols.; Cattleya fausta, 35 dols. and 95 dols.; Cælogyne cristata alba, 210 dols.; three Cattleya Louisiana, 60 dols, 18 dols., and 16 dols.; and several others.

Mr. H. Seibrecht, of Seibrecht & Wadley, bought the first plant and the last, and the gem of the collection, Vanda Sanderiana; the final bid of 900 dols. was made by Mr. Seibrecht, and amid cheers he lifted the plant carefully and carried it off. The plant cost originally 2000 dols., and except for the delay in transit of instructions from England it would have sold for more than the original cost to have retained it here. The plant has been re-sold to C. J. Osborn at a considerable advance. The next lot to this, Vanda suavis, was sold to Mr. Kimball for 400 dols.; Mr. Kimball bought many plants at high figures and good bargains, as did most other buyers. So it will be seen the plants are widely scattered, many of which will be as much appreciated as ever. The pulse of the sale is that never before in the history of Orchid culture in America has there been anything like the enthusiasm. It shows that America will soon have as good collections of Orchids as of other plants, and the time is not far distant when we can say every city has one or more representative collections of Orchids.

ROCKERIES AND ROCKERY BORDERS.

The pleasures which a rock garden afford to lovers of hardy plants are not generally known to the masses, but on the other hand are confined to a comparatively few. This may to some extent be accounted for by the fact, that associated with the term rockwork, there is a general idea that it is expensive. This may be so if a rockery on an elaborate scale is anticipated, but as such a one is by no means essential to the successful culture of many of our choicest alpine and rockery plants, nor is it within the reach of the majority of those who would like to embrace a rockery of smaller dimensions, I will make no allusion as to its structure, since those who anticipate spacious and elaborate rockeries invariably know how to set to work to form them.

In my present note I will confine my remarks to rockery borders and beds, which are of such simple structure that anyone with a little taste and forethought may make them. The formation of rockeries, large or small, without taste and judgment, not unfrequently brings about hideous results, which are a continuous eyesore and had much better never been attempted all. Perhaps it may be well to observe in passing, that rockeries are not an absolute necessity for the culture of the great majority of so-called rock plants, the choicest of which may be equally well grown in a raised border of prepared soil, for what are the noblest examples of artificial rock of which we boast, compared with the elevation of the wind-swept mountain home of so many choice alpines; good rockeries therefore are an ornament to the garden, and if well and carefully planted, are full of interest for the greater part of the year. The plants, if judiciously arranged, have a much more natural and homely appearance than when planted on an ordinary level surface; these are some of the reasons for the encouragement and extension of well-formed rock gardens. But to the point.

First, we will consider the forming of one of these rockery beds, and secondly, the class of plants which are likely to give satisfaction. I will ask the reader then to imagine a vacant piece of ground, regardless of size or shape for the present. To ascertain the kind of soil of which it is composed is the first step; this may be loam of a sandy nature, or stiff clayey soil; of the two, the first named will on all sides be preferred. The next step should be to trench it deeply, before commencing which, it will be much benefited by a good liberal dressing of manure, and also by adding broken brick rubbish, mortar from old buildings, and road sweepings or the like. Such things as these are great helps, and especially so if the soil is inclined to be heavy. A few large stones will be needed while the work is proceeding, for disposing in such a way as to crop out of the soil here and there, not in formal assemblage or as pinnacles mounting into the air, but in that natural manner which one is wont to see on many of the hill sides which surround us. It will be hardly necessary to observe that the one main object beyond giving it a natural appearance in the use of stones in such beds is that they stay evaporation to a very considerable extent, which is of great importance, seeing that by their use an uniform moisture of the soil is maintained about the roots of plants, and which is so generally beneficial to them. Moreover, by the adoption of stones in these beds it is more easily managed to cultivate a greater variety of subjects, for beside one of these large stones a shaded and cool spot will be at hand for plants preferring such positions, where, with a good depth of soil, they may be likely to luxuriate. In a word, the great majority of our choicest plants from Alpine regions will succeed in such a bed as this, and having from time to time constructed such beds of various sizes, my experience goes to favour their more general use, and for this reason: in a border which has been well trenched and thoroughly manured you have a good guarantee that your plants have a sufficient depth of soil below them, and which, with good drainage, is most likely to end with satisfactory results.

Too often, however, in so-called rockeries, the question of soil does not receive sufficient attention, and not unfrequently, in dry weather, do they become parched and dried up. Heaps of stones, again, are often thrown together, and little or no regard is paid to filling in the spaces between the stones with soil; consequently, a vacuum exists, and wherever this occurs failure is most likely to ensue. There is no fear of this occurring in the rockery borders, which is a point in their favour. Now a word or two respecting the plants best suited. This depends to a great extent on its size, and in consequence might include plants of all class, whether bulbous or tuberous-rooted, Alpine or strictly herbaceous plants. It may probably be of greater service to the amateur if a list of good and useful subjects for such a border be given—such as may be grown easily and at the same time afford ample illustration of the beauty and variety which may be found among these plants. I will therefore supplement these observations with such a list in a future issue.—*J.*

PYRAMIDAL MIGNONETTE.

I think the two best Mignonettes of the pyramidal type are the Giant Crimson or Machet, and that fine type of the white known as Parson's Giant. Both of these have a true pyramidal character, and they produce large spikes of highly fragrant flowers. These two varieties are well adapted for pot culture; but it is not an easy process to grow specimens of a perfect character, for they require a good deal of attention, but when successfully grown in this way the specimens are well worth the labour bestowed upon them.

To have Mignonette in bloom from November till February is a feat by no means difficult of performance. To anyone with limited means, the difficulty would be more in the inability to produce it during the whole of the time named, owing to want of room to raise and contain sufficient plants to procure a succession. Mignonette is very largely grown for the London markets, and when well done it usually commands a good price. Who that has walked along the centre avenue of Covent Garden Market and admired and even stopped to inhale some of the beautiful fragrance given forth by the superb pots of Mignonette at Buck's or Dickson's have not felt that it must be delightful indeed to have a few pots in one's greenhouse at home.

Those who grow pots of Mignonette for market sow as early as August and on to February or March, to ensure the succession required for a market supply. It used to be the fashion with some of the old Tulip growers to plant their beds of Tulips on Lord Mayor's-day, the 9th of November, ; and probably this is still continued, so great a hold does custom get on some of us. There is an old nursery firm in the neighbourhood of London whose invariable rule it is, and has been for the past forty or fifty years, to make a sowing of Mignonette on the 1st of September. This is about the time I would recommend some of your readers who are amateurs to sow their seeds.

At the outset good seed—that is, seed of a worthy strain—should be obtained. It should be sown in 5 in.

or 48-sized pots. These should be well drained by means of broken crocks. On this it is customary to place a piece of turf from which the soil has been beaten out. This is considered of importance by growers of the Mignonette, inasmuch as it serves to keep the drainage open, a great point in its successful culture.

Next comes the matter of suitable soil. Get some good turfy loam; that obtained from a heap formed of pieces of turf that have been allowed to remain long enough to decay thoroughly will be found most acceptable. This should form about three-fourths of the compost, and the remaining part should consist of well-rotted manure in a workable condition, leaf soil, to which can be added some silver sand, fine charcoal, and lime rubbish. These should be thoroughly mixed together, and the pots filled with the compost to within ¾ in. of the rim.

The next process is to sow the seed. This should be done thinly—thin sowing is a rare virtue among amateur horticulturists—and it should also be distributed evenly over the surface. The seed should be slightly covered with the soil, and if it is dry, it is well to give the surface a good sprinkling through a fine rose watering-pot, if it is moist this will not be necessary. The pots can then be placed in an old pit having a sunny aspect; they should stand on a bed of cinder ashes raised up so as to keep the pots near the glass, say to within 6 or 8 ins. of it; and this bed prevents to a large extent the ingress of worms. In four or five days a good sprinkling of water may be given, and unless the sun should be too hot, the frame may be kept closed, shading the pots if necessary. Water should not again be administered until the seed is up.

After the seedlings are through the soil, air may be given more freely. When the plants become stronger, the lights may be taken off every fine morning. When the plants are about 3 ins. high, the leading shoots may be stopped in order to make the plants bushy. Water should be given sparingly at all times, and in the morning during the winter months; nothing injures the plants so much as over-watering. When the plants show bloom they may be removed to a conservatory or greenhouse. I omitted to state that the seedlings should be thinned out to six plants. To keep the pots tidy and neat, place four or five neat stakes round the inside edge of the pots, and tie some fine matting round them

Some of the finest Mignonette I ever saw was produced some years ago by the late Rev. Geo. Cheere, Papworth Hall, St. Ives. The seeds from which these plants were raised were sown in August in pans, and the seedlings were potted singly into thumb-pots, and again into 48-sized pots, in which they had flowered; and at no time was liquid manure applied to them. The plants were from 18 ins. to 24 ins. in height, the diameter corresponding; they were literally covered with spikes of flower, some of them were 8 ins. in length, and from the base to the apex of each plant every leaf was beautifully green and healthy.

Mr. Folkard tells us that the Mignonette or Little Darling is supposed to be an Egyptian plant, and to have been brought to England from the south of France, where it is called Herbe d'amour or Love Flower. Although a flower of no heraldic fame, the Mignonette is nevertheless to be seen on the armoured shield of a noble Saxon house, and the origin of its adoption is related in the following legend:—A Count of Walstheim was betrothed to Amelia von Nordburg, a rich and beautiful heiress, whose poor cousin Charlotte, an amiable girl of no particular personal charms, had been brought up with her from infancy. Returning one evening from a charitable visit, the humble dependent found her aunt's saloon full of guests, the ladies busily occupied in selecting flowers, for which their admirers were expected to improvise mottoes. Charlotte was invited to follow the example of her betters; Amelia von Nordburg had selected the Rose as her emblem, and her companions had naturally chosen such popular flowers as were best calculated to elicit gallant compliments. Thus most of the floral favourites had been appropiated; so Charlotte placed a modest spray of Mignonette in her dress. Noticing as she did so that her coquettish cousin was neglecting the Count of Walstheim, for the fascinations of a gallant colonel, and anxious to recall the thoughtless heiress to her lover's side, Charlotte asked the Count what motto he had ready for the Rose. Taking out his pencil he wrote, "*Elle ne vit qu'un jour, et ne plait qu'un moment,*" and then presented her with this motto for her own Mignonette, "*Ses qualités Surpassent ses charmes.*" His wilful fiancée took offence at the Count's discrimination, and revenged herself by treating him with studied coldness and neglect; the result being that the Count transferred his affections to the dependent Charlotte, whom he soon afterwards married, and to celebrate the event added a spray of Mignonette to the ancient arms of his family."—*R. D.*

A Specimen Plant of Mignonette.

THE SCOTCH FIR.

When driving through one of the home counties a short time ago, I was much struck with, what must be denominated, the beauty of the Scotch Fir in the Autumn, just when the leaves of the huge deciduous trees have turned yellow and are falling. What a warmth its dense foliage imparts to the landscape. This is the only true Pine indigenous to Britain, being found wild on the mountains of Scotland. It is largely grown in England; there are large plantations of it in Surrey and in Hampshire, as well as elsewhere. When it is grown for its timber, it can scarcely be termed an ornamental tree, and yet, when planted on suitable spots, it is, as already indicated, highly picturesque as well as valuable in the landscape. It is a tree that "delights in the exposed summits of rocks, over which the earth is but thinly scattered, there its roots wander afar in the wildest reticulation, while its tall, furrowed, and often gracefully sweeping red and grey trunks, of enormous circumference, rears aloft its high umbrageous canopy." Sir Walter Scott has well described its situation above the rest of the trees of the forest:—

'Aloft the Ash and Warrior Oak
Cast anchor in the rifted rock,
And higher yet the Pine-tree hung
His shattered trunk, and frequent flung,
Where seemed the cliffs to meet on high,
His boughs athwart the narrow sky."

The timber supplied by the Pine is called yellow deal, and the uses to which it is applied render it necessary that the stem should be straight. The straightest and cleanest grown trees are selected for masts, spars, scaffold poles, &c., while the largest trunks are sawed into planks for various purposes. Its wood is durable and resists the action of water excellently. In Holland the Scotch Fir has been used for the purpose of preparing the foundations of houses in their swampy soils; 13,659 great masts of this timber were driven into the ground for the purpose of forming the foundation of the Stadthouse at Amsterdam.

The Scotch Fir, from its hardy constitution and rapid growth, is a useful tree for forming screens, and as a nurse for more tender trees. As a tree for planting in poor dry soils, and in exposed situations, it is equalled only by the Larch; when planted as a screen for shelter, it is best mixed with the common Spruce, and the hardier rapid-growing deciduous trees.

"The economic value of the Scotch Pine as a timber tree is probably not surpassed, in the aggregate, by that of any other tree known. The yellow deal it supplies is the staple article of trade with many of the Baltic and other ports of northern Europe. Although highly valued as a timber tree in this country, the quality of the timber of home-grown trees is inferior to that imported from northern Europe—it is coarser in grain, and much less durable. This inferiority is believed to be due to climatal causes; the long and severe winters of the north are succeeded by short and hot summers, and, under these conditions, the trees have periods of rest and activity in their growth, which they do not get in the more equable climate of Great Britain, and the texture of their wood is affected in a corresponding degree."

The Pine is a funereal tree, and, as is the case with all others of its class, it symbolises immortality and generation. Like the Cypress and the Fir, on account of the durability of its wood and its evergreen foliage, it represents the perpetuity of life—a symbol that appears singularly in keeping with the funeral rites of a people who believed in the immortality of the soul. In Russia, when the coffin is being carried to the Cemetery, it is covered with branches of Fir. The Pine is one of the trees ordered to be used by the Jews in erecting their tents at the Feast of the Tabernacles.—*E. W.*

STRAWBERRIES AND BLACKBERRIES.

Waiting at a small country station on the Eastern Counties Railway, towards the end of last summer, I had a look round, as is my wont, to see if either the station-master or his assistants had any taste for gardening, for, according to my experience, if it does exist, evidence of the fact is always forthcoming to some extent, and frequently in a most pleasing manner. At this particular station, however, the only objects of interest of ag ardening character were a good breadth of Strawberries on the railway embankment, and next to

them some strong-growing Brambles or Blackberries, and I thought the association a suggestive one; it seemed a good idea to utilise the railway embankments in such a useful and profitable manner. That Strawberries would do well in such a position there could be doubt, the plants I saw were a very healthy looking lot, and free from weeds; and in my own garden, which somewhat resembles a railway embankment, being on the side of a hill and facing north, they also do well. A northern aspect I know is not the best for a garden, but in my case I am rather glad than otherwise that it is so, for the south side, in such summers as the two past, was very hot and dry. At the railway station the aspect was southernly, but as the line had only been made about two years, the plants had the advantage of the newly moved earth in which to push their roots in search of moisture.

I have found by experience that Strawberries will yield good crops for some years in such a position without being renewed. I have a good breadth planted on my hill facing the north, and my practice is to annually remove so many rows, double-dig or trench the ground, heavily manuring it at the same time, and plant again. I have now some seven rows which were planted eight years ago, and the plants have regularly borne good crops, but next year will be their last. I do not know whether all varieties will do equally well under similar treatment, but the one I grow is the Vicountess Hericart de Thury, which can always be depended upon. Strawberry plantations with me—and many more besides—do not bear a crop worthy the name until the second year. I never dig between them, but as soon as circumstances will permit after the crop has been gathered, I have the runners cut off, and the ground hoed or weeds pulled up by hand; and in November the ground is heavily mulched with manure from the frame ground. The rains wash the nutriment down to the roots, and it prevents rapid evaporation when summer comes again. To remove the seedling weeds that will spring up, we surface-stir the ground in sunny weather with four-pronged forks.

The Blackberry is a most useful but much neglected fruit, which ought to be more cultivated as a small fruit to succeed the Strawberry. Cottagers only, at present, may be said to thoroughly appreciate them, and it is well known that children will go miles in search of them. I read in one of the provincial papers, a few weeks ago, that the poor country people in Cheshire have this season gathered them in large quantities, and sent them to Birkenhead and some of the large Lancashire markets; but this is not an exceptional case, for I remember that the cottagers did the same forty years ago, when I resided in the neighbourhood of Chester. Though still despised by well-to-do people, I think there is a good prospect of the Blackberry playing an important part in our food supply, and I am glad to see that the introduction of the "Wilson Junior" variety from America by Messrs. Viccars Collyer, & Co., of Leicester, has induced many gentlemen to turn their attention to Blackberry culture. I have myself been commissioned by a gentleman, who is a lover of all kinds of fruits, to obtain and plant some of the "Wilson Junior," and they shall have the best attention I can give them. Our home supply of Apples is often so short, that anything that can be grown in quantity and cheaply outside the garden proper must be useful and valuable, and such, I believe, will be the cultivated Blackberries.—*T. W., East Norfolk.*

WILLIAM J. MURPHY.

The following remarks respecting our esteemed contributor, Mr. W. J. Murphy, of Clonmel, are taken from the last number of *The Irish Farm, Forest and Garden,* and may prove interesting to some of our readers:—Mr. Murphy is a graduate of the Government Farming Institute at Glasnevin, where, in open competition, more than twenty years ago, with 80 others, he won one of the first places. The Albert Farm, as it was called, had then for superintendent, Dr. Kirkpatrick, who was succeeded by Professor Baldwin, now of the Land Commission. Here for more than two years Mr. Murphy had the benefit of sessional lectures also from W. K. Sullivan, Ph.D., now President of the Cork Queen's College; Dr. Hodges, of Belfast; Dr. Moore, Ph.D., R.D.S., Botanic Gardens; James M'Donnell, M.A., and many other eminent men in various spheres and subjects. A machine accident at this time deprived him of his left hand, and seriously interfered with some "high hopes and pious intentions" then entertained. A man with less energy and independence of character would have gone home to his father's farm in Carlow, looked after the cattle, or ended his days in some listless occupation. He faced the world, took the first position that offered, and was appointed Head Master and Agriculturist to the Local Board of Clonmel just twenty years since. Possessed of a careful, lucid style, his letters have invariably been welcome to editors. Instead of settling down to a hum-drum official existence, Mr. Murphy has spent his vacations in acquiring topographical and other knowledge, and adding to a well-stocked fund of general information, especially on gardening, farming, and collateral matters.

In this way he has from time to time visited almost every part of Ireland, England, north and south, and seen much of France. The information thus acquired has not been "hidden under a bushel," for his letters and articles, published in our own pages, *The Gardeners' Chronicle, The Garden, Journal of Horticulture, Farm and Home,* The Gardening World, and local journals from time to time and year to year, would fill several volumes. To all these journals, from pure love of advancing his favourite subjects, Mr. Murphy is either an occasional or constant correspondent. From a gardening point of view, *e.g.*, those who remember his description of "Kylemore Castle and Gardens," Co. Galway, or Saunders' Nurseries, Cork, in our columns; "Curraghmore," in Co. Waterford, in *The Gardeners' Chronicle;* "Woodstock," Co. Kilkenny, in *The Garden;* "Paris and Parisian Gardens," or "Carter's Nurseries, London," in *The Journal of Horticulture,* several years since; or the Newtownard Nurseries, Co. Down, in our own pages within the last few weeks, and so on; need not be told of the versatile, graphic, and fluent pen, combined with considerable grasp of observation, Mr. Murphy wields. In all his correspondence, so far as we know, it may be repeated of him, that he never lost a friend or made a foe—if he cannot serve mankind in general, or individuals in particular, he he will do them no harm; and this is no small commendation in these exciting times.

SCOTTISH GARDENING.

Garden Operations.—Having received of late a number of enquiries bearing on the subject of planting, sowing, &c., and the difference in treatment accorded to numbers of fruits, hardy plants, and vegetables, necessitated by difference in latitude, altitude, and other climatic influences, has induced me to offer, periodically, some practical remarks suitable to the wants of those who require a little guidance in the management of their plots and gardens. It is pleasing to observe (in most unlikely places too) the amount of care and attention bestowed on the cultivation of fruits, flowers, and vegetables by many of the working classes, as well as by vast numbers of the middle class, who work in their gardens for recreation and enjoyment. It is not necessary that I should enter into details respecting the management under glass of Exotics and forcing, that being so well done already by others, and I have always found that instructions for one part of the country, suitable for glass structures, answers very well for another. It may be that in northern districts, where the sun is not so hot and nights lack the warmth so often experienced in southern latitudes, that a little more attention with artificial heat is necessary. The thermometer acting as a guide will always make the instructions of the ordinary southern calendars (and those especially which are so explicitly written for The Gardening World) intelligible to the merest novice.

It appears to me (from information gathered from well authenticated sources) that longitude has as much influence on vegetation in this Island as the effects of northern latitudes. We read of the moist but mild west, and of the early supplies of produce from those districts which bring such good prices in the markets before cultivators in the exposed eastern parts can cope with the fortunate westerns; also, there are parts which the "Gulf Stream" is said to greatly affect. We have northerly regions along the coast of the Moray Firth, and the Black Isle (of Rosshire) has its name for climatic advantages well sustained. The absence of severe frosts in many northern districts, and the intense severity of it in many parts far south, often gives what is in other parts taken away. The valley of the Tweed records the lowest temperature which we have seen reported, while on the Ayrshire coast, Myrtles, Fuchsias of many sorts, and plant Camellia in the open ground, are quite safe from climatic severity; much more could be quoted to support our assertions, but, meanwhile, we will refer to the more pressing requirements (even during the dull season) of gardens in general.

As soon as the trees are well cleared of their leafy coats, and a clearance of gardens and grounds can be made, with propriety, of all objectionable material, which abounds at this season, steps should be taken to make every part as presentable as possible. Leaves can be stored for forcing purposes, such as raising of Asparagus, Seakale, starting bulbs for winter flowering, and many of these are very charming during the short dark days. At present we have numbers of Roman Hyacinths finely in flower. They began about the middle of October, and by succession will come in during several weeks to come. Good Oak and Beech leaves are of much value, and when decayed so that their heat-giving power is at an end, make a valuable potting compost. The clearing-up process does not end with the tree leaves, for there is much among vegetables which require attention, where order and neatness are of moment—and where there is any pretence to a garden at all, this should be important—such as the clearing away of remains of old crops, weeds, which have escaped vigilant eyes, the yellow "castings" of all the Brassica tribe (Brussels Sprouts especially), trimmings of herb beds, prunings of fruit trees and bushes, and anything which is offensive to the eye.

Another important matter which should have prompt attention (if not already thought of) is the necessary material for covering and protecting certain kinds of plants—fern, straw, weathered grass, ashes, tree leaves, sawdust, old tan, evergreen branches, &c., are some of the rough and ready protecting articles often stored for emergencies. While one is ready to risk as long as possible the attacks of frost, it is not well to go so far as to be caught "napping." We will refer to some of the more pressing things which are in danger, and require protection from sharp frost, and it may also be well to protect them, if possible, from damp. A dry well-drained soil does not give the high death-rate among tender plants, after severe winters, such as one has to experience in damp, low-lying, badly drained parts, &c. Draining is of primary importance, and the present time is most suitable for doing such work. Trenching, whether for flowers, shrubs, or vegetables (if done judiciously), is rewarded by healthy and vigorous growth. Deep tilth is generally approved of, and when the subsoil is sour, inert, or otherwise useless, it should be brought to the surface in very small proportions. When turned over well in the bottom, and well covered with garden refuse—walk parings wood ashes and other refuse so common about gardens, the ground in the course of time is greatly improved. The surface soil may be turned over roughly to the influence of the weather till required.

At this season in well appointed vegetable gardens there should as yet be little vacant land ready for manipulation; but autumn Cauliflowers, first batches of Celery, Sea Kale, Asparagus, Parsnips, and other crops will be removed soon, and then trenching and digging may follow. There is always enough work even in well-managed gardens to keep the usual workmen employed. All repairs to walks, edgings, and general renovations, can be done well at this season. Box-laying while frost is absent should have timely attention. Turfing, rearranging herb borders, collecting soil, making stakes, manure turning and wheeling, &c., levelling and suchlike are among the general operations at this season, and when weather is inclement and unsuitable for outside work, roots, tubers, Onions, fruit stores, and other inside operations should have attention. Nothing of any value should be left to take its chance.

Proceeding in alphabetical order, we would call attention to the protection of Globe Artichokes. A quantity of litter or leaves should be placed round the collars of the plants, and some soil laid against it forming a cone to throw off damp; this forms a very suitable protection. Jerusalem Artichokes may have litter laid over them to enable one to remove from the soil supplies during the frosty weather; a week or two's supply may be lifted to meet the demand till a thaw takes place. Asparagus must be kept free from stagnant water, and a covering of soil or other protection placed over the beds or rows. Lifting Asparagus for forcing will now be

very general, and where soil cannot be spared to form new sites for succeeding crops, the same land deeply trenched and liberally enriched, will answer well for the new plantations or sowings. A very mild heat, say 75° for a bed of leaves, and 60° to 65° surface heat will produce crowns for use freely. They have the crowns packed close and the roots laid out as flatly as possible, covered with 2 ins. or less of fine soil, and gently watered are the chief wants of Asparagus when forced.

A sowing of Broad Beans may be made during this month; choose a dry and warm position, plant on the surface of the soil in rows 2 ft. or more apart, and cover the seed evenly, leaving the ground ridged over them. Peas are treated in the same manner, and may be sown (more thickly than in spring) wide enough apart to allow three rows of Beans to be sown between the rows. They both may have attention together, taking care that rats and mice do not take the seed; a dusting of red lead, chopped furze, or Barley chaff, are some of the preventives used against the depredators. Beet will be in store-pits, or in a dry shed, cellar, or such position, and must not be forgotten; but if still in the ground (ours is so) it had better be covered with soil, ashes, or some frost-proof material.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Chrysanthemums.—The principal things now for the decoration of the greenhouse will be the Chrysanthemums, which must have abundant supplies of clear soft water, as dryness at the roots will cut short the beauty of the flowers, and so will a damp state of the atmosphere, to prevent which very slight fires should be kept when the weather is unfavourable; but at the same time, it will be necessary to have the ventilators open to cause a circulation and keep the air cool.

Camellias.—Amateurs and others are often perplexed with Camellias shedding their buds, which the plants are very subject to, only under certain conditions, the one being an insufficiency of water, and the other too much artificial heat. Of the latter, Camellias are most impatient at this season, although they like it, and are greatly benefited by it when making their growth. This being so, the plants should be stood in the coolest part of the house, and kept there during the winter till they have done blooming, and if the soil is dry below, a good soaking should be given, and the same be repeated till the ball is moistened through.

Sponging and Cleaning the Leaves.—Another thing that tells against the health and well-being of Camellias is allowing the leaves to become dusty or covered with dirt, which stops the breathing pores, and not only that, but disfigures and spoils their appearance, which a cleansing and sponging greatly improves. The way to carry this out easily and quickly is to syringe the plants overhead with clear soapy water, which will soften the dirty deposit and set it free, when a sponge may be passed over the foliage and the whole taken off, after which the leaves will be glossy and beautiful, and the flowers will be shown up by them to the greatest advantage.

Carnations.—The perpetual varieties of these are indispensable for winter blooming, and should be largely grown, as they are very easy to manage, the only conditions necessary being a light position in the house, the most suitable situation being a shelf up near the glass, and a temperature of about 50°, and when so favoured they are sure to do well, if the plants are strong and have plenty of shoots.

Schizostylis coccinea.—These, too, are valuable for this season of the year, as they flower freely and are very bright and showy, and being hardy only require the shelter of a pit or frame till the blooms are beginning to open. Anyone having plants of Christmas Roses outdoors may make them do good service by taking them up and potting them, as they are fine decorative subjects for the windows of rooms or to stand in the greenhouse, where the blossoms open large and of a pure white, and last long in perfection.

Violets.—A few pots of Violets are charming, and if taken indoors now will keep in bloom the whole winter through, and be prized for their odour. The best kinds to grow are Marie Louise and Comte de Brazza, the first-named being a lovely blue and the latter white, and are both very sweet-scented.

THE FLOWER GARDEN.

Protecting Plants.—There are many plants that are generally regarded as hardy, and which are sufficiently so to stand in ordinary mild winters, but suffer severely, and often get killed during sharp frosts; and as it takes many years to replace some of the best of them, those of most value should be protected, and so made safe from the weather. It is surprising what a little covering will do this if the right material is chosen, and properly applied, the most suitable being that of a nonconducting nature, such as fresh fallen leaves, dry sawdust, or cocoa nut fibre; the first named being of value for packing round the crowns or collars of Shrubs, Pampas Grass, and Tritomas, or any large plants of that class that require bulk to afford them much shelter. As, however, dry, light leaves get blown about and displaced by the wind, it is necessary to secure and fix them where wanted, which may easily be done by placing a few branches of laurel or other evergreen closely around them, which not only keeps them in position but hides them from view. Where sawdust and cocoa nut fibre come in so handy and useful is for bulbous subjects or other things of lowly growth in beds or borders, where a few handfuls may be thrown over or laid round the plants to be protected in very quick time.

Roses.—Among the first to feel the effect of a low temperature are the Tea Roses, which have been growing very late this year, and, as a consequence, are more tender than usual, and unless well cared for, the losses in them are sure to be great. To prevent the destructive action of frost on these plants, the best way is to mulch, which keeps the soil from becoming ice-bound, and preserves the collars of the plants and their roots from the grip of the enemy. For mulching the beds, or putting round the bushes, nothing answers better than short stable manure, which lies light, and, therefore, does not unduly obstruct the air; and as it contains much vegetable matter it wards off cold by preventing rapid evaporation, and so keeps the earth warm.

Lawns.—To have a garden, however small, in anything like good keeping and pleasing to the eye, the lawn or grass plot must be in trim, and if not in this desirable condition, the present is the right time to take out the hills and holes and make it so; but to do this properly, if the inequalities of surface are great, the turf must be taken up, and the general surface levelled, and the flag relaid again. The way to get a good firm bottom, without any further settling, is just to break down the high parts and rake and ram the soil so moved into the low, which is far better than digging the ground over, and takes up much less time in performing.

Cutting the Grass.—In cases where the grass has been allowed to get long, the machine should be run over it once more; as to leave it in that state not only makes the herbage come coarse, but the Lawn will look bad all winter. To get a fine close herbage the roller is a great help, and it is necessary to ply this implement often to keep down wormcasts, which are a great eyesore at this season; but they may, in a great measure, be prevented by watering with lime water, soon after rain, which will cause the worms to turn out from the soil, when they may be collected and carried away.

THE FRUIT GARDEN.

Planting Fruit Trees.—The weather being still mild and open, planting operations should be pushed on with all speed, as every week's delay now is so much loss, and tells seriously against the success and well-being of the trees, which if not got in soon are sure to break weak, and be slow in becoming established. Sorts to Plant: Amateurs in taking up a catalogue must be sorely puzzled as to what kind to select, and it would be a good work if the members of the Fruit Committee, or some other body, could sit in judgment and strike out of the lists all worthless and inferior sorts, as there are so many in cultivation that cannot be otherwise than disappointing, even in the most favoured soils and districts, and which are utterly bad in most places.

These remarks apply more particularly to Pears and Apples, short select lists of which have been already given, and now one of Plums, Peaches, Nectarines, Apricots, and Cherries shall be added, that those wanting any of either may know what to plant. Plums, Dessert varieties: Greengage, Kirk's, Jefferson, Coe's Golden Drop, Reine Claude Violette, Reine Claude de Bavay. Plums, Culinary: Prince of Wales, Prince Englebert, Queen Victoria, Pond's Seedling. Peaches: Alexander, Royal George, Alexandre Noblesse, Bellegarde, Barrington, Sea Eagle, Walburton's Admirable. Nectarines: Lord Napier, Elruge, Pine Apple, Pitmaston Orange, Humboldt. Apricots: Moorpark, Peach, Hemskirke. Cherries: Governor Wood, Black Eagle, Frogmore Bigarreau, Elton. Cherries for Cooking: May Duke and Morello.

Positions to Plant In.—The dessert kinds of Plums do best if they can be planted against, and trained on an east or west wall or fence, but the cooking sorts will succeed well grown as bushes, pyramids, or standards in any sheltered part of the garden. Peaches and Nectarines must have a very warm sunny aspect, such as south, south-east, or south-west walls, if grown outdoors, otherwise the fruit will not set and ripen properly, and the same with Apricots, which come very early in bloom. Cherries require a similar position to Plums, and the culinary kinds may be planted either as bushes or standards.

Soil and Preparing.—The kind of soil most suitable for all stone fruits is a deep sandy loam, and the only preparation this requires is trenching, as manure of any kind only does harm by inducing the trees to make gross wood, which stops fertility, as when in that unruly condition of health and strength flower buds are not formed, and it is only by transplanting or root-pruning that they can be brought round to bear.

THE VEGETABLE GARDEN.

Trenching.—The beneficial effects of trenching ground that is used for vegetable crops can scarcely be overrated, as the deep stirring allows the roots of the crops to get down, and the plants under such favourable circumstances are then able to find the food they require, and withstand the effects of dry weather. This being so, any land that is now vacant should be at once broken up, but in doing this it is important that the sub-soil be not brought to the top, especially if at all poor, stiff, or bad, as it takes a long time before it is fit to seed in, a condition that can only be brought about by exposure to the frost and air, which sweeten and disintegrate the parts, and after a season or two with the help of manure, render the whole agreeable to the roots of young plants.

The way to set about the work is to take out a wide opening to the depth of 1 ft. or more, according to the nature of the ground, and wheel it to the part where the operation will finish, ready for filling in, when the bottom of the trench so made should be dug up, and if any rubbish-heap stuff can be worked in at the same time, all the better; after which the top of the next opening can be thrown on, and the work so continued till the whole is complete, leaving the surface rough for the weather to act on.

Potatos.—The very worst thing that can be done with Potatos whether for seed or cooking, is to pit them, for if wanted for the first named purpose, the warmth they naturally generate when laid together in a mass and covered, causes them to sprout, which seriously weakens and exhausts them, and if required for eating the flavour is spoiled. The most suitable place for those intended for planting, is on broad shelves in some light airy shed, where they should be spread out in single layers and not covered with anything, except temporarily, when there is danger from frost; while those for cooking keep best in a cool dark cellar laid on the floor, and there it is necessary to turn or move them occasionally to prevent them from sprouting, and thus losing much of their starch.

Chicory and Endive.—Those who happen to have a stock of these useful saladings, will find it a good plan now to put a few roots or plants from time to time in some warm place in the dark, where the Chicory will soon grow, and the Endive will become beautifully blanched and ready for use.

Lettuces.—These also do well treated in the same way, but both Lettuce and Endive if getting at all large, should be in cold frames, or so protected that they can be sheltered from frost.

Celery.—As hard weather may now set in at any time, Celery should be earthed up as high as the heads will bear, only leaving just the tops out, and if severe, by and bye it will be necessary to further protect, by throwing a little loose litter along the crown of the ridge.

CARNATIONS IN WINTER.

These favourite winter flowers are also known as perpetual-flowering and tree Carnations, but call them what we may, their value is by no means diminished or increased thereby. At this season of the year, and onwards for three or four months, these flowers are eagerly sought after, and command good prices, probably on account of the ever welcome fragrance emitted by them, and their suitability for personal adornment. Why this particular section should be designated perpetual I can hardly understand, seeing that they only have their special season of flowering, like the section favoured by the florists, this being reversed from summer to winter owing to the special mode of culture which has been adopted to bring it about. Thus for example the Carnations and Picotees which flower so freely during the summer-time are from plants layered for the most part in the previous year; while the winter-flowering section are the result of cuttings taken and rooted from January onwards, and grown on in pots specially for the purpose of winter flowering, and in so far as my observations go, the length of the flowering period of both sections appear about equal.

I mention this particular with a view to show that other kinds as well as those we now call perpetual or tree Carnations may, with similar treatment, be equally valuable as winter flowers; for who would object to a good bloom of the old-fashioned Crimson Clove in mid-winter, and would it not be equally as welcome as at midsummer? But while saying this, I must be frank with the readers of The Gardening World by informing them that, while I have not tried the experiment with that particular kind, I have with some others, and which are regarded as strictly summer flowers. Having some three or four years since to provide large quantities of choice white flowers in winter, these Carnations had to be taken in hand, and besides having a good assortment of the kinds duly recognised as perpetuals, I selected some seedling border Carnations which appeared very anxious to flower, these were the result of a late spring-sown batch from choice seed, and not caring to risk them in our cold and singularly stiff soil, they had been grown in pots 6 ins. in diameter, and began to push flower growth late in November. To give them a fair trial, they were removed to a cool greenhouse among Lapagerias, Camellias, Tea Roses, and other subjects requiring similar treatment. Being seedlings, we had at flowering time good, bad, and indifferent flowers; still it was sufficiently convincing to my mind that more might be done with them.

The same season I also tried the Bride (Hodge's), rooting it from cuttings in the early part of the year, and growing on precisely in the same way as the perpetuals in pots; I got about one hundred plants of this variety in 8-in. pots, and was rewarded with some very handsome blossoms. I afterwards got to know that this kind when well established in pots will stand forcing with impunity, and as it is a variety of sterling merit it should be included in the list of winter flowering ones, and treated accordingly; but now a word or two as to the tree Carnations:—Those which formed the earliest batch should be in 6 in. or 8 in. pots, the remainder in large 48's; a cool greenhouse temperature will suit them well, such as is fitting for single and double Primulas, Cyclamens, and such like; once a week a little manure water will be highly beneficial to them, getting it in over night so that it will be about the same temperature as the soil by the time it is required for use. Green fly is probably the worst pest to it, but these are easily overcome by occasionally fumigating the house, which must not be kept too moist.

Those who require a small collection of these charming flowers will find excellent scarlets in Vulcan, Alegatiere, Daybreak, Prince of Wales, Lucifer, and Life Guardsman. In whites we have none to beat White Swan, The Bride, La Belle and Avalanche. Yellows, Mrs. Hawtry and Andalusia; flesh or soft delicate pink finds all that is needed in Miss Joliffe, which is of compact bushy habit and very free flowering. Madame Alegatiere is dwarf and a bright pleasing Rose, and Irona is a bright pink. Besides these there are many more with varying shades of colour or combinations of colour in one flower; those cited above, however, are all good and decided colours in their way, and likely to give satisfaction to even the most fastidious.—*J.*

CRINUM POWELLI.

Through the kindness of C. B. Powell, Esq., of The Old Hall, Southborough, Tunbridge Wells, and by the aid of a photograph taken in his garden this year, we are enabled to give the accompanying illustration of what is regarded by many as the finest hardy plant of recent times. A second photograph, taken later on, exhibited the group in still greater beauty, but our engraving being in hand, we were unable to avail ourselves of it; it will, therefore, be understood that the group we here present were coming into bloom, and not at their best. All who have been lucky enough to obtain the plant seem to have been equally successful with it, and it seems to flourish well in all soils and situations. In Sir Trevor Lawrence's garden it has been very fine this year; at Glasnevin it grows into a handsome giant,; and even with Messrs. E. G. Henderson & Son, who were first entrusted with the distribution of the plant, it has proved perfectly hardy, and has grown and bloomed in the London smoke better than many reputedly hardier things. Planted deep, and if possible in a sheltered situation, there is no doubt that C. Powelli is perfectly hardy in any part of Great Britain. It is a lovely and sweet flower in the garden, and for decoration indoors it is superb, as the tall spikes, cut as the first buds are expanding, open out the buds one after another as well as they would on the plant, and last for weeks. One tall spike of C. Powelli arranged with three or four of its smaller leaves in a suitable vase, forms an object of great and unusual beauty.

Mr. Powell writes:—"Crinum Powelli was raised by me from seed about ten years ago when at Bury St. Edmunds. The seed bearing parent was Crinum longifolium, both the roseum and album vars. being hybridised with the pollen of Mooreanum, and it possesses undoubtable traits of both its parents. The bulbs are as large as Mooreanum, and it grows from 2 ft. to 3 ft. high, differing from longifolium, the glaucous green foliage of which, generally rests on the surface of the soil. The foliage of C. Powelli, is a dark bright green, in shape resembling C. longifolium, *i.e.*, the leaves are 5 ft. long, and 3 ins. wide at the base, and taper to a point. C. Mooreanum has leaves of a uniform width, but they are of a softer thinner texture, and apt to be split by the wind, except in very favourable localities such as at Glasnevin, where they grow 4 ft. long. In Kent, planted in the same bed with C. Powelli, they are certainly not so hardy, and would very likely be crippled by a severe winter. C. Powelli has been out-of-doors ever since it left the seed pan, it may therefore be deemed perfectly hardy, and plants of it sent to Scotland have also stood over several winters. The only care necessary in planting, is to have it sufficiently deep as it has a very long collar, and to have manure or good compost for it to root into, well below the bottom of the bulb. It will then take care of itself, either in full sun or in any aspect not exposed to tree drip. It blooms from the middle of July to the end of September, the flower stems raising themselves well above the foliage, and the individual blooms are superior to those of either parent, and very much resemble Amaryllis Belladonna in shape, though larger, and their colour varies from deep rose to a light pale pink. Amongst 100 plants raised, two or three were a perfectly clear white, quite equal to any stove Crinum, and these are the most perfect also in shape and breadth of petal, but do not seem to grow or increase so fast as the coloured forms, which are very free. The white form is the produce of C. L. roseum, as strange to say the seedlings from C. L. album produced the deepest varieties of pink. Each scape has from twelve to fifteen flowers, which in the bud stage, are all of a deeper tint than when expanded, whilst in the variety C. P. album, the buds are green. Whilst every bloom almost of C. longifolium produces seed, C. Powelli seems unfertile, though its pollen has not yet been tested with other Crinums, and being abundantly produced should be tried with some other hardy kind. When first raised, some plants of it were tried to be grown in pots, but would not do at all, where C. Mooreanum flourished and increased in the same soil and conditions as to temperature, but it evidently likes to be let alone, and as seldom disturbed at the roots as possible."

No doubt home-bred seedlings are hardier than imported species, provided they be not nursed from the beginning, and Mr. Powell's success in this instance, will, no doubt, be followed by others. There is no reason why the greater part of the strong growing Cape Nerines, Brunsvigias, &c., which some grow so well, but others make such bad work with in the greenhouse, should not be as hardy as the Belladonna Lily, and the Crinum capense (longifolia), which comes from the same regions, and which are perfectly hardy here. Deep planting, and, if possible, close to a sunny wall seems to be the chief things necessary to establish such bulbs, and once they are established, the great thing is to avoid disturbing them.

TRAFFORD PARK.

Visitors to the flower shows at Old Trafford, near Manchester, will have noticed opposite the entrance the noble arched gateway and lodges which form the chief entrance into Trafford Park, the residence of Sir Humphrey de Trafford, Bart., a descendant of an old Saxon family, notwithstanding the French prefix "de." This prefix was used for a century, or a little over, during Norman times, but was dropped as the hated Normans lost power, and only assumed again by royal sanction by the father of the present baronet, after the title was conferred upon him in connection with the reclamation of the Trafford and Chat Mosses. The first Traffords were living on their Manor of Trafford in the time of the Danes, and there they have resided ever since, playing an important part in the history of this country. They possess vast estates which are annually increasing in value, and will, without doubt, increase more rapidly with the formation of the new Ship Canal. The park itself is most interesting, and full of beauties of its own; and though so near the busy manufacturing towns of Manchester and Salford, one may loose ourselves in thought, and imagine that we are much farther from the hum of busy life than is really the case.

As we enter by the old Trafford gates, we pass over the railway leading to the Central Station, Manchester, and also over the Bridgewater Canal, both being spanned by handsomely designed arches, and from here to the mansion is exactly two miles. The first objects to claim notice are young plantations on either side many feet below us, yet shutting out the distant view; passing which, the road suddenly bends, and a fine stretch of lawn bursts on our view, with the canal on one hand and the river Irwell on the other. These two water-ways form the park into a peninsula, and but for the exception of about 30 yds. it would be an island containing nearly 1,600 acres. The park contains herds of young highland and short-horn cattle, sheep, red and fallow deer. The view here is enchanting; away on the right are seen the well-wooded heights of Buile Hill and Hart Hill, on the left is Stretford, and beyond is seen the hills of Alderley, and others, while looking southward over the trees lays Trafford and Chat Moss. Presently we pass a venerable farm-house well-clothed with Ivy; this is the residence of Mr. Bell, the farm bailiff, who has carried out great improvements under Sir Humphrey. Where we are now passing was, forty years ago, a rough open bog, on which cottagers had the right to cut turf for firing. These rights were bought by Sir Humphrey, who came into possession in 1852, and who had this land drained, trenched, and sown with grass; the drains pass into a lake formed on the slope leading down to the river meandering round the park. The plantations have a pretty effect in spring when carpeted with young Fern fronds and Blue-bells. There are some grand Beech trees, and some Oaks are seen as we get nearer to the mansion; but we regret to say that the latter are fast dying out, having never recovered from the severe frosts of a few years ago. Wild birds, such as herons, ducks, &c., are frequent visitors; we hear the crowing of cock pheasants, anon the whirr of partridges. The very hares and rabbits seem tame here, and not alarmed as we pass on. There has been here for the last two years a rook whose wings are black and white. There are several rookeries in the trees on the river brink.

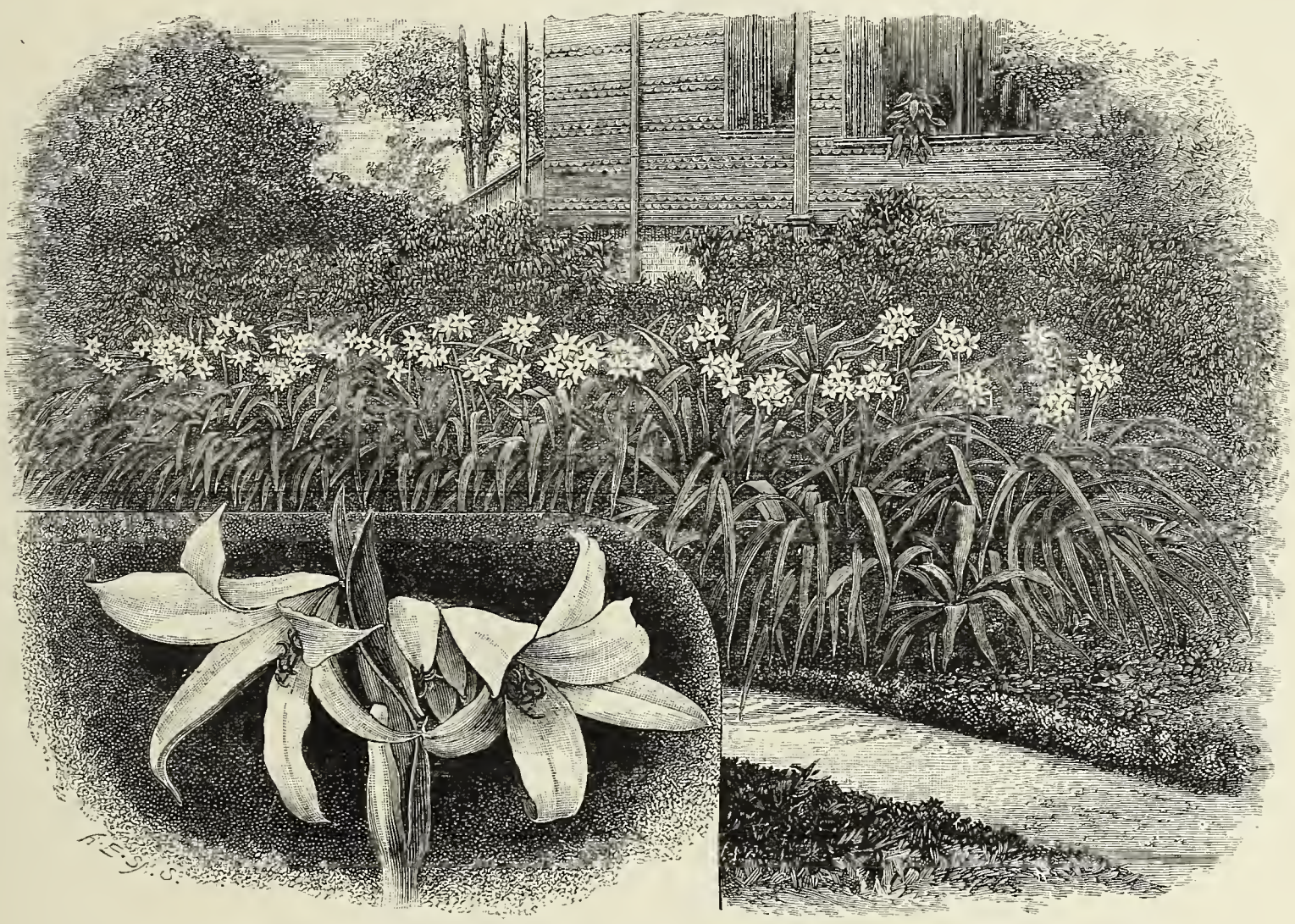
We now reach the mansion, a stone building of the style so common about 160 years ago. This was built by the father and grandfather of the present baronet; and adjoining to the ancient "Wycklewicke" hall, with its Tudor windows and Ivy-clad walls, which has been incorporated with the modern mansion. As we skirt the mansion, we note some of the wonderful old Oaks in the drive—descendants, no doubt, of the old forest which once stood here—and make our way to the gardens, passing the noble pile of buildings forming the stables, coach-houses, and home farm. The gardens are on either hand. The kitchen garden is

entered through a grand iron fencing with gates, over which is the famous escutcheon of the family—a man with a flail, threshing, and the motto, "Now, thus"—perhaps the oldest coat of arms among English families, and which we have reason to think was founded on an incident in the family history, but which we cannot now explain. We regret we could not see our friend, the head gardener, Mr. Sargesson, who has been here over forty years, and who, we regret to say, was too unwell to leave his room. Mr. Sargesson has for some time been wheeled about the garden in a chair, and to the credit of Sir Humphrey and Lady Annette de Trafford, they still keep him in the position of superintendent of the gardens, notwithstanding his great infirmities. The writer has a vivid recollection of the first visit he paid to this place in 1852, and the great pleasure he experienced in going round the place with Mr. Sargesson; and much of the information he gained then has been of great use to him since. There is a fine range of glass in this garden, extending nearly the whole width. In front of the entrance is a pine stove; as we walk towards it we note some fine hedges of Pyrus japonica, though, alas! suffering from the series of wet, sunless summers and severe frosts. Further along we see another walk parallel with this, full of herbaceous plants. In front of the Pine stove are some flower beds, some of them filled with Oxalis Boweana and Zephyranthus, throwing up hundreds of white Crocus-like flowers. These beds have been undisturbed for many years, though they have a dressing of decomposed manure frequently.

As we enter the Pine-stove, on either hand are glorious masses of Strelitzia Regina, with scores of its curious Orange and blue-tipped flowers. These are planted out at the end of the Pine-pits; Pines are chiefly successions. Along the curbs and round the sides are flowering plants—numbers of Amaryllis aulica superba, Dracænas, &c. Overhead, and hanging in festoons, are Passiflora, and hanging baskets of Ferns—Panicum variegatum and other plants; while on one side, and running up the roof, is a wonderful specimen of the night-blooming Cactus. On our right hand are various plant-houses and Vineries. There are many things amongst the plants here which were largely grown years ago, but which have, in many places, been elbowed-out by less worthy stuff. As we pass on the left we see a good crop of Grapes, and in a lobby are some noble Shaddocks. These have been a speciality here for many years. We were shown specimens preserved over fourteen years ago in the house, where they have been much esteemed. There were some fine fruits on them. Peaches are done well also.

At the back of these houses is another garden containing other houses and pits. Some nice Pine Apples were swelling up, and Cucumbers were growing at the back of the Pine pits. There were here also, again, the old-fashioned shrubby species of Cape Pelargoniums, and specimen Cactus of the kinds which Green and others loved to exhibit at Chiswick and "the Park" in days of yore. There are plants here which would have delighted him, as for instance, C. speciosissimum, 8 ft. high, and proportionally through. We were told the garden walls were formerly covered with Banksian Roses, but they were killed in 1881 with the snowstorm and frost of March. We are obliged to pass over much that we saw, and enter the pleasure ground and flower garden. The latter is a sunk pannel with an ornamental fountain in the centre, as was so much the fashion twenty-five years ago. The garden was designed by Mr. Kemp, of Birkenhead, and the work and planting was carried out by Mr. Sargesson. In this garden is a lofty conservatory, standing on a terrace surrounded by stone balustrades, and approached by stone steps. This house was built by Messrs. John Weeks & Co. in 1860, and is one of their best efforts. On the balustrades are vases containing Pelargoniums, Agapanthus, &c., while to balance and harmonise the whole, are variegated Hollies, and Sweet Bay Laurels, pyramids, kept clipped close in; these are growing in tubs. In the centre of the house in a circular bed, is a fine specimen of double white Camellia, 18 ft. by 18 ft., and which produces thousands of flowers each year. On either hand are grand plants of Brugmansia suaveolens, Rhyncospermums, Indigoferas, and other plants intermixed with Camellias; while up the columns are trained climbers, and overhead trained on chains, are Cobæa scandens variegata, Tacsonias, &c., rambling about of their own sweet will, intermixing with baskets of Ferns and flowers, and around the sides are Zonal Pelargoniums and Fuchsias.

The flower garden is laid out in geometrical beds; at each corner, on the outsides, are four well-matched Yews. When brought from Wilmslow some years ago, these plants averaged five tons each, so that one may imagine what kind of shrubs they are now. Here also are one or two grand specimen standard Rhododendrons, one plant of Everestianum is an exceptionally fine specimen in size and shape. Here also is a clump of Berberis Darwinii on the grass; while clumps of hybrid Rhododendrons, Thuya, and Rose beds combine to form a pretty picture, and Tulip trees, deciduous Cyprus, Turkey Oaks, and fine Elms, add to the picture a noble background. We noticed an old-fashioned archway adjoining a rockery, passing under which leads out into some other walks, these lead out on to the lawns and pleasure grounds which are well laid out



Crinum Powelli in its raiser's garden at Southborough.

But the space at our command prevents us doing justice to our friends work, we must therefore pass on, for we have nearly another two miles to walk before we get out of the Park. We are now in the hamlet of Whiggleswick, and we pass through a fine avenue of trees, part of the once famous wood of this hamlet; this is perhaps half a mile long. On one side of us are herds of young cattle grazing; in the deer park, the noble antlered stags seem too lazy to move at our approach, but look hard at us; on the other hand are Channel Island milch cows and hunters turned out to rest. Presently we pass a noble Beech and a cluster of Spanish Chestnut, Sycamore, and Oak, chiefly Quercus pedunculata, some of their boles measuring over 16 ft. in circumference. Baines, the Lancashire historian, says there formerly stood another mansion in this hamlet, but we think he is in error, for all this park has been trenched over, and the only remains found have been some hovels, in which resided some half-dozen serfs or villians, retainers of the former lords.

There is still existing their spring of pure water, so that we may, we think, conclude the historian is in error. In this part of the park one may fancy we are indeed far away from the abodes of busy men; a young avenue which has been planted within the last quarter of a century is doing well, and will be very effective in a few years. Presently, we come to some handsome stone walls to keep up the sand-banks on either side, where the road has been cut through to Barton-on-Irwell. At the end of this road we pass under a pretty bridge and out of some massive iron gates; here has also been erected a very pretty lodge.

Although we are conscious that we have not done ample justice to this beautiful estate, we pass under the Bridgewater Canal, and are now in front of the church and schools built by Sir Humphrey for the Roman Catholics at a cost of many thousands of pounds. In the hamlet of Barton we cross the river, and are in Eccles parish, the river only dividing the latter from Trafford. With all the vast estates of this family reaching from Old Trafford to Stretford, Wilmslow, and Alderley, crossing the river Bollin far into Cheshire, and from Trafford to near Warrington, of them, it may be said, that not one acre came to them by favour of Kings or by statecraft; they served the crown, but the honours or estates of others never fell to them. They held their own while many others lost their estates; they obtained their property and held it by their own genius and tact.—*N. J. D.*

FRUITS, FLOWERS & VEGETABLES.

The Thames Bank Peach.—Your correspondent, "C," speaks highly at p. 164 of my seedling, and wonders how it is that it is not more generally known. It was sent out by the Messrs. Osborn, of the Fulham Nursery, but owing to the sale of their stock, and the land having been built upon, it has, more or less, lost sight of. I remember having seen it in several nurserymen's catalogues, and may state that Mr. George Bunyard, of Maidstone, than whom in all broad England there is not a better judge of fruit, will soon have a fine stock of it. I have it here on a south wall, where we always get a good crop, and this season finished the last fruit on October 6th. I do not think I should have taken up my pen, however, to write about the Thames Bank, but for your correspondents pertinent remarks anent such kinds as Stump the World, Lord Palmerston, Lady Palmerston, and others being unworthy of cultivation and only "fit to captivate the judges at exhibitions." Never was a remark made more true to the point than this, and such a custom has it become that I never judge now at any show without my silver knife, and never have I, nor will I, award a prize to these so called grand new varieties, until I have tasted them. If this plan were generally followed by judges we should ere long see these coarse kinds banished from the exhibition tables, and eventually from nurserymen's catalogues.—*J. Rust, Eridge Castle, Tunbridge Wells.*

Devonshire Apple.—Our cook gets some Apples for jelly-making from Plymouth every autumn, of which I am anxious to get the name. I have tried to do so locally, but have failed. It is of medium size, conical shape, with a very short stalk, and pale yellow skin. It is useless for anything but making jelly, and is preferred even to Wellingtons for that purpose, on account of its pure white flesh. Can any of your readers give me its name?—*B. G.*

Violets in Winter.—For five years I have grown twelve frames of violets, and having tried the Neapolitan and De Parma, I have almost given up both kinds in favour of Marie Louise for winter blooming. It is quite extraordinary how many gardeners fail to grow them; and I am quite convinced that the chief cause is too much damp, and not enough fresh air. This is the treatment they receive here:—In April the plants are taken from the frames and divided into single crowns, then planted in rows on a north border, each plant having 1 square ft. of room. They remain here until the end of September, the runners having been pulled from them during the summer. They are well drenched with water two or three times if the weather be dry, and the soil hoed. About the second week in September we prepare the frames, they face due south. A frame 8 ft. by 6 ft. is placed on two loads of hot stable manure, which is raised quite 1 ft. higher on the north than on the south, so that every ray of sun during the short days may take effect. The frame is filled to the top with equal parts of leaf-mould and old farm-yard manure, and left to get warm and settle for three days. When this is the case, enough soil is added to keep the plants quite up to the glass through the winter. When planting care is taken not to disturb the roots more than possible, and a good soaking is given to them, but the lights are not put on for a few days. The three enemies now are frost, fog, and damp. Only close the frames night or day when there is fear of the first; protect yourself from the two latter by having the lights on, but well tilted up on the north side; whenever the weather is not really bad take the lights off altogether. Pull off all runners, and stir the soil if it gets bound; of course no weeds are allowed. In this way splendid Violets may be grown. One day last winter I picked, amongst a large bunch, six blossoms, each larger than a two-shilling piece.—*Stanley Blackett, Ganwick, Potters Bar.*

Chrysanthemum "Dr. Barrie."—I was greatly surprised on visiting the Exhibition of the National Chrysanthemum Society at the Aquarium, to find this old variety shown as one of the six novelties for which Mr. N. Davies was awarded the Silver Medal of the Society. This variety was raised by Dr. Audigier previous to 1881, in which year it was sent into commerce and will be found in Continental Catalogues from that date. I have before me now Messrs. Delaux & Sons 1882 Catalogue and find it there offered. I do not say for one moment that the Floral Committee knew of this, or they would doubtless have disqualified the exhibit, but being largely composed of Nurserymen, as in the case of the Royal Horticultural Society's Committee, I have no doubt it is often a case of "you scratch my back and I'll scratch yours." I think this is a state of things which requires alteration, for I am certain that certificates and awards would have much greater weight with the public if they were given by florists who were not pecuniarily interested in the matter; the case as it at present stands in both the above mentioned Societies, the Floral Committees are in the majority of cases both judges and receivers of the awards. Even if the Floral Committee did not know this was an old variety, undoubtedly, Mr. Davies was aware of the fact, and he, as one of the Floral Committee, had no right to pass it, altho' it was in his own stand. If it be permissable for four or five year old continental varieties, which have not been thought worthy of being brought out before, to be exhibited as novelties, we may yet live in hopes of seeing Tasselled Yellow and Clustered Pink with 1st Class Certificates round their stalks.—*W. Clark, 56, Ferme Park Road, North Hornsey.* [At South Kensington, and we should suppose also at the Royal Aquarium, members of the Committee are not allowed to be present when their own things are under consideration, and, therefore, cannot vote in favour of their own productions.—Ed.]

Duke of Buccleuch Grape.—I am pleased to learn from the Editor's foot-note at p. 155, and from "W. C.'s" note in the issue of November 14th, that he has been actuated by no such motives as have, it is well-known, actuated some writers in past years, when the "Duke" has been reviled. There can be no doubt that "W. C." wrote in such a manner as was calculated to leave the impression that something more than mere discussion on the merits or demerits of the "Duke" were intended, but it is satisfactory to know that such is not the case. "W. C." is welcome to retain his opinion, and I may say is quite entitled to do so, but I hope the time is not far distant, when he may be able to grow the Duke *as it can be grown*, so that there will be nothing but luscious ness without wateriness. Of course I refuse to admit that the two can be present at the same time, but as "W. C." maintains his opinion on the matter as strongly as I do, we must let the matter rest. I see in your last issue a very good notice of the "Duke" at the "Deodars, Meopeam," evidently there are not a few who can grow the Duke properly after all.—*J.*

Mushroom Culture.—There has been much written on Mushroom culture, and no doubt everyone thinks his own plan the best. I have no wish to find fault with anyone else's practice, but the system that I have followed for some years with every success, is to my mind the simplest and best, having regard to the important matter of saving time and ensuring a good crop. Instead of having the droppings collected at the stables as is usually done, I take the litter as it comes to the gardens, throw it into a heap as if for a hot-bed, turn it over two or three times to get rid of the rank steam, and then have it at once put into the Mushroom house, and put on the shelf where the bed is to be made. In a day or so it will begin to heat again, and I watch it carefully till the heat has fallen to 90°, then I have it spread equally over the shelf as far as the bed is to reach, and the whole well beaten down, the firmer the better; break up the cakes of spawn into pieces about the size of an egg, place them all over the bed 6 ins. or 8 ins. apart, then add another third of dung on the top of the spawn and again ram well down; let all stand for two weeks, then cover with 1 in. of good fresh loam. When the soil shows dryness, damp it nicely over with water of the same temperature as the house, which should be kept at 60°, and in from six to eight weeks the Mushrooms are ready for use. Good spawn is one of the principal essentials in Mushroom growing, and unless it is fresh and in good order, there is little hope of a crop. The spawn that I have used for sometime past, is that supplied by Messrs. Sutton & Sons, which I have always found to be of superior quality.—*J. T.*

Variegated Aucubas.—In a paragraph in your number for Oct. 24th, p. 124, signed "R. D.," I read, "It would appear that all male forms of Aucuba are destitute of variegation." I send herewith a shoot of a variegated male plant which proves the contrary. Further on I read, "But beautiful as many of the new variegated forms are, they have not surpassed in beauty the old type." Is not the accompanying specimen more effective? I think so.—*Charles Ellis, Chudleigh Knighton, South Devon.* [The shoot received is beautifully variegated with bright yellow, but is not better than many forms we have seen of the female plant.—Ed.]

Chrysanthemum Princess of Wales.—I cannot allow your remarks at p. 173, respecting my stand of twenty-four blooms at the Stoke Newington Show, to pass without comment. The bloom in question was one of Princess of Wales, as can be proved by several persons, and I have at this moment one bud not half expanded on the same plant (a late bud) which has an abundance of colour in it. The flower in my stand, which was considered the same as Mrs. Heale, was an old bloom which had been standing in a dry shed for ten days before it was cut, but from the first it never had so much colour in it as is usual in Princess of Wales, and by being put by it turned quite white. I saw Mr. George at the show. Why did he not consult me about the flower? I am one of those who have a great objection to such things being done as putting two blooms of the same variety in one stand, and I think that before anyone condemns another they should be sure of their facts.—*W. Monk, Forest House, Leytonstone.* [If the bloom in question was not true to its character, as Mr. Monk admits, he can scarcely blame us for the remarks made, and especially as he exhibited the flower without comment.—Ed.]

Chrysanthemums on Trellises.—It frequently happens that after a grower has, with an almost infinite amount of labour and care, succeeded in providing a satisfactory lot of Chrysanthemums, he is at a loss to know how to arrange them to the best advantage, with the means at his disposal. As the almost universal ambition now-a-days is the production of large blooms the plants get run up to a height of 6 ft. to 8 ft. or more and are then, as all must allow, difficult subjects to deal with by those whose accommodation is limited in extent, for when placed on the floor the flowers are much above the line of sight, and can only be seen by the use of a pair of steps, or bending the plants down to get a look at them, and were they must of necessity be placed on an elevated stage the disadvantages of growing them so tall are more apparent. Being myself placed somewhat at a disadvantage in this respect, I have been led to adopt a plan which meets with very general approval, and is much admired by some. Thinking it possesses the merit of novelty, and may be of advantage to some of your readers in future seasons, I will give a description of it. It is simply training them, as a whole, on one trellis. We have a greenhouse stage against the back wall some 30 ft. in length, on which we erected a temporary trellis, made of the simplest material, some old iron hoops with the stakes the plants were tied to, and tying material sufficed to meet our requirements. We began at one end with the

trellis, and having got 3 ft. fixed, began to stage the plants, laying them down on the trellis and training them, taking care to intermix the colours; we consider now that the early varieties, such as Elaine, should have been excluded, and that they might all have been placed somewhat closer together. It would be well for anyone attempting this plan to get the plants in and trained to their places a little before growth is finished, because we find that some of the kinds don't show up quite so well as could be wished, having finished their growth when staged they have not come up to the light. This applies only to a small portion of them, however, nearly all stand up well above the foliage, and the general effect produced is very pleasing, the flowers stand out well by themselves, and on a trellis well covered with good foliage. I do not recommend the plan to those who have ample conservatory accommodation, were the plants can be arranged and viewed from a distance, but were space is limited and there is no way of really showing the flowers to advantage, the adoption of this or some similar expedient I most cordially recommend.—*W. B. G.*

The Keiffer Pear.—We have much pleasure in sending you a sample fruit of the Keiffer Pear, now being introduced by us into this country. Of the size, flavour, &c., you can now judge, though hardly yet fully ripe; of its enormous bearing properties, we have personal knowledge. For profitable purposes we consider this variety unique.—*Viccars Collyer & Co., Central Nurseries, Glenfield, near Leicester.* [The Keiffer Pear is well spoken of in American periodicals, and the specimen received shows it to be of good size, resembling the Brown Beurré in shape, and of a colour that will take in the market. Being unripe the texture was somewhat gritty, but it has a peculiar musky aroma that is very agreeable.—Ed.]

Adiantum Williamsii.—In the garden of H. J. Simonds, Esq., Caversham, Reading, there is a specimen of this grand fern which measures 6 ft. through. It is a first rate exhibition fern, as it stands well and is very attractive, the golden appearance of the young fronds beng very beautiful. It formed one of a group shown by Mr. Simonds' gardener, Mr. Parham, at the Reading Show last week, which secured the leading honours in its class.—*A. O.*

French Beans.—I have been gathering Scarlet Runners of good average quality up to the 13th inst., the last fortnight, however, rather sparingly, in fact, only two or three dishes per week. We obtained them from three lines, each about 80 ft. long, and until the last of October we had an abundance and to spare. I think the cold strong winds we had, did them more damage than the September frost, but not so my neighbours, who, as far as I know, all lost theirs with frost at that time. I attribute my escape from the latter through the gardens here looking to the north-west, instead of the preferred aspect, and which has the advantage of laying from the sun instead of towards it on frosty mornings.—*E. Dumper, Limerick.*

The Gardeners' Calendar.

THE PLANT HOUSES.

Propagating Chrysanthemums.—Many of the Chrysanthemums will now be going out of flower, and most of the sorts will be throwing up strong shoots from the base, which will make good cuttings. If these are taken off and rooted in a cold frame, it will save any further trouble in keeping the old plants. Although early in March would be soon enough for propagating, provided good cuttings could then be obtained, yet, it is better to secure the first shoots that are produced after the plants have done flowering, and these should be taken before they get too long. We like to avoid all artificial heat, as cuttings struck in a cold frame will start away quite early enough, and the slightest warmth is sure to induce weak and succulent growth. Plants that have not thrown up young shoots, sufficient for stock, should be removed to a cold pit after they have done flowering, and have been cut down.

Cinerarias.—The most desirable period to have these in flower, is in time to succeed the Chrysanthemums, and unless they are now pretty forward they will require a little extra encouragement to bring them on. If they can be brought up close to the glass, they will bear a good brisk temperature, but careful attention must be paid to the watering, they must on no account be allowed to become too dry, and should have liquid manure say twice a week; they are also benefited by the frequent use of the syringe in favourable weather.

Marguerites.—To flower these well through the dull months, they must have a light airy position, and only sufficient warmth to keep out the frost. To avoid the plants starting too much into growth, they should be watered very sparingly, and no manure should be used.

THE KITCHEN GARDEN.

Peas, Beans, &c.—This will be a good time to sow Peas and Beans for the earliest crop; they ought to be sown in drills 3 ins. deep, and 4 ft. asunder, in a warm situation, but where there is accommodation for raising them in heat about the end of December, the latter is certainly preferable. The following varieties of early Peas and Beans for this later sowing may be depended upon. Beans: Seville Longpod. Peas: Early Sunrise, Sutton's Ringleader, and William I., all excellent early varieties. Breadths of Cauliflowers which are yielding a plentiful supply, should be looked over at short intervals, and have all the full sized heads cut and spread out on a shelf in a cool dry shed, and those which are not yet fully grown, should have a couple of leaves bent over them as a protection from frost.

Globe Artichokes should have any old stems and bad leaves that are still adhering to the plants cut away. Then give a good surface-dressing of short dung (about 3 ins. thick, which can be dug into the ground next spring), and upon this put a good mulching of long litter, the latter to be wrapped closely round the crowns of the individual plants, as a protection from frost. Manure should be wheeled on to vacant pieces of ground when the weather is dry and the ground firm, and when in this condition let digging or trenching be proceeded with.

Improving Soil.—If the condition of the soil is not favourable to the growth of some kinds of vegetables, something should be done with a view to improving it. If it is too stiff much may be done, if the garden is properly drained by the liberal use of leaf mould and chalk, which should be well incorporated with it, and the land in that case ridged up roughly during the winter, so as to fully expose it to the influence of frost. On the other hand, if the soil is too light recourse should be had to the use of clay, roadside parings, and such-like materials, which will produce a mechanical change in its quality and thereby render it more suitable to the growth of most crops. See that a good supply of Fern or other protecting material is at hand, with which to protect rows of Celery, &c., from frost when necessary.

Forcing Department.—Asparagus just coming through the soil should have sufficient air admitted, to prevent the shoots from making a weakly growth. Roots of Mint and Tarragon should now be put into heat, and as the French Beans attain to their proper size, pick them and place them in a cool dry room with their ends in water, until sufficient for a dish have been gathered. Make a sowing of Tomatos in 3-inch pots for early work, *i.e.* far use in April and May next, putting two or three seeds in each pot, to be thinned out to one plant afterwards; place them on a shelf near the glass in a forcing house, to prevent them from making a weakly growth. Attend also to the thinning and arranging of the shoots of established plants. Look over Tomatos which have been gathered and placed on the staging in vineries to ripen, and pick out those that show signs of decay. Sow Mustard and Cress in boxes at short intervals, so as to keep up a constant supply.—*H. W. Ward, Longford Castle.*

ORCHID NOTES AND GLEANINGS.

Orchid Growing at the Queen's Road Nursery, Cheltenham.—This nursery is situated close to the Midland Railway Station, but the majority of people passing to and fro can have no idea of the wealth it contains, not only of Orchids, but of stove and greenhouse plants. Horticulturists, however, know how famous Mr. James Cypher is for his exhibition plants, and latterly he has gone in more largely than ever for Orchids, having just erected two well built and well arranged houses, one for Cattleyas and Lælias, the other for cool Orchids. The first house we entered on November 5th, was a span-roofed East Indian house filled with healthy well-grown plants. The first to strike one, was a splendid plant of Ærides Rohanianum, bearing a spike of forty-five beautifully spotted flowers; further on was to be seen a still more striking thing in Ærides Lawrenciæ, a strong plant with eleven pairs of leaves, bearing a spike of twenty-four flowers—the most lovely Ærides imaginable, and which no one could fail to admire. Mr. Cypher has been very fortunate in getting this true to name, which is not the case with some buyers of it. Another plant flowered here in the summer, but this is considered a better variety even than that. Another rare Ærides, said to be very beautiful, is A. Leonis.

Vanda Sanderiana is represented by several good specimens, two of which were showing flower, one with ten buds upon a spike, and the other with six. V. cœrulescens, difficult to grow or keep in health long together, was to be seen thriving in baskets and on cylinders suspended from the roof. Of V. suavis there are some plants well feathered to the pot, including Rollisson's variety, with fourteen pairs of leaves. There were in flower in this house in addition to the Ærides above named, Phalænopsis violacea, Dendrobium superbiens, with twelve flowers; D. formosum, very strong; D, bigibbum, with ten spikes on a plant; D. Dearii, Cypripedium biflorum, C. Lawrencianum, C. Spicerianum, several very strong plants, one bearing twelve flowers; and C. Parishii, with a spike of six flowers. Of Cypripediums not in flower, I noticed good plants of C. grande, C. caudatum roseum, C. lævigatum, C. hursutissimum, now scarce, and C. Lowii. There were also large plants, semi-established, of Lælia anceps alba, and Cattleya superba, growing on a block, had thirteen bulbs with leaves. Odontoglossum Roezli was unusually strong and healthy. I was surprised when I saw several healthy plants of Oncidium Lanceanum, one with a dozen leaves and not a spot or blemish upon them.

We entered another house used for retarding and resting Orchids; this contained a recent importation of Lælia purpurata, the picture of health, with leaves as green as Leeks, and such bulbs!; also Dendrobium bigibbum, with bulbs 2 ft. long, plants just ready for potting. Amongst established plants in this house, were fine specimens of Anguloa eburnea, A. Ruckerii, and A. Clowesii, a large specimen; a fine batch of Dendrobium thyrsiflorum standing on a shelf, one having at least a hundred bulbs in its pot. There were also dozens of Barkerias ranging close up to the back wall, some showing flower, and some new varieties expected amongst them; Oncidum Marshallianum, good plants; O. crispum, and O. varicosum had made up wonderful bulbs, grown quite cool. A few other good things worthy of note, were Odontoglossum Madrense, Chysis Limminghii, Mormodes luxatum eburneum, with twelve breaks, and a large and vigorous specimen of Cypripedium villosum in a 21-inch pan; this plant had been grown in a cold pit or frame all through the summer.

The Dendrobium house is a rather lofty span-roofed structure, and I venture to say, that with its dirt floor, it has produced some of the best grown Dendrobes in this country. I have not forgotten when I first saw it eight years ago filled with such marvellous plants of D. Wardianum, D. crassinode, D. Devonianum, and others. These sorts are now represented by fewer plants of each, as all Mr. Cypher's well-grown specimens meet with a ready sale; and while alluding to this subject, I must say, that it is astonishing to see and compare the native growths with the home-made ones. D. crystallinum growing in 3-inch pans, the original bulbs of which were 11 ins. long, have produced some 2 ft. 6 ins. in length; D. luteolum, old bulbs 1 ft., new ones 2 ft.; a new growth of D. fimbriatum oculatum measured 5 ft. 6 in.; D. dixanthum growing on a block, had twelve young growths not yet finished, which will make a grand specimen next year; D. leucolophotum, somewhat similar in appearance to a white D. bigibbum, was showing flower and thriving well; D. Jamesianum was also to be seen in quantity. On the stage were Thunia Marshallii with growths 4 ft. to 6 ft. high, and Cymbidium giganteum, a large plant showing flower.

Another house we entered, which is used for propagating, contained some of the rarer Dendrobiums suspended from the roof and remarkably well grown. D. Fytchianum has bulbs 18 ins. long; and D. taurinum an Orchid not often seen at all, much less with new

growths 15 ins. long. Of D. Ainsworthii a capital stock has been worked up, and Mr. John Cypher, who has entire charge of the Orchids, pointed out to me with pride bulbs 10 ins. long, grown from small scraps less than 1 in. in length. Of D. Goldianum there were a few plants grown from similar scraps; this is a very scarce and very beautiful winter-flowering Dendrobe. A fine batch of D. Dearii, standing over a water-tank, were growing freely. D. Bensoniæ, D. Lowii, and D. rhodostoma (one of Mr. Seden's hybrids) complete the list of specialities in this house.

We next inspected the new Cattleya-house, a fine structure, 48 ft. long, 23 ft. wide, and 15 ft. 6 ins. high, and which will admit the greatest amount of light possible. The first plant to attract the eye on opening the door was a grand specimen of Cattleya Mossiæ, with thirty-three flower-sheaths, surrounded by numerous smaller plants of the same kind; also C. Mendelii in quantity, one plant with eleven sheaths; C. Trianiæ, C. labiata, C. Dowiana, C. Eldorado (ten bulbs with leaves), C. Percivaliana, C. speciosissima (several fine varieties recently flowered), C. Gaskelliana, C. guttata, C. Leopoldi C. amethystoglossa; a fine stock of C. intermedia, consisting of some very large plants, amongst them one with fifty fine growths; C. Skinnerii (several healthy specimens), and C. Skinnerii oculata had eleven sheaths upon it. Lælia purpurata is a great favourite with Mr. Cypher; he buys it largely at sales and grows it well, and has not yet kept a good established plant long on hand, although he finds specimens make capital exhibition plants. I noticed one very fine plant on the centre stage with sixteen sheaths; another semi-established one with sixteen growths, and another very dwarf form with seven sheaths. Among a batch of Oncidium Jonesianum on blocks hanging close up to the glass four were showing flower; and on a shelf overthe doorway was a fine lot of Odontoglossum citrosmum. There was also a good stock of Cœlogyne cristata, the Chatsworth variety included. Next to come under notice were a wonderful lot of Dendrobiums, hanging up close to the glass, that had been brought into this house from their growing quarters to ripen up their bulbs. D. tortile roseum was to be seen with growths as large as an ordinary D. chrysotoxum; D. suavissimum, true, very fine; D. Pierardii, with very stout bulbs; D. Boxalli, at present scarce, but to be seen here with growths 22 ins. long; D. albo-sanguineum, one plant of this had three stout growths, 10 ins. long; D. eburneum, 18 ins. long; D. Parishii, one with a bulb 2½ ins. round it; D. crepidatum, by far the stoutest I had ever seen; D primulinum with bulbs 22 ins. long. The good old Dendrobium nobile is also well cared for here, as are its varieties Wallichii, pendulum, and pulchellum.

There were in flower in this well-stocked house Cattleya Sanderiana, C. Aclandiæ, C. guttata, C. Maxima, var. Backhousiana, Oncidium varicosum, O. crispum, O. tigrinum, Odontoglossum leopardinum splendens, Vanda cœrulea, Pleione maculata, and Trichosma suavis; and coming into flower were several plants of Lælia anceps, one a very strong plant with seven spikes.

The next house we entered contained the cool Orchids, a few only of which could be noted as the shades of evening were upon us. Odontoglossum Cervantesii, very strong, had five spikes upon one plant and two from one bulb; O. Edwardi was showing flower; a nice batch of Masdevallias of every description, including the rare M. Crossii; a wonderful lot of tovarensis, one plant amongst the batch, in a 6 in. pan, was carrying a hundred flower-buds; Maxillaria grandiflora was showing eight flowers; also a healthy vigorous lot of Lycaste Skinnerii; a nice plant of L. Skinnerii alba stood near them; Nanodes Maduæ, only two years imported, had flowered this season and was growing well.

In concluding these notes, I may say that I only know of one kind of Orchid Mr. Cypher has failed in growing satisfactorily, and that is the Phalænopsis. I should not be surprised, however, to see in time a house full of them in a happy thriving condition, as the motto practised at this nursery is "Nil Desperandum."—*S.*

Cypripedium ingigne Wallacei—A single plant of this fine new variety, which received a First Class Certificate from the Floral Committee on the 10th inst., was sold at Stevens's Rooms on Thursday. It is remarkable for the richness and size of its spots. The lateral and lower sepals are richly coloured, as also the pouch, and the spots on the dorsal sepal are larger, nearly black, and arranged symmetrically as in var. Chantinii. The colour in the white upper portion is dark mauve.

CHRYSANTHEMUM SHOWS.

Huddersfield.—*November 13th* and *14th.*—This society held its second annual exhibition on the above dates at the Town Hall, and it was in every respect a success. A good list of prizes were included in the schedule, and this no doubt was a great inducement to some growers from a distance. The competition in most cases, however, was very keen, the result being a display of blooms of Chrysanthemums such as had never been seen before in Huddersfield. Although the society has been so recently formed, there is every evidence that its inauguration has had a marked effect on the growers in the immediate neighbourhood, and the opportunity now afforded of displaying the result of one's skill and labour is embraced by many who but a short time ago were content with but very meagre displays so long as colour and flowers, though of but very inferior order, was the result. The most noticeable efforts at display were seen in three groups arranged in half-circles in a space containing 54 square feet. These were placed immediately in front of the orchestra, and gave universal satisfaction. The 1st prize group, to which a splendid timepiece was awarded, was staged by Mr. J. Hatch, gardener to J. F. Briggs, Esq. This was composed of about fifty plants of leading sorts, from 3 ft. to 5 ft. high; the flowers were of large size, good colour, and substance, and the whole were very admirably staged. The 2nd and 3rd prizes, though good, were far below Mr. Hatch's lot in size of bloom and quality throughout; Mr. F. Carter, gardener to A. Hurst, Esq., was 2nd; Mr. H. Walker, gardener to Mrs. G. Crowther, being 3rd.

In the open class for forty-eight blooms (Japanese and incurved), Mr. W. R. Cox, gardener to W. H. Watts, Esq., Wavertree, Liverpool, was the only exhibitor. Grand blooms of both sections were staged, such as the district of Liverpool is famous for. In the incurved, Nil Desperandum, Lord Alcester, John Salter, Prince of Wales, Lady Hardinge, Mr. Bunn, Jardin des Plantes, and Queen of England were very noticeable; while of Japanese, Comte de Germiny, Mons. Jacotot, Baronne de Prailley, Daimio, Curiosity, Soleil Levant (a sport from Red Gauntlet), and Boule d'Or were equally fine. This last-named Japanese, and Mr. Bunn, incurved, in this collection were each considered the premier blooms of their respective classes in the exhibition. For twenty-four varieties (Japanese and incurved), Mr. Cox was again 1st, specially good blooms being Sir S. Carey, White Venus, John Salter, Beverley, with Chang, Criterion, F. A Davis, Madame Lecroix, Boule d'Or, Elaine, and Peter the Great. Mr. F. Stokes, gardener to Mrs. C. Crosland, was 2nd with a very meritorious stand. With twenty-four varieties, restricted to local growers, Mr. W. Daniels, gardener to Mrs. Hagne Cook, was well to the front, showing grand blooms of leading sorts, Golden Empress, Alfred Salter, Lord Wolseley, Nil Desperandum, and Empress of India, with Japanese, Mons. Lemoine, Triomphe du Nord, J. Delaux, Belle Pauline, Elaine, and Dr. Audiguier. Mr. Chambers, gardener to J. Vickerman, was a good 2nd; Mr. H. Walter coming in 3rd. With twelve blooms Mr. Daniels was again 1st; equal 2nds falling to Mr. J. Nettleton and Mr. W. Chambers; the 3rd to Mr. J. Smith; a fine lot of blooms were present, and the competition very sharp. In the class for twelve incurved blooms two stands were disqualified, the judges considering that the blooms under the names of White Globe and Empress of India were the same thing; a very unfortunate mishap for the exhibitors, as they would certainly have been awarded good positions. With six incurved Mr. Daniels was successful; Mr. A. E. Stott coming 2nd, and Mr. W. Green 3rd. Mr. Daniels was 1st with six Japanese, showing Elaine, Margot, Mrs. C. Audiguier, Belle Pauline, and Val d'Andore; Mr. A. E. Stott 2nd; Mr. T. Senior, 3rd. With six reflexed Mr. Daniels was again 1st; Mr. Green 2nd; and Mr. J. Nettleton 3rd. While with twelve Pompones the 1st was again taken by Mr. Daniels. For the specimen plants (incurved), Mr. Hatch was 1st with good plants of Lord Alcester, Golden Empress, and Empress of India; Mr. Chambers 2nd; and Mr. Green 3rd. With three low-trained bushes, a not very satisfactory method with large-growing sorts, Mr. Chambers was 1st with three plants (Japanese), showing James Salter, Lady Selbourne, and Margot in good order; Mr. Green was 2nd. The last-named exhibitor was 1st with Pompones; Mr. Chambers 2nd; and Mr. J. Smith, gardener to J. Marsden, Esq., 3rd. With a single incurved specimen, Mr. Hatch was 1st with Empress of India. Mr. Chambers was 1st, with single Japanese, also with reflexed and Pompone specimens. That excellent reflexed form, Chevalier Domage, was shown by several exhibitors, was well bloomed, and of very good colour.

Capital plants of Bouvardias, 2 ft. high, covered with bloom, were shown by Mr. W. Chambers, who was 1st, the 2nd falling to Mr. W. Bubb, gardener to J. W. Taylor, Esq. Poinsettias were shown by the same growers, and Mr. Chambers again came in 1st. Chinese Primulas were well represented, the 1st prize being taken by Mr. Denham; 2nd, Mr. T. Carter; and 3rd, Mr. H. Walker. A good lot of Roman Hyacinths in 6-inch pots were staged, and prizes were awarded; 1st, Mr. Chambers, 2nd, Mr. Bubb; and 3rd, Mr. Daniels. Epiphyllums were also shown by Mr. Daniels, Mr. Walker, and Mr. Smith, who were 1st, 2nd, and 3rd respectively. Mr. J. Bubb, showed three pots of Calanthes, and was placed 1st. A fine lot of table plants were shown, and added much to the display on the tables; Mr. Daniels was 1st; Mr. Chambers 2nd; and Mr. Stokes 3rd. Grapes were not numerous, nor of very extra quality; the 1st prize for black fell to Mr. Thos. Stevenson, gardener to W. E. Hurst, Esq., with Lady Downès; the 2nd to Mr. Leversedge with good bunches of Black Alicante; 3rd to Mr. Walker with Black Hamburgh. Mr. Green was 1st with Muscats; Mr. Tindle 2nd; and Mr. J. Nettleton 3rd. Capital stands of cut miscellaneous blooms were staged by Mr. Chambers, who was 1st; Mr. Stevenson, 2nd; and Mr. W. Tindle, 3rd. In these collections good Lapagerias, Amaryllis, greenhouse Rhododendrons, Eucharis, Lycastes, Odontoglossums, Dendrobiums, &c. were observed; the whole making very nice displays. With three Ferns, Mr. F. Stokes was 1st; Mr. Daniels 2nd; Mr. Walker, 3rd. The committee and hon. secretary, Mr. J. Bell, worked well together, and have much cause to be gratified with their present exhibition.—*W. S.*

Reading.—*Nov. 13th.*—The annual Chrysanthemum show of this society was held in the Town Hall, and was in every way a success, so numerous being the entries that both the new hall and the old one where required for the purpose, and the arrangements were first rate. The various competitors deserve great credit for the admirable products they put upon the tables, and it is a pleasure to know the society is now established upon a firm basis. Two years ago the committee where in difficulties, but thanks to the energy of the indefatigable Secretary, Mr. R. D. Catchpool, the society has now a good balance on the right side. The attendance was very great; something over £120 being taken, £90 of which we hear was taken in sixpences. The groups of plants arranged for effect were very good, the 1st prize falling to Mr. Baskett, gardener to W. J. Palmer, Esq., whose plants were well-grown and nicely arranged, and included some first-rate flowers; 2nd, Mr. Parham, gardener to H. J. Simonds, Esq., who likewise had a good group of well-grown plants, especially conspicuous being his standards; equal 3rd, Mr. Hatch and Mr. Booker; and equal 4th, Mr. Mayne and Mr. Oliver: there were seven entries. Plants in pots were fairly well shown, and with the exception of a few rather too "sticky" specimens, the Japanese were the favourites. Cut flowers were good, and the most popular sorts were exhibited, but nothing new in the way of varieties. The Japanese were grand, there being eighteen or nineteen entries of twelve blooms, and the judges had some difficulty in making their awards, so close were the merits of the respective stands. The incurved varieties were also quite up to mark. The reflexed varieties were also good, indeed, we have seen no better this season. Pompons and Anemone flower roots were likewise well shown, as also were table plants. Primulas were fair, but Cyclamen, Bouvardias, Poinsettias were poor, and call for no comment. Fruit was good, the Grapes well coloured and finely finished, especially those shown by Mr. Turtin and Mr. Perkins, who took the leading prizes; Apples and Pears were first-rate, some fine clean, well-coloured good fruits was shown in great quantities also, the lion share of the prizes falling to Mr. Turtin, gardener to the President, J. Hargreaves, Esq., who likewise contributed several plants which were distributed about the halls not for competition; there were also some well-grown Bouvardias and Carnations, well flowered, from Mr. Wildsmith, gardener to Lord Eversley. Mr. Phippin, Nurseryman, Reading, contributed a group

of decorative plants, a first-rate bouquet, wreath, and cross nicely done; he was also awarded the 1st prize for a bouquet of Chrysanthemums. Mr. Cooper, of Calcot, sent a collection of Nuts, not for competition. It is a pity the show was not open a day longer, as from the crowded state of it during the evening we should think the society would reap a good harvest. The Committee and Secretary deserve great praise for the admirable manner in which the exhibition was conducted.—*A. O.*

Shrewsbury.—*Nov. 12th.*—The third annual exhibition of fruit and Chrysanthemums in connection with the Shropshire Gardeners' and Amateurs' Rose, Fruit, and Chrysanthemum Society was held in the Corn Exchange. On former occasions the show has been held in the Music-hall, but this year it was not available. The Chrysanthemum blooms this year were magnificent, and were generally admired, being extraordinarily large and fine. For the best twenty-four cut blooms, a handsome silver cup was awarded to E. Wright, Esq., of Halston (Mr. West, gardener) who had far and away the best collection in the show. This is the first occasion on which a cup has been given, and for this thanks are due to Mr. J. Smith, of St. John's Hill, the treasurer, by whom the subscriptions were collected. Primulas, too, were very good. The fruit classes were well filled, and the exhibits were very fine. Grapes especially deserve notice. Messrs. Jones & Son exhibited a splendid collection of Chrysanthemums and Primulas, not for competition, and Messrs. F. & A. Dickson, of Chester, showed some very fine Apples and Pears. There was a very good attendance, and during the afternoon Mr. Sutton's band played a selection of music. Mr. Milner, gardener to the Rev. J. D. Corbet, Sundorne Castle, had the best six specimen plants; and with twenty-four blooms, Mr. Lambert, gardener to Col. Wingfield, Onslow, was 2nd to Mr. West.

A Chrysanthemum Show in the Grand Stand at Ascot.—This took place on the 11th inst. in one of the spacious dining rooms in the rear of the Grand Stand, and a very pretty display indeed was made. For instance, the lobby, which gives admission to the Grand Stand from the railway station, was made very gay with several groups of Chrysanthemums arranged for effect, and very good they were. The best came from Mr. Lane, gardener to Miss T. D. Smith, King's Ride, Ascot, and included grandly bloomed Japanese and Incurved varieties; Mr. Savage, gardener to Baron Huddleston, Ascot, came 2nd with a very good group; while Mr. Read, gardener to A. Magniac, Esq., Sunningdale, was 3rd. Opposite to these, Messrs. John Standish & Co,, Royal Nursery, Ascot, set up a very fine bank of Chrysanthemums edged with Bouvardias, Maidenhair Fern, &c. This was highly commended, and most deservedly so. Here too, were the collections of six dishes of vegetables competing for the special prizes given by Messrs. Sutton & Sons, of Reading, and very good they were; the best coming from Mr. Hughes, gardener to H. de Paravicini, Esq., Ascot, who had Magnum Bonum Potatos, Autumn Giant Cauliflowers, James's Carrot, Brussels Sprouts, Onions, and Tomatos. I am unable to give the names of the winners of the 2nd and 3rd prizes.

In a smaller hall leading to the larger one—in which the plants and cut flowers were staged—were the amateurs' plants, cut flowers, and vegetables, and those staged by cottagers also. You must be content with my saying they were on the whole creditable, for time did not admit of my taking notes of the winners' names. There were some very fine cut blooms at Ascot, Mr Page, gardener to A. Southard, Esq., Bracknell, Berks, was 1st, with excellent examples of Empress of India, John Salter, Princess of Wales, Lord Alcester, Jeanne d'Arc, Mr. Brunlees, Lord Derby, Golden Empress, Lord Wolseley, Lady Hardinge, Mr. Bunn, Cherub, Mrs. Geo. Rundle, Nil Desperandum, Hero of Stoke Newington, and Barbara; 2nd, Mr. Saunders, gardener to the Hon. A. Ponsonby, Ascot. Mr. Lane had the best twelve, having excellent flowers of Prince Alfred, Empress of India, Golden Empress, Lord Wolseley, Bronze Jardin des Plantes, Emily Dale, Nil Desperandum, Jeanne d'Arc, Mrs. Shipman, and Lord Alcester. The name of the exhibitor taking the 2nd prize did not transpire. I think it was Mr. Page that had the best siz varieties, they were Golden Empress of India, Queen of England, Princess of Wales, Miss Morgan, Empress of India, and John Salter; 2nd, Mr. Nicol, gardener to J. Delane, Esq., Ascot.

Mr. Savage, gardener to Baron Huddleston, had the best six reflexed flowers, showing capital blooms of Golden Hermine, King of Crimsons, Chevalier Domage, Dr. Sharpe, Cloth of Gold, and Mr. Forsyth. There was no name appended to the stand which took the 2nd prize. Mr. Lane had the best six blooms of one sort, staging splendid examples of Lord Alcester, Empress of India being 2nd. One of the flowers of Lord Alcester was selected as the premier flower in the show. The Japanese varieties were numerous and very fine, and though I am unable, owing to the darkness of the room, to give names, I may state they were mainly those found in the winning stands at the Royal Aquarium. Mr. Saunders had the best twelve, Mr. Lane coming in 2nd.

Cut specimens of Pompones were also nicely shown and I regret I am unable to give particulars. Specimen plants were not so good relatively as the cut blooms, still it was easy to perceive that good examples can be grown at Ascot, and that they are bound to improve in course of time. But I could not get any particulars as to the exhibitor's names.

Fruit made a good feature. Mr. Wells, gardener to R. Ravenhill, Esq., Ascot, had the best two bunches of black Grapes, staging Cooper's Black, finely finished; Mr. Sinclair, gardener to Colonel Campbell, Windsor Park, being 2nd with Black Hamburgh. The latter also had the 1st prize for two bunches of Muscat of Alexandria Grapes, nicely finished. Mr. Wells had the best four dishes of Pears, staging fine examples of Catillac, Beurré Diel, Oswego Beurré and Beurré Clairgeau. Mr. Sinclair came 2nd with Catillac, Van Mons. Leon le Clerc, Beurré Clairgeau, and Doyenné du Comice. Mr. H. Godfrey, gardener to H. C. Rothery, Esq., Ribsdon, Windlesham, was 1st with four dishes of capital dessert Apples, having Cox's Pomona, Peasgood's Nonsuch, Cox's Orange Pippin and Ribston Pippin. Mr. Saunders was 2nd with Wormsley Pippin, Blenheim Orange, King of the Pippins, and Cox's Orange Pippin.

I came away impressed with the idea that racegrounds can be turned to very much worse purposes than flower shows. I was glad to see so many people coming to the Show, and I heartily wish Mr. C. Hewson, the courteous secretary, every success.—*R. D.*

Croydon.—*Nov. 11th and 12th.*—A prettily diversified show was that held in the Public Hall, Croydon, by the flourishing horticultural society of the district. The able practical secretary, Mr. A. C. Roffey, well conducts the affairs of the society, and has contributed in a great measure to the success of both the summer and autumn shows. Chrysanthemums are well grown in the neighbourhood of Croydon, and to encourage other competitors to enter, open classes are also provided—a most important matter wherever it is desired to maintain the character of an exhibition. Mr. C. Gibson, Morden Park Gardens, was again a foremost exhibitor, winning the 1st place with twenty-four incurved blooms, clean even samples of the leading varieties, such as he has repeatedly shown this season, the Queen and Empress types being superbly represented. Mr. Alderman, gardener to G. Hatfield, Esq., Morden, followed with much smaller but not bad blooms. In the local class for the same number of incurved blooms, Mr. Sadler, gardener to C. Lambert, Esq., Streatham, was the leading competitor with similar specimens to those with which he has already been successful at other shows, and Mr. Rodbourn was a good 2nd. In other incurved variety classes, the prizes were secured by Messrs. J. Cook (Duppas Hill), R. Ridge (Addiscombe Farm), A. Alderman, J. Staines (Park Hill), C. Welstead, and J. Codge. With Japanese varieties, Mr. C. Gibson was also the premier exhibitor, showing twenty-four handsome blooms: Messrs. Alderman, Rodbourn, Sadler, and Staines. The Anemone varieties made a pleasing display, Messrs. Rodbourn and Cook taking the chief prizes, the last-named being also the principal exhibitor of specimen plants. Fruits, particularly Apples, were good, the competition in the latter class being very keen, Messrs. Alderman, W. Jones, and G. W. Cummins winning the best prizes. Of Vegetables the leading collections came from Messrs. Perrett, J. Cooper, and J. Redbourn.

Finchley.—*Nov. 13th and 14th.*—The local horticultural society in the district named, holds a good summer show at which plants and other exhibits are well represented; the autumn show is not, however, so satisfactory, and that held last week would have admitted of much improvement. The prizes are small, and this no doubt reduces the competition and interest; while the present season has affected the collections of Chrysanthemums in the north of London much more seriously than it has in the south. The committee, however, would do well to provide an open class, in which substantial prizes were offered, and no doubt it could be considerably improved. Chrysanthemums took quite a secondary place, if the collections of bloom from Mr. J. J. Lowry, Belmont Garden, Mill Hill, and the dwarf plants from Mr. Stapleton, Finchley, be excepted. The former we had previously seen at the Aquarium show, and noticed them in our report; but the latter where quite different from anything of the kind usually seen at exhibitions. They were in 5-in. pots, and bore about forty good blooms each, yellow, white, and purple, of the Cedo Nulli form, forming lovely little bushes of flowers of inestimable value for decorative purposes. Grapes were extremely fine from the local market-growers, Gros Colman and Alicante being grandly shown by Mr. P. E. Kay, Mr. T. Stapleton, and Mr. G. B. Shaults; the Gros Colmar were of wonderful size in berry and bunch, and admirably coloured. Apples were also good, and so close in merit that the judges found it difficult to make a distinction between them. Mr. C. Dyke, gardener to H. C. Stephen, Esq., Avenue House, Finchley, J. J. Lowry, H. Jarvis, and J. Berse won the prizes. The vegetable collections securing for Messrs. Agate and Mobbs the two prizes in that class. Miscellaneous groups from Mr. B. S. Williams, Messrs. Cutbush & Son, and Mr. Mobbs, with cut blooms from Messrs. Dixon & Co., added considerably both to the extent and attractions of a show which we hope to see much better supported another year.

Devizes.—*Nov. 17th.*—This cannot be called a Chrysanthemum society, because it is simply an exhibition held under the auspices of the Benevolent Society of Devizes, together with an annual bazaar of useful and fancy articles in aid of its funds; and it is always the means of bringing together a large number of people and greatly assisting so good an object. The show took place, as usual, in the spacious Corn Exchange, and the exhibits were admirably arranged by Mr. Thomas King, of Devizes Castle Gardens, who also sent some fine Palms and Tree Ferns to add to the general effect. The specimen plants were arranged along the sides of the hall, and the cut flowers on a table in the centre.

There was an excellent competition in the class for six specimens of large-flowered Chrysanthemums, between Mr. H. Clack, gardener to C. E. Colston, Esq., Roundway Park, Devizes, and Mr. W. Hale, gardener to C. N. May, Esq., The Elms, Devizes. The former was placed first with admirably grown and flowered specimens of Prince Alfred, selected as the premier plant in the show; grandly grown and flowered, Mr. Cunningham, Mr. Dixon, Golden Christine and Venus; 2nd, Mr. Hall, with very good plants of Prince of Wales, Prince Alfred, St. Patrick, Empress of India, Golden Empress, and Fingal. In the class for four specimens, Mr. Geo. Tucker, gardener to Major Clark, Wyke House, Trowbridge, was 1st with Christine, Mrs. Forsyth, Mrs. Dixon, and Mrs. G. Rundle.

In the class for six specimens of Japanese Chrysanthemums, Messrs. Clark and Hale were placed equal 1st, there being little to choose between them; the plants large, well-grown, and flowered. Mr. Clark had Madame Bertha Rendatler, Blanchfleur, Hero of Magdala, Soleil Levant, Fair Maid of Guernsey, and Salteri, this finely bloomed. Mr. Hale had Peter the Great, Madame B. Reudatler, Hiver Fleur, Soleil Levant, Elaine, and Bouquet Fait. In the class for four varieties, the 1st prize was withheld; Mr. Tucker was placed 2nd.

Specimens of Pompon Chrysanthemums were very nicely done indeed, and in the class for six plants, Mr. Clark had a little advantage over Mr. Hale, being placed 1st with Dick Turpin, Aurore Boreale, Mdlle. Marthe, Bob, Calliope, and Golden Circle. 2nd, Mr. Hale, with Aurore Boreale, Mdlle. Marthe and its Golden variety, Sœur Melaine, St. Michael, and Bob, the weakness of which prevented an equal 1st prize being awarded. Mr. Tucker was 1st with four plants, staging Amarantina, Rosinante, Mdlle. Marthe and its Golden variety. There was also a class for three specimens, one of Mrs. G. Rundle, one of George Glenny, and one of Mrs. Disero. Here Mr. Clark was again 1st with three very fine specimens, carrying about fifty flowers each. Mr. Hale came next with smaller plants and fewer flowers, but those very fine.

Cut Blooms.—In the class for twelve incurved Chrysanthemums, in four distinct varieties, Mr. Clark was 1st with Barbara (one of the flowers of which was selected as the premier bloom), Princess of Wales, Mrs. Heale, and Lord Wolseley; 2nd, Mr. Hall, with White Globe, Venus, Mrs. Cunningham, and Mr. Corboy; 3rd, Dr. Hitchcock, Fiddington House, Lavington (Mr. S. O. Offer, gardener). In the class for twelve distinct varieties, Mr. Hall was 1st with Empress of India, Mr. Corboy, Mr. Bunn, Prince of Wales, Refulgence, Golden Empress, Lady Hardinge, Mr. Shipman, Mrs. G. Rundle, Venus, Barbara, and Mr. Nash; 2nd, Mr. Clark, whose best flowers were Beauty, Refulgence, Mr. Bunn, Venus, White Empress, and Bronze Jardin des Plantes; 3rd, Dr. Hitchcock. The best twelve blooms, shown with 4 ins. of their stems and foliage, also came from Mr. Hall, who had Empress of India, Prince of Wales, Golden Empress, Lady Hardinge, Nil Desperandum, Mr. Bunn, Mr. Shipman, Mr. Corboy, Mr. Dixon, Refulgence, Venus, and Mr. Nash; 2nd, Mr. Clark, whose best flowers were Mr. Bunn, Beauty,

Prince Alfred, Jardin des Plantes, White Empress, White Globe, and Mr. Heale; 3rd, Dr. Hitchcock.

The best twelve Japanese varieties came from Mr. Clark, a very good lot, consisting of Thunberg, Hero of Magdala, Mon. Desbrieux, Meg Merrilies, Album plenum, Madame de Serres, Madame C. Audiguier, Garnet, Joseph Mahood, Fair Maid of Guernsey, Mon. Delaux, and Madlle. Lacroix; 2nd, Mr. Hall, whose best flowers were Soleil Levant, F. A. Davis, Madame C. Audiguier, and rubrum striatum; 3rd, Dr. Hitchcock.

The best twelve blooms of Anemone-flowered Chrysanthemums, not less than four varieties, came from Mr. Clark, who had Empress Gluck, Sœur Dorothèe Souille, Fleur de Marie, and Madame B. Pigmy; 2nd, Mr. Hale; 3rd, Dr. Hitchcock.

There was a class for a vase or epergne of cut flowers or foliage for table decoration, and here Mr. Thomas King, Devizes Castle, was 1st; Miss A. M. King, 2nd; and Miss A. S. Mould and Miss M. A. King, were placed equal 3rd. There was a class for the best baskets of wild autumn foliage, with or without berries, and some very pretty exhibits were staged. Miss M. A. King was 1st; Miss Maud Smith, 2nd; and Miss A. M. King, 3rd.

An extra prize was awarded to Mr. Clark for a group of specimen plants not for exhibition. A First Class Certificate was awarded to Mr. James Lye, Clyffe Hall, Market Lavington, for red kidney Potato, Lye's Freedom, some being cooked for tasting; it is very mealy with an excellent flavour, and a capital cropper. Potato King of Russets, a round variety in the way of Adirondack, was also shown. A basket of fine bulbs of a new seedling Onion, from a cross between the Golden Zittau and White Spanish, was highly commended.

Yeovil.—*Nov. 17th.*—This exhibition was held on Tuesday, when the Town Hall and Corn Exchange were filled with splendid plants, cut blooms, &c.; taken as a whole, the show was a most decided improvement on that of last year, good as it was. There were ten entries for one group prizes, but the growers of the plants for this department have much to learn before they will come up to the Kingston, Crystal Palace, or Aquarium level. There were plenty of plants, but they were mostly too tall and over burdened with blooms, lacking in size and quality. There was room, too, for improvement in the matter of arrangement. For a country show, and a second year, however, there were no really glaring faults in these respects; while there was much that deserved praise, notably the selection of varieties, the careful tying out of blooms, and the general improvement in last year's form. The offer of a £5 cup for twenty-four blooms, half incurved and half Japanese, brought out eleven good entries. This prize fell to Messrs. W. & G. Drover, of Fareham, Hants, who exhibited two trays of grand blooms, made up as follows:—Incurved: Cherub, Lord Wolseley, Golden Empress, Snowball, Golden Queen of England, Nil Desperandum, Lord Alcester, Princess of Teck, Princess of Wales, Jean d'Arc, Beauty, and Robert James. Japanese: Madame Audiguier, Madame Lacroix, Triomphe de la Rue de Chatelet, Fair Maid of Guernsey, F. A. Davis, Grandiflorum, Baron de Prailly, Meg Merrilies, Ferdinand Beral, Mons. Leon Brunel, Rosea superba, Fanny Boucharlet. Mr. E. Wills, of Bassett, Southampton, was an excellent 2nd, and Mr. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, a good 3rd. The prizes for bouquets, &c., brought out a large number of local ladies, some of whom showed great taste and skill. There was a good display of table plants, and a splendid show of fruit, especially grapes. A large number of persons sent plants, blooms, &c., not for competition; amongst these were Mr. W. E. Boyce, of Yerbury Road, Holloway, London, with a fine lot of incurved Japanese, Pompon, and single blooms, which were much admired; Mr. B. R. Davis, nurseryman, Yeovil; Mr. E. Jarman, seedsman, &c., Chard; and Mr. J. Scott, nurseryman, Meriott, Crewkerne. The judges were Messrs. Pragnell, Sherborne Castle; Iggulden, Marston, Frome; Molyneaux, Swanmore Park, Bishops' Waltham; and Challis, gardener to the Earl of Pembroke, Wilton.

Bristol.—*Nov. 18th and 19th.*—Under highly favourable atmospheric conditions, the twenty-second annual exhibition of the Bristol Chrysanthemum and Spring Show Society was opened to the public for two days at the Victoria Rooms, Clifton, on Wednesday. The display was excellent, and the horticulturists of the west of England have good reason to congratulate themselves on the singular excellence of their show, which now ranks second to none in England. Chrysanthemums and fruit, as usual, formed the principal features of the show; but there were also miscellaneous exhibits of no mean order, such as Celosias, Primulas, Poinsettias, Bouvardias, Pelargoniums, &c. Flowering and ornamental-foliage plants, choice stove and greenhouse Ferns were well represented. There was a very keen contest for the silver cup offered for the best six large-flowered Chrysanthemums, the prize going to Mr. G. Silcox, gardener to W. Vowles, Esq., for a very excellent lot of plants, including Jardin des Plantes, Mrs. Dixon, Sunset, Alma, Guernsey Nugget, and Mrs. Geo. Rundle. Mr. Ambrose, gardener to H. Robinson, Esq., won the National Chrysanthemum Society's silver medal, and the 1st prize of the Bristol Society for the best group of naturally-grown Chrysanthemums; and the 1st prize for the best collection of plants went to Mr. Rye, gardener to Jas. Derham, Esq. Fruit was well represented. Apples and Pears were of first-rate appearance; while the Grapes of Mr. Nash, gardener to the Duke of Beaufort, Badminton, were of a colour and finish difficult to surpass. In the cut flower section there were again many hard-fought contests, the premier prize in the principal class going to Mr. S. Hobbs, who staged very fine examples of Prince of Wales, Princess Imperial, Lady Hardinge, Empress of India, Mrs. Cunningham, Prince Alfred, W. Venus, Princess of Wales, Barbara, Beverley, G. Beverley, Princess Teck, Nil Desperandum, Queen of England, Mr. Howe, Leon d'Arc, Golden Empress, Venus, Mrs. Hide, Mr. Barr, Angelina, Rotundiflora, Geo. Glenny, Mrs. Rundle. The general arrangement of plants, flowers, &c., was all that could be desired, and great praise is due to the managers for the admirable manner in which they carried out their work.

Dorchester.—*Nov. 11th.*—This comparatively new, though very flourishing Society, held its annual exhibition in the Corn Exchange, Dorchester, a structure highly suitable for such displays, and great praise is due to the energetic hon sec., Mr. Biggs, who spared no pains to bring the event to a satisfactory issue. With such a number of attractive prizes, including medals and certificates of the National Chrysanthemum Society, one could not but expect that the entries would be numerous and competition keen, as was really the case in nearly all the classes, and especially so in that for the five guinea cup, offered by W. E. Brymer, Esq., for the best group arranged for effect, and which was won by his own gardener, Mr. Powell, with a highly meritorious bank of good solid bloom and healthy foliage. He was closely followed by Mr. Mundell, gardener to R. D. Thornton, Esq., Birkin House, who had a larger number of blooms but lacking the quality of the former group.

Cut blooms were well shown, both as regards size and finish, particularly so being the fine stands of Japanese from Lord Wolverton's gardens, at Iwerne, Minster, which were greatly admired; these won the bronze medal of the National Society, and the same exhibitor took also the silver medal for twelve Incurved, and a certificate for six Japanese. Fruit made a grand show in itself, no less than 170 dishes of Apples and Pears, not for competition, being staged by that noted Exeter firm, Messrs. Lucombe, Pince & Co., which contained most of the best approved kinds. Grapes were not numerous, but excellent in quality, the three bunches of Mrs. Pince's Black Muscat from General Henning, being very fine and well finished for that variety. Tomatos were well represented by good sized and well coloured specimens. For bouquets of Chrysanthemums the competition was very keen, both in the open and amateurs' classes, Mr. Ward and Mr. Pope taking the premier awards.

The judging was entrusted to Mr. Beck, gardener to Lord Alington, Crichel, and Mr. Williams, gardener to Lord Wimborne, Cauford Manor, and their awards gave great satisfaction.

Obituary.

With deep regret we have to announce the death of Mr. Samuel Walters, an old inhabitant of Hilperton, near Trowbridge, Wiltshire. An ardent lover of flowers, he abandoned the trade to which he had been brought up, and devoted himself entirely to their cultivation. The florist business at Hilperton he established in 1830, in connection with a seed business carried on there since 1810. For about half a century he was one of the most successful exhibitors in the west of England, and for the early part of that period in London also. Tulips, Ranunculuses, Auriculas, and Polyanthuses, and other flowers were most prominent among his exhibits. He gave up exhibiting about ten years ago, as his sight then became greatly impaired. He, nevertheless, continued to derive the greatest pleasure from the cultivation of flowers. Mr. Walters was a remarkable illustration of a man "diligent in business," and from his unvarying uprightness he gained the esteem of all who had dealings with him. In May last he experienced a great bereavement in the loss of his wife. He was frequently heard to say he should not survive her long, and on the morning of the 11th inst., after forty-eight hours' illness, he passed away.

Scottish gardeners of the old school will learn with regret of the death on the 13th inst., at the ripe old age of four score years and ten, of Mr. James Thomson, The Crooks, Murrayfield, Midlothian. In early life Mr. Thomson was a journeyman at Drumlanrig, and his first place as a gardener was at Kelly. Subsequently, he was for several years at Corstorphine Hill, when he was a keen exhibitor of florists' flowers at the meetings of the British Gardener's Society, which were then held in the Calton Convening Rooms at Edinburgh. Leaving Corstorphine Hill some sixty years ago, he went to Carlowrie, then famous for its collection of herbaceous plants, and about twenty years ago he settled down as a market gardener at "The Crooks." Mr. Thomson was widely known and much respected by the older members of the craft about Edinburgh.

QUESTIONS AND ANSWERS.

Apples.—*Scrutton*: The following are all of first rate quality, and good bearers:—Dessert: King of the Pippins, early; Cox's Orange Pippin, mid-season; Lodgemore Nonpareil, late. Culinary: Lord Suffield, early; Blenheim Pippin, mid-season; Lane's Prince Albert, late.

Centropogon Lucyanus—*S. C. W.*: Your estimate of this plant is a just one; gardeners as a rule make too little use of it for winter flowering. Put in the cuttings in spring, and grow them on liberally in a cool-house during summer. Introduce them into the stove early in October, and you will soon have them in bloom.

Camellia Buds Dropping Off.—*James Duncan*: It is not easy to account for this in every case, but we suspect the most frequent cause is dryness at the roots.

Chrysanthemums.—*One who is anxious to learn*: We intend shortly to publish a series of articles which will contain all the information you require.

Names of Plants.—*T. B.*: Oncidium tigrinum.

Communications Received.—G. B.—J. F.—A. Beech.—J. D.—B. L. (many thanks).—J. S. W. B.—J. H.—G. N.—T. S. W.—H. J. C.—Mrs. D.—A. H.—A. T.—W. G. S.—E. J.—J. B. & Sons.—C. T.—M. B.—J. F. (many thanks).—A. O.—R. D.

TRADE CATALOGUES RECEIVED.

James Cocker & Sons, Sunnypark, Aberdeen.—Forest and Ornamental Trees, Shrubs, Fruit Trees, &c.

Viccars Collyer, & Co., Central Hall, Leicester.—American Specialities: New Raspberry—"The Glenfield."—New out-door Grape—"The Leicester."

Ketten Brothers, Rose Growers, Luxemburg.—Catalogue of Roses for 1884-5.

W. E. Boyce, 87, Yerbury Road, Holloway, London, N.—Descriptive Catalogue of Chrysanthemums, with directions for their cultivation.

LONDON SEED TRADE.

November 18th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a very small attendance on market to-day, and business almost nil. There is no further advance to note in Red Clover, but a considerable quantity of seed has changed hands recently, and prices are firm. White Clover is coming forward slowly, and the crop generally is reported short; but, as yet, there is very little demand, and both this and Alsike, it may be said, are neglected. The low price of Trefoil has induced a few transactions in the best samples, but there appears to be a plentiful supply of this article, and buyers are, therefore, not inclined to speculate. Canary has advanced 2*s.* per quarter on the week. Hemp still remains cheap, and values of other bird seeds are unchanged. Grass seeds are in moderate request at last week's quotations.

COVENT GARDEN MARKET.

November 19th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	
Grapes, per lb.	1 0	2 6	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each	0 6	1 6			
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces ..per dozen	2 0	2 6
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ....per doz.	1 6	2 0	Onions, per bushel	5 0	7 6
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Anemone, 12 bunches			Marguerites, 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	4 0	8 0	Mignonette, 12 bun.	1 6	3 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	1 0	2 0	— scarlet, 12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	8 0
Camellias, 12 blooms.	3 0	6 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.		0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	1 0	2 0
Chrysanthemums, 12 blooms	0 6	4 0	Roses (coloured)	1 0	2 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, per doz. bun.	6 0	12 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays	5 0	6 0
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	6 0	Violet, 12 bunches	1 0	1 3
Heliotropes, 12 sprays	0 6	1 0	— Czar, French, per bunch	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Parme	4 0	5 0
Lapageria, red, 12 blms.	1 0	2 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	9 0	18 0	Fuchsias, per dozen		
Asters, per doz.			Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Hyacinths, Roman, per dozen	12 0	15 0
Bouvardias, per dozen	9 0	18 0	Hydrangea, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	4 0	6 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	5 0	7 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, NOVEMBER 28, 1885.

The Camellia as a Winter-flowering Plant.—It is at this season of the year and onwards until the genial influences of spring begin to make themselves felt, that this popular flower commands attention. Already some of the varieties are in flower, sharing with Chrysanthemums and other subjects the important service of making the conservatory gay at mid-winter. We are rushing on rapidly towards the shortest day and the dullest period of the year. The inclement breath of winter has already swept over hill and dale, and in the open ground leaf and blossom are hastening to decay; but within, under glass and assisted by the helpful influences of artificial heat, gardeners are becoming acquainted with the great variety in the shades of colour, the fine imbricated forms, and the waxy shell-like petals of a good flower of a Camellia. There is something about its exquisite and solid beauty that ensures admiration.

What renders the Camellia so very desirable, and adds so much to its popularity, is the amount of cutting that it can be subjected to. In times past gardeners grudged the sacrifice of so much wood and foliage in cutting a flower, mainly because the shoot from which the point was cut was not likely to flower for some time to come. This was indeed a serious drawback, and might well act upon the minds of those who had a desire to see the plants full of flower every year But it has been found, by a simple process of wiring, that the flower which has a good calyx can be cut off without injuring a bud or leaf, and with two short pieces of thin wire pierced through its base, it will remain in a bouquet quite as good and for nearly as long a period as those with the natural wood and leaves attached to them.

It may be a matter for surprise to those unacquainted with the cultivation of the Camellia how it is that such large plants exist, and appear in a very good state of health, that have only a small amount of soil, so to speak, to feed upon. The very leaves of the plant, from their large and glossy nature and thick substance, suggest gross roots. This is not the case. To overpot Camellia plants, unless attended with more than ordinary vigilance in the way of watering, is bad practice. In fact, it is well known that collections of plants seldom potted, if grown in good compost and the drainage is thoroughly efficient, are generally the most luxuriant and the most productive of flower buds. Small-sized portable plants are the better for being potted every second year, in larger-sized pots if necessary, or in either the same or lesser sizes, as the condition of the plants is revealed on examination. Large plants in tubs and pots require looking to only once in five or six years, according to size, and some have been known to grow and produce fine blooms that have had no re-potting for a much longer period. Apparently, the constitution of the plant harmonises with a comparatively low diet, for if grown in too rich a soil, the roots will refuse to elongate or subdivide themselves. On the contrary, if grown in a suitable compost, with proper drainage, in tough fibry loam and peat in nearly equal parts, with a sprinkling of sand to keep the whole porous, and if the temperature be right, the plants can scarcely fail to be all the cultivator could wish for. It is found that plants imported from the continent are chiefly grown in leaf soil and sand alone, and show no degree of suffering. Established plants, grown upon the principle stated above, are found to produce large full flowers.

There are two things, however, of comparatively greater value for ministering to a good state of health than even soil: they are, temperature and a proper degree of shade in summer. It is only during the season of growth that a high temperature and plenty of moisture are necessary. During the season of rest the plants may be kept only two or three degrees above the freezing-point, and they are better in such a temperature than in a house where the thermometer registers above 45°. They will even resist frost with impunity, and not be half so subject to bud-dropping as if in a high and dry heat. A temperature higher than this is not necessary until the plants have done blooming and the young wood commences to grow. Then a gradual rise may take place, and with it a proportionate degree of moisture at the roots and the atmosphere should be maintained until the buds are swelled up to the size of small Beans. If this is accomplished early in the season, so much the better will the chance be of the buds remaining on and expanding into bloom. When the plants have arrived at this stage, with their buds far advanced, they may be placed either out of doors in a situation sheltered from sun and wind, or in a house where there is no fire-heat. Some of the sorts will bloom as early as November, and if the collection be numerous and well managed, there should be no scarcity of flowers from that time till far on in April.

Shading from the sun is a matter of the first importance. The younger leaves are not only impatient of the sun, but the old leaves get scorched quicker than almost any other hard-wooded plant we know. The conditions of success during the season of growth are heat, shade, and moisture. Camellias will do well under the shade of Vines, and in such a temperature as Vines require; but it is much better to have a house to themselves, for what is gained by the Camellias when in a Vinery is often at the expense of the Vines and the crop of Grapes.

Plants in bloom, or those about to flower, should have a warmer atmosphere than those not so forward. A little fire-heat every day, with the ventilators open at the top in favourable weather, and occasionally at the bottom is desirable. Such sorts as the old double white, and all light coloured varieties, are better when a nice circulation of air takes place, as it is a good preventative to the iron-mould-like spots that invariably follow a close moist atmosphere. The plants must never be allowed to become too dry at the roots, or else bud-dropping, sooner or later, will take place; but it is quite as bad practice to have the roots saturated with moisture, and equally destructive to the buds; a good medium is what should be aimed at. It is very bad practice indeed that will cause the buds of sorts that have been early matured to fall off; but under the very best management during the flowering season the buds of those plants too long delayed in being put into heat, or subjected to a low uniform temperature will drop off. As to manure or guano water, it should be applied very sparingly, and never during the short days when the system of the plant is least excited. No freshly potted plant requires any artificial liquid; but such plants as have been growing for two or three years in the same pot, and the roots are so compact that they could not be disturbed with the point of a stick with impunity, will be much benefited by a judicious application.

GARDENING MISCELLANY.

The Royal Gardens, Kew.—We understand that Sir J. D. Hooker has resigned his office of Director of the Royal Gardens, and that his connection with Kew will cease on Monday next. Sir Joseph succeeded his father in 1865, and it is generally anticipated that his son-in-law, Mr. Thiselton Dyer will be the next Director.

The American Exhibition, 1886.—Mr. John Robinson Whitley, Director-General of the American Exhibition, to be held next May at Earl's Court, Kensington, had an audience on Monday with President Cleveland, who assured Mr. Whitley of his most cordial sympathy with the objects of the American Exhibition, and expressed the pleasure it would afford him to start the machinery, by telegraph, from Washington on the day of opening.

National Chrysanthemum Society.—At a meeting of the floral committee of this society held on Wednesday, Messrs. H. Cannell & Sons, Swanley, were awarded a First Class Certificate for a very handsome Japanese variety, named Beauty of Swanley, a full regular shaped flower, silvery white with a suffusion of pale peach colour. The same firm also showed a beautiful stand of cut blooms of Japanese, reflexed, anemone-flowered and single varieties, but the light was so bad that they were seen under very disadvantageous conditions. A single variety named Queen of Yellows, a good rich colour all through, and a very fine unnamed seedling reflexed variety, were much admired. Mr. N. Davis, of Camberwell, and Mr. Robert Owen, of Maidenhead, exhibited fine cut blooms of a number of new introductions, and First Class Certificates were awarded to both exhibitors for Belle Pauline, one of last years novelties in the Japanese section, and which by reason of its fine size, and delicate blush tinted rose colour, has already become a favourite. Rubra perfecta, a deep maroon coloured reflexed flower shown by Mr. N. Davis was commended as a decorative variety; as was also Sulphur Gem shown by Mr. Stevens of Putney, a reflexed flower in the style of Annie Salter. Some doubts having arisen as to what section the rich crimson coloured Cullingfordi belonged to, Mr. Davis brought up some specimens, and the committee decided that it was a reflexed variety.

Mr. Bennett's New Rose, Her Majesty.—Mr. Charles F. Evans, of Philadelphia, U. S. A., who purchased the stock of this magnificent rose from Mr. Bennett, announces his intention of sending it out next month.

Yeovil Chrysanthemum Show.—In our report of this show at p. 190, we inadvertently failed to render full justice to our esteemed correspondent, Mr. Ward, of Longford Castle, whom we credited only with being 3rd in one class, whereas, the Longford Castle flowers secured 1st prizes in three out of the four classes in which they were shown.

Gardening Engagements.—Mr. G. Hoskins as gardener to Sir G. Curtis Lampson, Bart., Oakfield, Clapham, S. W.; Mr. Sparkes as gardener to Captain Elliott, Farnborough Park, Hants; Mr. Turner as gardener to W. L. Sutton, Esq., Belmont Hill, Lea, S.E. The apointment in each case was made through Messrs. John Laing & Co.

Thrips.—In a paper on Thrips read at the last meeting of the Sale Botanical Society, Mr. Cameron said they were minute insects distinguished from others by the mouth parts being converted into a sort of two-valved syphon, by means of which they suck the juices of the plants; by the tarsus ending in a vesicle not bearing claws; and by the four wings being without nerves

and covered all round with a long fringe. They are entirely vegetable feeders, feeding on the flowers, leaves, or even the roots, whilst a few species live under bark. The eggs are deposited in the flowers or on the underside of the leaves or the veins. The larvæ resembles the perfect insect in form, but are softer in the texture of their bodies and bear no wings. They are also much paler in colour, being usually whitish, yellowish, or even blood-red, the perfect insects on the other hand, being black or dark brown. There are over fifty British species of Thrips known. The most destructive is that found on the cereals (to which they have done in some years enormous damage) and the two or three species found in hot-houses. The latter pass through the egg, larvæ, pupa, and imago states in about thirty days, and if the temperature remains constant there is a new brood nearly every month. The pupa was illustrated by diagrams, and specimens of various species were shown under the microscope. In the discussion which followed, it was pointed out that it was easier and more effectual to destroy the Thrips as larvæ than in other states of development.

CHRYSANTHEMUMS IN THE OPEN AIR IN NOVEMBER.

I have enjoyed so much pleasure myself in this dull dark murky month by the profusion of Chrysanthemums I have had in the open air, that I have written to several of your contemporaries recommending the extension of that method of culture—for decoration and cutting chiefly—where at all possible. I must at once make myself understood as not merely advocating culture in pots with the view of transferring them under cover in October. They could be grown for exhibition without difficulty in that way. Neither am I going to specially recommend the August, September, and October bloomers, for if you except half-a-dozen, say Alexandre Dufour, Madame Desgrange, Sœur Melaine, Mrs. Cullingford, Mons. Jacotot, and one or two more out of some hundreds, the remainder cannot compare for a moment in out-door culture with later-flowering Incurved, Reflexed, and Japanese, but especially the hybrid Pompons. These last are perfect bunches of blooms, but that you may see for yourself. I will cut in the morning one each of more than a score varieties, most of them November flowering varieties generally grown for exhibition, planted in a border and trained against a south wall.

Owing to being hardened and inured to the open air in this position, this day (or rather night) week they stood 8° of frost, without seeming to be much the worse for it. I have the means of protection, but so far I have seen no occasion to use it; and if the weather keeps anything like so mild as at present, I can as readily send you a box of similar blooms this day month (Christmas-eve) as to-day. Now there must be hundreds of thousands of people able to do the same, but for some reason or another do not try, and thus miss the gladsome, varied, and brilliant blooms of Chrysanthemums that would make the dead wall of their houses and gardens bright and cheerful. I may be told they grow them indoors, yes, but this entails having at least a greenhouse or conservatory, where there is generally a strict prohibition against cutting a single bloom, a gardener as a rule, fire-heat to dispel damp and mildew, and twelve months of assiduous unremitting care, so much so, that one day's drought at the roots—I might have said one hour's—and all your toil and expense is lost, without being able to produce a tittle of such blooms as I am transmitting, and that have been grown without any of these things, and moreover, have taken care of themselves when I have been hundreds of miles away.

Now, although I am very anxious, as I commenced by saying, that as many as possible should have Chrysanthemums during November and December, and especially those with town and villa gardens who appreciate flowers so much at that time, and who almost invariably have pieces of unoccupied south, east, or west walls; it would be misleading to think that success can be wooed and won without some indispensable requisites. It would be unfair to conclude without alluding to what I think those are, or, without asking you, or your correspondents, to add thereto details that may escape me. Given a south wall, if against a house so much the better, as the eaves project and are a protection against frost, soot, dust, ashes, &c.; the next requisite is a good rich bed of manure: if buried 1 ft. to 2 ft. deep, no harm arises, as the roots will very soon find it. The richer and more rotten the manure the more desirable it will be; but let none hesitate on that account, if old rotten stable manure cannot be got, take it fresh, it will very soon be rotten, and the roots are voracious feeders, and not particular. In the absence of stable manure, try whatever manure can be got. If possible, get fresh loam from some pasture field, and cover, or incorporate therewith; but as I know some of the difficulties of town and villa gardeners, even that is not a *sine qua non*. A good open aspect will enable the Chrysanthemums to elaborate the ingredients of both manure and soil, that any other flower would fail in; even if there is plenty of soot in the soil it will not be injurious. After that comes the plants, and young beginners had better get them rooted, to make certain.

Slugs will travel, if I may so speak, any distance to them, and cut them across before they have started into growth; once started into vigorous growth, however, they are not liable to those depredators. Grass is a harbour of refuge for them, and if convenient, separate it from the Chrysanthemum border by a narrow walk lined with coal-ashes, slugs cannot creep easily over it. If you intend to root your own cuttings, you may commence now, or at any time when they are to be had. If fine blooms, from 3 ins. to 4 ins. in diameter, or more, of the Japanese are wanted, they must have a long season to grow and mature. I cannot name any varieties not to grow, I grow all I can procure, and find even the very latest promising to bloom within the next ten days, such as Jardin des Plantes or Eve, incurved; Fleur de Marie, Anemone; Daimio or Striatum perfectum, Japanese; while types of those much earlier are forwarded, massive, well shaped, of great substance, and of more brilliant colour than is possible indoors. I have been cutting for six weeks blooms like these, and thousands are still left.—*W. J. Murphy, Clonmel.* [With Mr. Murphy's letter came a box of lovely blooms, flowers unsoiled by the weather, and wonderfully bright in colour.—Ed.]

CULTURE OF THE ZONAL PELARGONIUM.

The St. Peter's, Hammersmith and District Gardeners', Amateurs', and Cottagers' Improvement Society lately offered a prize for the best paper on the cultivation of the Zonal Pelargonium as a pot plant, which was awarded to Mr. H. J. Farrow, the honorary secretary to the society, for the following brief essay:—"The Zonal Pelargonium is generally propagated by cuttings, but alsosome times by seeds, which require a great deal more patience than such as myself can afford to bestow upon them, as they more often than not come to grief before blooming, owing to the want of room and other circumstances which I need not mention now. If I find I have the room to winter a few rooted cuttings in safety, I take the cuttings any time in July. I look for short-jointed shoots as being more compact, and because, as a rule, they do not rush headlong away, as the long watery shoots are apt to do as soon as rooted. The Pelargonium likes a nice fibrous loam, and a little leaf-mould with a dash of sand. About four cuttings to a 48-sized pot are ample, and they should be placed round the sides of a pot which has sufficient drainage, say two layers of crocks at the bottom of the pot. Place the pots in the open on a cinder bottom about 2 ins. deep; I like to place them where they will get the sun early and late, but not the mid-day until they are rooted. A sprinkling of water over the foliage now and then will help to keep it in a fresh condition. When struck, give them all the sun possible to harden and ripen them off ready for housing them for the winter, reducing the supply of water as the time for taking them indoors approaches. If you want plants for flowering early, pot them off as soon as struck, adding to the compost a little bone-meal or Clay's fertiliser, or if it be flowers that are wanted only, feed them early by top-dressing now and then with Clay's as the buds appear, and they flower much freer if potted close and well fed, and then picked as soon as fully expanded, so that they may not have time to seed or waste their energy. Another very important thing to be done, if large plants for show are wanted, is never to pot by leaps and bounds, but to shift them from size to size, or you will not be able to keep that sturdy compact growth which is so necessary for show plants."

JOHN THORPE.

The last number to hand of the *American Florist* contains a portrait of Mr. John Thorpe, the first president of the American Society of Florists, accompanied by the following appreciative remarks:—John Thorpe was born April 3rd, 1842, at Keyham, Leicester, England. His father was gamekeeper of a large estate, and also had much knowledge and skill as a gardener. Under his instruction, and later under that of an uncle, who was both a nurseryman and a florist, and to whom he was apprenticed, the lad rapidly acquired such knowledge, that before he was sixteen years of age he grew and exhibited six Cinerarias at the Leicester spring show, beating three or four competitors. After the death of his uncle, which happened a month later, he went into a large fruit-growing establishment, where he remained three years. During this time he was growing for exhibition with marked success, Pelargoniums, Calceolarias, Fuchsias, and Verbenas. After this he returned to Leicester, and had for his tutor the present curator of the Glasgow Botanic Gardens; after four years he found himself in possession of the place in which he was apprenticed. Later, he became a partner in the Paddock Nurseries at Stratford-on-Avon. In April, 1874, he landed in New York, *en route* for Cleveland, Ohio, where he was to take charge of the grounds of Mr. W. J. Gordon. After three years he started in business for himself in the same city, and continued in it until removing to Queens, L. I., in January, 1880.

Mr. Thorpe's life-work has been in the line of artificial fertilization. With a keen true eye for form and colour, a thorough knowledge of plant life and laws, a persistent, steady purpose and a love and enthusiasm for his work, he could but make a successful hybridist. His seedlings are numerous, and many of them of rare merit. Among Pelargoniums, Macbeth, Wm. Cullen Bryant, Happy Thought, Henry Cannell, and others, show him to be the peer of any man living in his work. Black Knight and Portia among other Carnations bear witness that he is equally at home with this popular flower. And for Chrysanthemums what has he not done? In their season they have become almost as popular as the Rose. Their glory and triumph attest the skill of their manipulator. Phloxes, Petunias, and even Potatos show forth his handiwork. Of the latter, he had at one time not less than 6,000 seedlings, some of which are grown to-day, the round Model raised twenty years ago, being shown in many collections last season.

His busy life leaves him but little leisure, yet he has gained for himself a worthy place among horticultural writers. His style is clear, vigorous, and terse, only less pithy and pointed than his conversation, which is worth a days journey to enjoy, running over as it is with keen, crisp, original thought.

GARDEN NOTES.

I have kept a register of the rainfall since June, 1881, and have not recorded the fall of 5·00 ins. in any month previous to last September, when we had 5·13 ins. This coming after the three very dry months of June, July, and August—when the aggregate was only 3·25 ins.—was most welcome, for the whole of the Brassica tribe were at a standstill, and make growth they could not. The three corresponding months of 1884 were very dry, but in August of that year we had 1·70, while last August we had ·83 of an inch; all our winter stuffs—greens of all kinds—are consequently very small and very poor. But the October rainfall was very great, *i.e.*, 7·41 ins., and in this part of Norfolk much land has been at times under water. The farmers were as much concerned about their operations as ourselves, for they could not get the Wheats in, nor haul off the land the splendid crops of Mangolds they have this year; and as a result of so many wet days, we are thrown out of our course and have many arrears to make up. If we could but perform the weekly calendar as advised, how different we should fare.

We have several Peach trees that we want to lift and root-prune, as has been so often advised in your columns during the present season. We have experienced the benefits of lifting trees that have gone down too deep, and in consequence make growths that will not properly ripen, and do not carry any fruit. Lifting gives them a check; this is especially the case with young trees, those of mature age do not grow so strong.

We have a tree of the Barrington Peach growing with several others in which a Peach-house, their roots being outside, has made rampant growth for several years, and each year carries fewer fruits. Fourteen months ago we dug a trench around it, some 2 ft. or so from the stem, cutting all roots that extended beyond that, and delving well underneath it. But this summer it has grown as rank as ever, making long shoots and carrying a poor crop. In September we treated it to another severe root-pruning, this time quite freeing it from all the soil, so that we are sure every strong root underneath was severed; and if it continues in the future to be unfruitful, we shall cut it down and plant another variety. The Barrington is a fine large fruit, and looks handsome when dished up, but my experience of large fruits of Peaches, as well as of large Apples and Pears, is, that they go to table and come off again untouched, only admired; small and medium-sized fruits are always more freely used.

The present month has also been so far a very wet one and the garden looks very untidy indeed. What a difficulty it has been to earth up the Celery crop, and if we should have an early fall of snow or severe weather, as is indicated at the present time, we shall fare rather badly. I never knew the Chrysanthemums to be so late in coming into bloom, those growing outside are still in the bud, and those in pots are also late.—*T. W., East Norfolk.*

MESSRS. VEITCH & SONS' NURSERY, CHELSEA.

A GLANCE through the several complete, accurate, and useful catalogues which this great firm sends out at different periods of the year, cannot fail to impress anyone with the magnitude of their business, and admiration for their enterprise in carrying out to such perfection what are considered distinct branches of horticulture and floriculture, each requiring a specialist to work. From a due appreciation of this view springs some portion of Messrs. Veitch's success, no doubt, for while at the central establishment at King's Road each class of plants has its set of houses and grower assigned to it, the out-door stock has extensive premises devoted to it in more favourable districts near London. Thus the splendid collection of Japanese plants sent over by John Gould Veitch and Maries, out of which every year reveals new beauties, the hardy flowering and ornamental shrubs, Conifers, grand stock of Rhododendrons, Roses, &c. are grown at the fine nursery at Coombe Wood, Kingston Hill, with its princely avenue of Wellingtonias, and Araucarias; the fruit trees, both for planting and for the Orchard-house, at the equally neat grounds at Southfields Fulham; and the seeds—over which it is so necessary to exercise strict supervision, in order to be able to answer for the quality and strain—at their Middle Green Farm, Slough. Through all these branches the same air of neatness, cleanliness, and order is to be observed, everything catalogued—except in very rare instances—being in stock, nothing worthless being harboured, and nothing really worthy of keeping being discarded.

CYPRIPEDIUM GODEFROYÆ.

THE ORCHID HOUSES.

So long as Orchids are known, the name of Veitch and the Royal Exotic Nursery will be connected with them, for if we run over in our minds the proved best species, we find they took a large share in their introduction, and in later years they have by patient seeding by the aid of Mr. Dominy and Mr. Seden, caused quite a change in the Cypripediums, Cattleyas, Lælias, and other showy things by the production of hybrids of great beauty. For these reasons the Orchids always claim first notice, and even at this, the dullest season of the year, they prove themselves worthy of it; for while there is enough bloom to enliven the appearance of most of the houses, in the large span flowering house and lean-to at its end there is a very charming show, made up of many very fine spikes of Odontoglossum Alexandræ, O. Pescatorei, and the different varieties of Oncidium prætextum, O. Forbesii, and O. tigrinum, of which there are a good show, and with these are arranged Odontoglossum tripudians (varieties), O. Andersonianum, O. Corradinei, many O. Rossii majus (one with twenty-six fine blooms), O. Rossii majus pallens (a very large and pretty light variety), O. ramosissimum, O. crocidipterum, Oncidium varicosum, three varieties of the pretty cool-house O. O'Brienianum, some elegant plants of O. ornithorynchum, O. cheirophyllum, O. dasytile, and O. albo-purpureum (incurvata); a great mass of the rare Ansellia africana milotica (which is much superior to the type, its flowers being much larger, their ground colour whiter, and the spotting of a richer hue than in the old form), some good specimens of Maxillaria grandiflora, Cymbidium Mastersianum, C. affine, Barkeria Lindleyana, Houlletia Brocklehurstiana (true, with a spike nearly 2 ft. in height, bearing eleven flowers), Zygopetalum intermedium, Epidendrum tovarense, Oncidium cucullatum giganteum, (which is really a fine cold-house plant, with very lasting flowers with bright pink labellums). The flowers of the scarlet Sophronitis and those of the pure white Masdevallia tovarense are very effective, the rare Lycaste leucantha, very distinct, and the perfectly shaped pure white flowers of the best form of Lycaste Skinneri alba, noble and covetable. In the coolest corner of the house a fine batch of Oncidium macranthum have strong flower spikes.

THE NORTH RANGE.

Running from the large cool house is a long lean-to range of north aspect, divided into several compartments, and each filled with those plants which are here known to do best in such a situation. In the first division are some fine specimens of Cœlogyne Massangiana, and the still rarer and very beautiful C. Dayana, which flowers in much the same way as Massangeana, but has a still longer inflorescence, the flowers being quaintly marked on the lip with dark brown, as with a grainers comb. Fine plants of the new Angræcum Leonis too are here; some good varieties of the handsome new Oncidium Jonesianum and some well flowered specimens of Cypripedium, among which a plant of C. Spicerianum is conspicuous by its having two flower spikes from one centre, and one of them with twin flowers. The next is the Phalænopsis house, in which the fine stock has always been healthy for many years, while in many other places they have been unmanageable. In flower, are many P. amabilis, P. Sanderiana with a charming pink tint, P. Schroderi, P. violacea, Microstylis metallica, and M. purpurea, both with purple leaves and insect-like flowers. In this house the Odontoglossum Roezlii and Cypripedium niveum are grown to perfection, the huge plants of the former being clean and unspotted, and having bulbs in some instances as large as a good-sized O. vexillarium. The following two divisions of this range, are devoted to the smaller Cattleyas and Lycaste Skinneri, which thrives best in a cool shady house.

CYPRIPEDIUMS.

In the Cypripedium house which always seems full of flower, and additionally attractive by the varied and handsomely marked foliage in bloom, are some of Messrs. Veitch's fine hybrids, C. Arthurianum, a cross between C. Fairrieanum and C. insigne; C. vexillarium, Fairreanum × barbatum; C. marmorophyllum, Hookeræ × barbatum; C. ænanthum superbum (a great beauty), Maulei × barbatum; C. calurum, C. longifolium

× C. Sedeni; many varieties of C. Ashburtoniæ, among which that raised by Messrs. Veitch, and named C. A. expansum is by far the best. C. Petræi, C. Parishii, C. Harrisianum, C. purpuratum, and many good examples of the lovely Spicerianum hybrid raised at Chelsea. C. Leeanum superbum too, are in bloom, as well as a plant of their C. caudatum hybrid, C. Schroderæ, which by its lovely rose hue and sturdy habit, proves the good influence of that perpetual bloomer C. Sedeni, wherever it is used for hybridising purposes. The rare C. Lindleyanum from Guiana also is sending up a flower spike for the first time, and the many fine purple spotted forms of C. insigne mingled with the whole, make up a display which will be kept good throughout the whole of the winter by the many Cypripediums which are coming on, including the prettily-spotted C. Godefroyæ.

VANDAS AND AËRIDES.

In these houses, in bloom, are V. insignis, V. cœrulea, V. Sanderiana, Aërides Lawrencæ, Saccolabium trellinum, Ionopsis paniculata, I. utricularioides, &c.; and in the Vanda house, which is of a cool intermediate temperature, are a grand lot of all the best forms of V. suavis and V. tricolor, which this firm had the pleasure of introducing. With them, too, grows admirably the forms of Zygopetalum maxillare and Gautierii, which are often kept warmer and in a more moist house, where they invariably get spotted and unhealthy.

Separate houses are devoted to O. vexillarium and all the other sections of Orchids which are numerous enough to demand one, and suspended in many of them are the numerous resting plants of the spring-flowering Dendrobes, such as Wardianum, crassinode, &c., with stout growths of surprising length, even D. crystallinum in some instances being 3 ft. long.

THE NEW CATTLEYA HOUSE.

This, which is one of Messrs. Veitch's greatest acquisitions, contains some thousands of plants of all the varieties of Cattleya, Lælia purpurata, L. elegans, &c., in condition second to none in the county; and Mr. Cauham, who has presided over the Orchid department for so many years, should be congratulated on the steady improvement and present perfection of the very valuable stock in his care. Some idea may be formed of the show to be expected in this house when it is stated that nearly 800 flower-sheaths are up on one side stage alone. At present there are a good batch of Lælia autumnalis and L. anceps in bloom, and several plants of the new and lovely C. Bowringiana (autumnale), with its rosy mauve flowers much resembling those of a good Dendrobium lituiflorum Freemanii, even to the shape, tint, and size. Some who saw the plant exhibited at South Kensington said it was just an autumn form of C. Skinneri; but the plant is totally different in every respect. C. Bowringiana has a distinguishing feature unknown in any other Cattleya, and consisting of an enlarged flattish bulb-like formation (something like a bulb of Læliopsis Domingiensis), from which the tall upright pseudobulb proceeds, and this is more like Epidendrum cinnabarinum, or a long bulb of E. ciliare, than it is like C. Skinneri; it has, moreover, glaucous leaves. It will certainly, by its own merits, push its own way. The new Cattleya house is 132 ft. long, 22 ft. wide, and 14 ft. high. The centre stage has under it large provision for rain-water, and is rendered ornamental by rockery planted with Ferns. The private part of the Orchid establishment, under Mr. Seden's care, is a mine of new and interesting things, both species and hybrids, among them being in bud the first hybrid Phalænopsis and many other unheard-of things.

STOVE AND GREENHOUSE PLANTS.

In the plant department separate quarters are devoted to every class, and everything is alike done well. A house is devoted to Araucaria excelsa, and other rare Araucarias; another to Imantophyllum; several to the unapproachable stock of Amaryllis, one of which was illustrated by us at p. 457, vol. i.; a large span-house is filled with proved good forms of Anthurium Scherzerianum; several to a grand lot of Camellias and Azaleas, all well budded; many to Heaths, Epacris, and general stove and greenhouse stock; and a block of houses to the collection of Ferns, which Messrs. Veitch still keep up after many have relinquished them. Among the new Ferns the grand Cyathea divergens, and equally fine Davallia retusa, demand notice. The greenhouse stock is brightened by the flowers of Ericas, Daphnes, Linum trigynum, Lasiandra macrantha, Babbingtonia camphorosma (a very pretty old plant), Browea latifolia, Epiphyllums, Solanums (in berry), Primulas, Cyclamen, &c.; and the stove houses with Anthurium Andreanum, A. Rothschildianum, and fine foliage and flowering plants, too numerous to touch upon while great specialities have to be mentioned. Probably the greatest of these is the collection of pitcher plants, which have gained world-wide fame. Now, as always, the house is a grand sight with the handsome and variously shaped pitchers, of which there are at present over 2,000. Messrs. Veitch's hybrid of Nepenthes sanguinea, N. Mastersiana, with its dark red pitchers, being one of the most prominent, as it certainly is one of the best. The new N. Rajah, with its wide open mouth (one has an expansion of 6 ins.), and quaint orange and crimson mottling inside, is one of the most extraordinary; and N. Northiana, a beauty only surpassed by the new N. cincta, which is supposed to be a natural hybrid between it and the Sarawak N. albo-marginata. N. cincta is a great beauty with large pitchers with greenish white ground, mottled with crimson, the border of the mouth being handsomely striped; N. Morganæ is the brightest of that section. N. Veitchii, always one of the finest, still improved by the new bronze-tinted importation, and N. bicalcarata, with its two spurs at the base of the lid, grand, and one of the finest and most distinct of new introductions. Among the old forms N. Rafflesiana still holds its place, and Messrs. Veitch & Son's hybrids of it, N. Hookeriana, N. intermedia, and N. Chelsoni prove worthy to keep it company still. N. ampullacia, with its dense nest of strange pitchers close on the pot, is very attractive, and the fine collection of Sarracenias and Sundews, with which Messrs. Veitch supplement this department, is very curious and interesting. The fine pans of Cephalotus follicularis are simply charming.

GREENHOUSE RHODODENDRONS.

This is another class from which the Chelsea firm has evolved the loveliest and most useful things by cross-fertilisation. To visit them one need not pick a day or a season, for they are always in bloom. Among them we note R. Queen Victoria, a fine yellowish salmon; R. Princess Frederica, bright buff; R. Duchess of Edinburgh, orange-scarlet; R. Duchess of Connaught, rich glowing red; R. Maiden's Blush, pale pink; R. Taylorii, pink with white tube; Favorite, bright pink; and many new seedling forms of great beauty. The last step with these plants has been to produce a new race with double flowers, which will answer a great demand for cut blooms as well as make the flowers more lasting (if that be possible) on the plant. This section is called R. balsamæflorum, double rose; R. balsamæflorum album, double white; and R. balsamæflorum luteum, double yellow. The varieties are in flower now, and prove their beauty and worth.

FLORISTS FLOWERS.

Winter-flowering Carnations are grown in quantity and well, the plants being sturdy and well budded. A good selection, as seen at Chelsea, is Sir Evelyn Wood, violet-crimson; Valentia, fringed crimson; Ruby, violet; Empress, fine white; Pride of Penshurst, bright yellow; Andalusia, yellow; Sir George, scarlet; Alex. Regnier, yellow; Thomas Wallis, flaked scarlet and crimson; Mrs. Keen, deep maroon-crimson; Worthington Smith, scarlet; Lady Macbeth, blush; Mrs. Jolliffe, blush; and Whipper-in, scarlet with dark stripe.

The Bouvardia-house is as showy as that of the Carnations, all the varieties being well grown and flowered; but perhaps the best are President Garfield, double pink; Alfred Neuner; Dazzle, scarlet; elegans, scarlet; Priory Beauty, pink; Maiden's Blush, blush; umbellata alba, white; and Vreelandii, pure white.

NEW PLANTS.

Among the new flowering plants two are very conspicuous—Amasonia punicea, with long sprays of pale yellow flowers, profusely furnished with bright crimson bracts. This plant is a great acquisition, as it has been in flower from the first week in August until now, and is still as good as ever; it is, moreover, easy to grow and propagate. The other is a new winter-flowering Begonia, named John Heal, in honour of the custodian of the Rhododendrons, Amaryllis, &c. It is the result of a cross between B. socotrana and a tuberous variety, and is a lovely thing with bright mauve-tinted carmine flowers, which last an extraordinary time.

The stock of Vines at the Royal Exotic Nursery are very fine this year; the Chrysanthemums gorgeous, and need it be said all other things in the usual perfect, clean, and orderly condition.

SCOTTISH GARDENING.

GARDEN OPERATIONS.—It is usual in some places to keep young plants of Borecole (Curled Kale), Brussels Sprouts, Savoys, and Cabbage in some secure place through the winter, ready for planting out in spring, to furnish a supply of large produce early in the autumn. Size and coarseness is certainly attained by this early preparation of hardy vegetables, but except in the case of Brussels Sprouts, which come in very large during September, and Cabbage to make up vacancies in spring, I can see but little gain from the practice indicated. Savoys, in the coldest of districts, can easily be had in September, and so can Curled Greens, when they are both sown early in March. There is much waste on Curled Kale raised so early, and certainly, I never had any of such good quality as this season from seeds sown in March, the extra curl and the dwarfness of the stock is as near perfection as I have seen. To keep plants of the above kinds sound through the winter, they should be pricked out on a border free from damp and well exposed to the sunlight; small ridges thrown up are serviceable, as protection, when plants are carefully pricked out on them.

Even with the protection of frames French Beans will be well past now, damp and cold soon brings them to an end, but where supplies are kept up it is not worth the trouble to use frames, &c., without heat. Brocoli, of coarse growth, may be laid down facing the north, and the soil laid over the stems close to the leaves. Autumn kinds, which are showing hearts, may be taken to empty pits, frames or sheds; should a sudden and severe attack of frost set in much loss might be sustained. The same applies to late Cauliflowers. Autumn Giant and Walcheren are plentiful at this season, and it is better to save the heads of small size than to lose them by frost. Chicory may be lifted and placed in a cellar, or anywhere so that it may have a little warmth to excite new growth after the plants have been trimmed; darkness is necessary to blanch the growths. Dandelion, which is also excellent for salads, may be treated in the same way as Chicory, and takes the place of Endive and Lettuce if they become scarce. A quantity of full-grown Lettuce may be lifted and taken under protection. They should be planted close together, and receive air during mild weather. The Lettuce plants on slopes, under handlights, &c., should be looked over frequently for slugs; dustings of soot, fine ashes, and a little lime generally keeps them entirely under check.

Mustard and Cress may be kept plentiful by sowing small boxes of each weekly in warmth, it should have air freely before it is used to make the young growth crisp. Onions, all well harvested, should be kept dry and as cool as possible; no amount of cold injures them, but damp ruins them. Parsley roots may be lifted from the main supply and put under protection, to give pickings during snowy and frosty weather. A frame and glass lights placed over a portion of the crop answers well, and the Parsley is easily found when wanted. Parsnips may be lifted in small quantities, to supply the demand. The roots keep better, are finer flavoured, and more tender when they are wintered in the open ground. Radishes in frames or under hand-lights require much air, and to be kept free from damp. Those in the open ground, giving supplies, may be kept useful for some time to come by protection with ashes or litter. Salsafy and Scorzonera may be treated the same as Parsnips; lifting a quantity to give supplies during severe weather, should it come.

Sea Kale may be started in dark warm places; boxes filled and put in heat or covered with warm fermenting material may give moderate supplies. The old system of using pots covered with warm manure, leaves, &c. is still in favour and easily managed, but where one can spare a piece of ground to grow plenty of roots in, and then lift them to dark warm structures, is the most manageable method of raising plentiful supplies Scotch grown roots are seldom suited for very early forcing, but to give Sea Kale about the end of December they do well, a small portion after this season taken in bi-monthly, keeps up regular supplies. Spinach is of much value during winter, and is worthy of care and attention. On ordinary borders the produce becomes infested with decaying leaves and liable to decay. To have this of really good quality, it is worth while to place shallow frames over the plants and pick the crop carefully. At Clovenfords lately, we noticed in some

low unpretending pits fine healthy Spinach, and while we were—as we have often been before—much impressed with the excellence of the Grapes and the extensive and very superior collections of Orchids, we thought how many a gardener would save himself trouble with his Spinach, so much in request during winter, if the means were adopted to protect in such a simple but efficient way as noted. Turnips in the ground may be kept in sound condition if a little dry soil is placed over the roots, enclosing the bulbs entirely.

Mushrooms are within the reach of every one, and can be grown under coverings of litter. Spawn placed in a little horse-manure covered with soil, and protected by litter, often produces fine Mushrooms freely in cellars, which if moderate supplies are wanted, is the best position in which to grow Mushrooms. They should never be allowed to become dust dry, and much damp is to be avoided, except when used to counteract artificial heat. The ordinary Mushroom-house, so useful for many things, is a valuable adjunct to any place, and can be used for starting flowering deciduous plants and bulbs, as well as grow Sea Kale, Rhubarb, Chicory, &c.—*M. T.*

The Apprentice System.—With your permission, Mr. Editor, I should like to add a few observations to the remarks of "M. T.," at p. 166, on the manufacture and migration of under-gardeners in Scotland. He has written well, but has omitted to refer to an obnoxious custom prevalent in a Midland Scottish county in which the writer was initiated into the use of the spade. It should be borne in mind that the Scotch apprentice is a different article to the English garden-boy. The apprentice, in a great many cases, has to perform the work of a labourer, but is dubbed a gardener, and engaged for three years with a starting wage varying from 6*s.* to 8*s.* per week, with (in most cases) a bothy, and with which sum he has to sustain his body and appear in respectable attire, minus some 15 per cent., which gardeners in that locality levy on the young man's earnings, for such he has to be, and no boy. On the expiry of his engagement, he is obliged to leave to make room for another, as apprentices are so beneficial to the proprietor and so profitable to the gardener, who politely terms the weekly levy the apprentice-fee. Premiums are just and fair enough in first-class establishments, under good gardeners who take care to grant the young men every facility for gaining a superior knowledge of their calling; but under any other conditions, the under-gardener pays much too dearly for the knowledge he gains. Too strong an objection cannot be urged against such a practice in the poorer class of places, in which young men scarcely gain a knowledge of the rudiments of gardening, yet are sent adrift on the expiry of their term with a first-class paper testimonial to the nurserymen. Should the young man succeed in securing a situation, his abilities do not bear out the statements in his testimonial. Hence arises the cry of "Gardeners are degenerating." In such places why not employ youth or other labour without a fixed term, leaving the responsibilities as to his future in life with himself, instead of cramming all into the gardening profession, and so bring about the evil of over-production. There are certain inconsistencies existing yet with regard to the relations between head-gardeners and their men. Some of the head-gardeners never tire of ridiculing the rising generation as to their inferior intelligence, forgetting how little the majority of them have ever done to elevate the under-gardeners as a body, taking no practical action in the matter further than repeating tales of self-improvement, and talking them out of money that might, with good advice, assist them much in obtaining the various materials so necessary for self-improvement. Such men should remember that when they take remuneration for teaching apprentices the true art of gardening and yet have not the best of abilities themselves, or, may be, have not proper facilities, they lower the gardener's standard and fail to fulfil the duties of honourable men.—*A. M.*

A Hanging Garden of Sponge is one of the prettiest novelties. Take a white sponge of large size and sow it full of Rice, Hemp, Canary, Grass, and other seeds, then place it in a shallow dish, in which a little water is constantly kept, and as the sponge will absorb the moisture, the seeds will begin to sprout before many days. When this has fairly taken place, by means of cords the sponge may be suspended in the window where a little sun will enter. It will thus become a mass of green foliage, and should be refreshed with water daily so as to be kept moist—*Indian Gardener.*

The Amateurs' Garden.

THE GREENHOUSE.

Chrysanthemums.—Now that most flowers outdoors are cut off and destroyed, Chrysanthemums seem to have a double attraction within, and to prolong their beauty to as late a period as possible, the house should be kept cool and dry and the plants regularly watered, as damp in the atmosphere will soon cause the petals to spot and mould, and an insufficiency of water at the roots will spoil the whole of the bloom.

Roof Climbers.—In cases where these are old, or in an unsatisfactory condition, the best way is to destroy them and start afresh, as owing to the very rapid growth most of them make, they soon get up the pillars and re-clothe the roof. The soil that is most suitable for starting or planting them in is turfy loam and peat, in about equal parts, and this should be chopped up and used somewhat rough, as in that state it keeps sweet and open, and maintains the health of the plants.

Sorts to Grow.—Among climbers for training and depending from the tops of greenhouses and conservatories, few things are more adapted than Tacsonias and Passifloras, which are exceedingly graceful in habit and foliage, and remarkable for their freedom of bloom. The most showy of the first-named are T. Van Volxemii and T. exoniensis, the one being a rich crimson and the other bright pink, and both have large flowers measuring nearly or quite 3 ins. across. The best of the Passion Flowers are P. racemosa cærulea, P. Munroi, and P. Colvillii; but there are several others nearly as good. For running up quick and producing a striking and pleasing effect, the Cobæa scandens variegata is quite unsurpassed, as besides having beautifully variegated creamy white foliage, it produces large brownish coloured bell-shaped flowers that make quite a show.

Roses.—To plant in light, sunny, airy houses some of the Roses are charming, the quickest growers and the most suitable being Marechal Niel, Gloire de Dijon, Celine Forestier, Reve d'Or, and Solfaterre, which not only bloom freely but are very sweet-scented. The best way to start with any or all of these is to get plants in pots, and after preparing a bed to plant them in by putting in a barrow-load or so of good fresh loam, turn them out, and just spread the roots out that are outside the ball, and cover them with some of the fine soil, which they will soon lay hold of, and, when spring comes, start with great strength.

Lapagerias.—For draping a shady back wall or other similar position, the Lapagerias are unequalled; but to grow them well the border must be specially prepared by being well drained and made of good fibry peat, mixed with a sprinkling of coarse sand to keep it open and porous.

THE FRUIT GARDEN.

Raspberries.—These, in a general way, stand on the same ground year after year till they become quite worn out and exhausted; but they make as good a return, and pay as well for liberal treatment and cultivation as anything one grows in a garden, for when in a favourable situation, and young and strong, they bear heavy crops of very fine fruit. Preparing the Ground: To enable them to make a satisfactory return, the ground must be prepared, and deeply dug or trenched, and while this is being done, plenty of dung or vegetable refuse should be worked in, and this should be kept well down for the roots to feed on when dry weather sets in.

Best Places to Plant.—The best place to plant and grow Raspberries in is between the rows of tall Apple trees, or other similar position where they get a little shade, which is natural to them, and when so favoured, it is astonishing how prolific they are, and what a long succession of fruit they afford as compared with those that are planted where they are fully exposed to the sun.

Distance at which to Plant.—The distance at which the canes should be planted depends a great deal on whether they are to be in single rows or not, and the room they can be allowed on each side; but if they are to be arranged in beds or plantations, they must be allowed a space of 6 ft. and it is a good plan when planting to angle them in that the rows may cut straight whichever way they are viewed.

Planting and Heading Down.—The way to plant is to take a single cane with plenty of fibrous roots, which most of the young suckers growing at a distance from the old stools have, and after a suitable sized hole has been dug, the roots should be carefully spread out, and then covered with soil, continuing the same on to the end, after which, the next thing is to tread them in firm, head down the plants, and make the ground level and smooth.

Cropping the Beds.—As there will be no Raspberries the first year after planting, the vacant parts between the rows may be profitably utilised for growing Onions, Lettuces, or some dwarf crops of that kind, which, in such deeply stirred and prepared land, are sure to do well.

Managing Old Plantations.—Plantations now established will need going over and having all stray suckers dug or pulled up, and others that are weak cut out, leaving from three to five of the strongest and best situated for bearing, which should be shortened according to the height of the stakes or other supports they are to be tied or trained to.

Dressing and Manuring.—One great mistake most people make who grow Raspberries is digging over the beds, which, as the plants have many surface-roots, does much injury, and instead of digging or disturbing the soil, all that should be done is just to clear it from weeds, and then mulch over with half-rotten manure, which is a help in the summer during dry weather, and enables the plants to swell of their fruit.

THE VEGETABLE GARDEN.

Digging and Trenching.—The chief thing to be done in this department of the garden is the breaking up or trenching of any spare ground, which is a most important matter, especially in cases where the soil is inclined to be stiff, when it is necessary to cast it up rough so as to expose it to the action of frost and air, which disintegrates it and renders it sweet and mellow, and thus brings it into a condition fit for the plants. Light lands are also greatly improved by being subjected to the same influences, and both are benefited by being freed to a large extent from grubs and insects, which sharp frosts kill or birds find and devour.

Peas and Broad Beans.—No sooner are these over than it is time to be sowing again for another year, but it is useless doing this in gardens where there are many slugs, as they feed on them all the winter, and the chances of a crop under such unfavourable circumstances are very poor indeed, as the Peas would be eaten up by the spring.

Best Places to Sow or Plant.—To get Peas early, it is necessary to sow on a warm sheltered border, or another position away from keen cutting winds, and the soil must be light and dry, or the seed will rot in the ground; but to prevent this, it is a good plan to cast along the rows a few ashes, which will absorb any excess of moisture, and keep the Peas sound.

Sorts to Grow.—One of the best kinds to grow is the little American Wonder, which is a very dwarf sort, growing only 9 ins. or 1 ft. high, and bearing a profusion of well-filled pods, the peas in which are of excellent flavour when cooked. Another kind that has now become a general favourite is William the First, a variety that attains to a height of 3 ft. or more, and is very prolific, yielding peas of a deep green colour that are tender and good.

Distance at which to Sow.—The first-mentioned being so short in the haulm may be sown in shallow drills, drawn about 18 ins. apart, but the William the First should have plenty of room, a fair distance for the rows being 6 ft. apart, which admits of the sides getting full light and air.

Broad Beans.—These being more hardy than Peas may be sown or planted anywhere in the open quarters, but there is one sort quite deserving of a border, which is Beck's Gem, a kind that branches very freely and grows 1 ft. high, but the best for general purposes is the Seville Long-pod, which is earlier than the Mazagan, and bears much finer beans.

Sowing under Glass.—Those who have birds, mice, and insects to contend with, will find the better plan is to sow in pans or boxes and place the same in a frame for the winter, when, after the turn of the year the Peas or Beans begin to grow they may be planted out, and they will then soon get away high enough to be out of reach of their enemies.

CHINESE PRIMULAS.

During the dull and dreary month of December and onwards till March, visitors to the Portland Nurseries of Messrs. Sutton & Sons, at Reading, will be able to see one of the finest collections of these charming flowers ever presented to view. One of the spacious new span-roofed houses in three divisions is completely filled with them, and they are appropriately grouped in varieties, which adds greatly to the effectiveness of the particular types, and enables the most complete and favourable comparisons to be made. Other houses on the nursery contain large quantities of plants also, but those alluded to above are the forwardest, and have recently been shifted into 32-pots. Messrs. Sutton & Sons have selected early, mid-season, and late-flowering varieties, and thus a good succession of bloom is maintained; but it is found that the earlier the plants bloom, the less seeds do they produce, and thus it is that instead of flowering their plants in 48-sized pots as hitherto, they are placed in 32-sized pots in order to carry on the period of bloom farther into the spring and early summer, and thus assist them in producing larger quantities of seed.

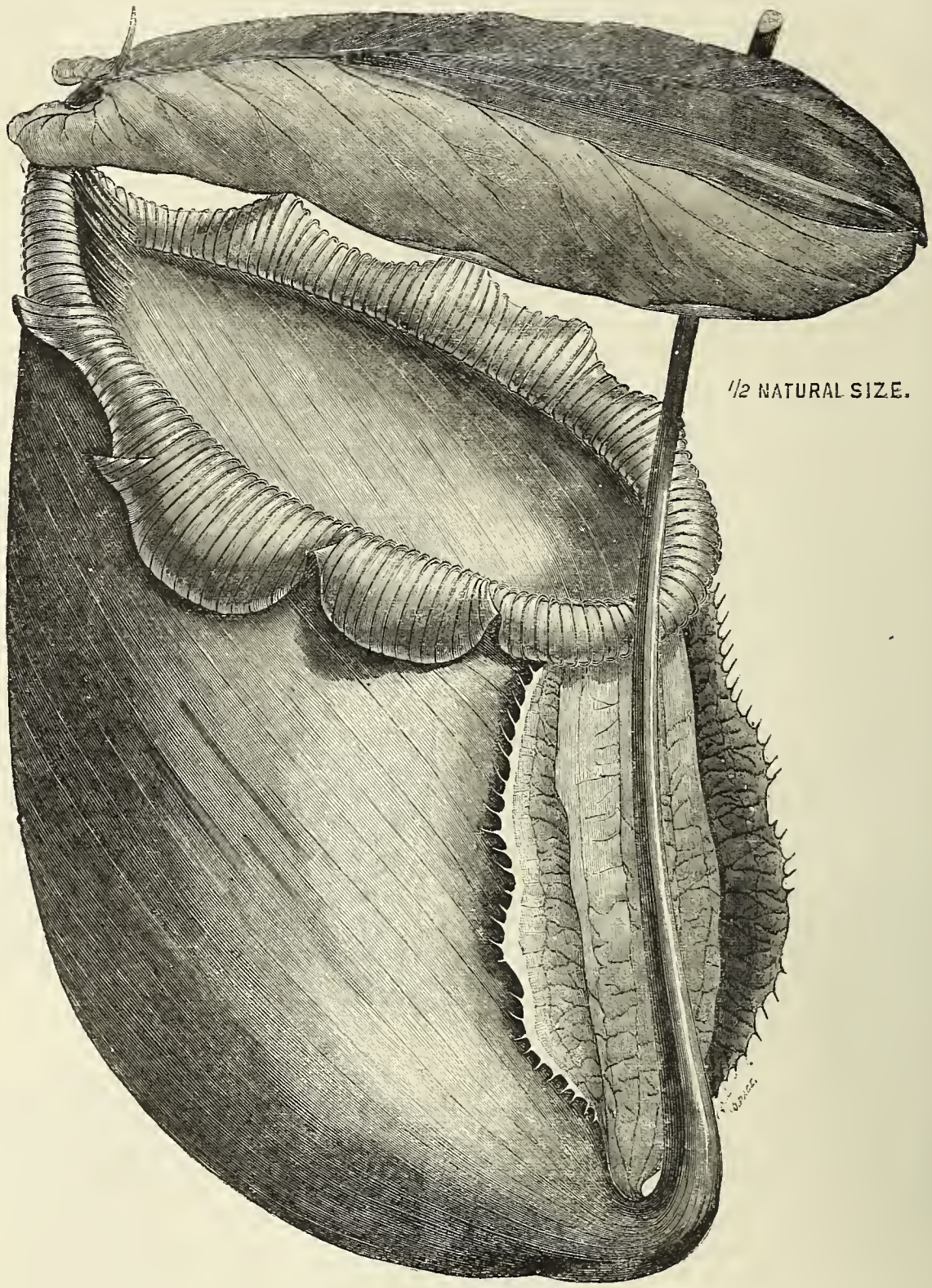
All the large plants now in 32-sized pots were raised from seed sown in April last. By March they will have formed specimens of large size, and will be bearing grand heads of bloom. The smaller plants were raised from seeds sown in June, and they will flower later, when the growing warmth of spring takes the place of the artificial heat necessary at the present season of the year. One general characteristic is seen in all the types—a vigorous, short-stemmed, compact habit of growth, but healthy and clean in the extreme; and this is true of palmate and fern-foliaged types alike.

One of the oldest is Superb Red, a fine type of an old form that is constantly being improved by selection. Ruby King was the next advance, a colour so rich as to bear description as "deep blood red," in addition to its richness of colour, the flowers are of the finest form and substance; opening somewhat pale, but increasing in tone and hue as the blossoms become mature. It is also of an excellent compact habit. This originated in 1879. Reading Scarlet followed, of a colour so bright and glowing as to merit being termed Scarlet; the flowers are perhaps a little undersized, but the colour is very striking, the blossoms stout and handsomely fringed. Pearl is in all probability a selection from Sutton's Superb White, but it is larger in the flower, very handsomely fringed, and of a close, compact, dwarf habit. Princess Beatrice is of a delicate rosy lilac colour, and having a yellow eye bordered with a circle of white; fine both in flower and habit. Reading Blue represents the latest development in blue Chinese Primroses. Slowly, but surely, new tints of deeper colour appear. But seedlings are certain to show some variation in the blue tints, and the raiser must not be surprised if a few of the older types of Primulas appear among them also. Habit and flowers alike are being improved, but seed will always be scarce. This variety needs a little more heat to bring it to perfection than is generally required for Primulas, and it is necessary that any check in its growth should be carefully avoided. The foregoing have the old type of palmate foliage.

Some of the new types of fern-leaved varieties are surprisingly fine. Snowdrift is a beautiful pure white form, with a dwarf compact vigorous and handsome habit of growth, the flowers large, of the purest white, lasting a long time, and it is very early to flower. It precedes the White Pearl in point of time, while it is so thoroughly distinct in foliage that the two can be grown side by side; Rosy Queen is of a delicate salmon-rose, it has a very compact habit, and the flowers are thrown well above it; it is very cheerful and effective in colour; but the most distinct of the fern-leaved type is Gipsy Queen, it has such a marked individuality of its own, that the visitor contemplates it with something akin to wonder; the foliage is of a deep russet-brown or nearly black colour, and from amid them there is thrown up bold trusses of pure white flowers, that change to a spotted and flaked with rose character as they mature, while the eye becomes of clear pale orange colour. The contrast is remarkable, and it is easy to perceive this type makes an excellent subject for the table.

Then there is a section of handsome semi-double varieties obtained from seed. There are the double pure white, and the double forms of red, carmine, and lilac; but these, useful and good as they are, are less in value than the double scarlet, a new type, of a very bright rich crimson colour, most effective in every respect; the leaf-stalks and leaves dark, the habit all that can be desired. This is truly a great acquisition.

Crosses are made with so much attention and judgment at Reading, that it is not to be wondered at striking novelties putting in any appearance. This is the way to produce new types of definite character, marking steps of progress in the way of the production of novelty.—*R. D.*



Nepenthes Rajah.

CULTURE OF VIOLETS FOR WINTER BLOOMING.

To have a good supply of double Violets during the dreary months of Winter, must be a great source of satisfaction to any gardener, as, doubtless, it is to those for whose pleasure and enjoyment they are produced. As many, however, fail to grow and bloom them with any degree of certainty, I am pleased to send you the details of a system of culture adopted by me with much success, in the hope that some who have attempted their culture and failed, may be induced to make another effort, and that others who have never tried their hand, and yet have the means, may be tempted to do so. I will, therefore, commence with the taking of the runners, which is done about the first or second week in May, according to the weather. I should, however, here remark, that early in March a quantity of fine leafy soil is sifted over the plants growing in the frames, and is well worked in amongst the runners by the hand. Into this they almost immediately send forth roots—and are, when planting time arrives—what may be more properly termed plants than runners.

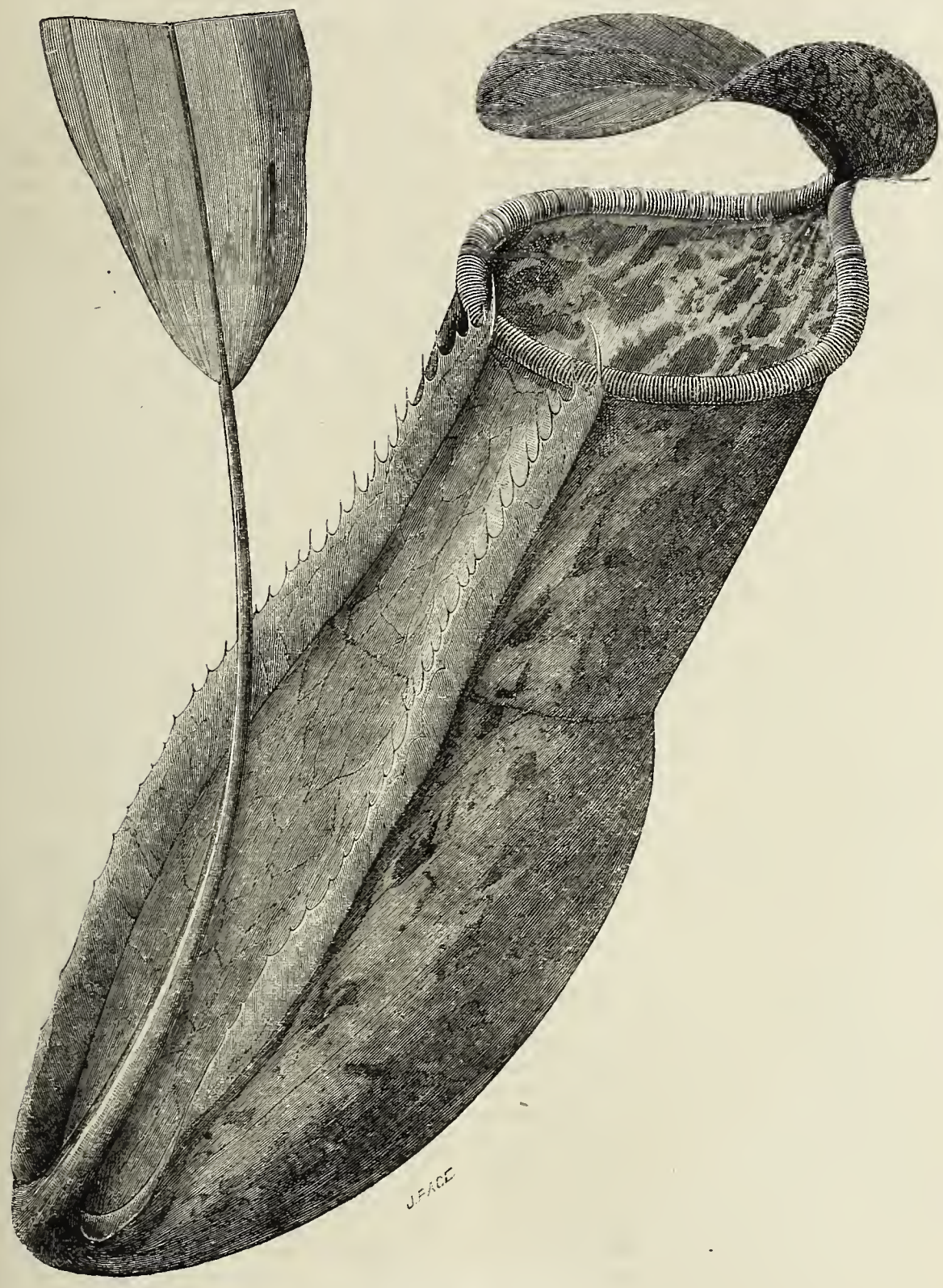
Soil and Situation.—According to my experience, the position that is found the most suitable for one variety, is not always suitable for another; for instance—Maria Louise succeeds well on an east border where it can enjoy a fair amount of sunshine; whereas the Neapolitan thrives best under the shade of a north wall, entirely screened from the sun's rays, the reason being that the latter variety is harder in the texture of the leaf, and suffers more from the attacks of red spider when grown in an exposed position. The soil in which my plants are grown is somewhat light, but annually, previous to planting, I give it a thick coating of leaf-mould and road sweepings well mixed and dug deeply into the borders, afterwards laying on another slight coating and pricking it in just below the surface, this last addition gives the plants a good start.

After Treatment of the Plants.—As soon as the plants are pricked out into the borders 1 ft. apart

each way, they should be shaded, if exposed to sun and wind, for the period of a fortnight, when they will be established, and shading may be dispensed with. After this period, the soil is not allowed to become dry, as the plants receive copious drenchings each evening from heavy rosed water pots. It is not advisable to deprive the plants of their first offsets or runners until they are well into growth, after which they must be regularly pinched, in order to throw strength into the centre or crown of the plant, that being the point from which the blooms are eventually to spring. If this important operation is neglected, the strength goes into the runners, and the plant proper is starved. It is an excellent plan to mulch the beds during summer, as by this the moisture so essential to the well-being the plants is retained. The Dutch hoe must frequently be used between the rows to keep down weeds, and for the admission of air, and the plants may be frequently syringed in the evening with water, into which a dash of liquid manure has been put; this invigorates the foliage, and is at the same time a preventative against their one great enemy, red spider.

Putting the Plants in their Winter Quarters.—If the plants have received proper cultural attention, they will by the beginning of October have made as much growth as desirable, and will be furnished with stout crowns, which can be detected at a glance, and will, in the case of the Marie Louise, be sending up their delicious flowers in quantities. At this period I have beds made up some 3 ft. or 4 ft. high, consisting of leaves, litter, and any old "garbage," such as is usually found in autumn on vegetable refuse heaps; this latter acts as a check to the leaves and litter, and prevents a too violent heating. The beds have a considerable fall from back to front in order that the plants may receive the full benefit of the sun, which at this late period of the year is the chief agent for their good. After the beds have had time for sweetening, the frames are placed on them and filled with soil, so as to bring the plants well up to the glass, which, by the way, must always be kept clean. Any light leafy soil answers the purpose, and the plants are removed to their quarters with perfect balls, planted about 9 ins. apart, well watered, and if the weather is open, fully exposed each day, as they will not submit to coddlings.

The greatest enemy to their welfare in winter is damp, which must be watched for and removed, and on foggy days, the lights are best closed entirely. In severe frost an extra lining to the frames is beneficial, and a double mat will generally be all that is required to exclude frost. It may appear from these remarks that a deal of labour is required to produce good blooms, but when it is considered how much they are appreciated, and especially by the ladies, and worthily so, it must be acknowledged that the time and labour bestowed on their culture is amply repaid. The best varieties for winter work, are Maria Louise, Neapolitan, and Count Brazza's White, the former being the earliest to flower, the last two flowering simultaneously.—*John Crawford, Coddington Hall, Newark-on-Trent.*



Nepenthes Mastersiana.

WINTERING STRAWBERRIES IN POTS.

Because these plants are hardy, some growers attach but little importance to the practice of providing them with protection during the winter, and in moderately mild winters their sceptical proceedings experience no check, indeed, are rather justified by average success. But in severe winters matters are otherwise, and we find it necessary to protect them for the sake of the pots, which readily burst by the expansion of the soil when acted upon by frost. Again we must not overlook the fact that the entangled mass of roots of even a hardy plant against an earthenware surface above ground must be exposed to different influences to those plunged or planted in the open air, and extremes must act adversely upon them. Others, perhaps, go to the extreme when they store their Strawberry plants in autumn, and expose them on dry stages and in other unfavourable positions, where they frequently become dry, and it is not observed till the soil begins to shrink and leave the side of the pot.

On one occasion I saw a batch plunged in the open border surrounded with boards for thatched hurdles to rest upon for protection. This, one would imagine, must subject them to the incursions of worms, which are most detestable in a Strawberry pot; but as to how they fared in that way I did not ascertain. In one large garden several hundreds used to be stacked on their sides against a specially prepared sloping bank of earth, the spaces between the pots being filled up with decayed tan. The bank being considerably higher than was considered wise to pile the plants, admitted of poles being rested obliquely on its summit to support reed-thatched hurdles, the opening at the top being covered with Bracken, and the ends with mats, provided such protection that is not excelled only by brick-pits or well-protected frames, and of these I shall have something to say presently.

Here we pack some on their sides in ashes against a wall facing the north, where they remain till they are introduced into the forcing houses. But if before then, they show indications of being dry, they are arranged on the surface of the ground—the ashes which surrounded them having been previously levelled to stand them upon—watered, and covered with lights leaning against the wall, if at the time we have no frame for them. We have also packed them in the same aspect in double rows, and five rows high, with the plants facing east and west, allowing 2 ft. space between each stack for the admission of light and air. Additional protection was provided by laying Pea-sticks over and against them, and cover these with dry litter or mats, according to the weather. In all methods of packing them on their sides, it is of the utmost importance that the material they are packed in should gradually rise from the front of the pot to the back before each row is arranged, in order to maintain a plumb frontage, or packing will be brought to an abrupt termination if a needlessly wide base has been started with.

During prolonged frost much inconvenience is experienced from all plants that are packed or plunged, for however much they may be required, we must wait till they are released by the thaw before they can be moved, and if a continuous supply has to be kept up, it is wise to have at least one batch under glass, so that they may be introduced to heat at any time. About the middle of October our earliest are given the shelter of pits or frames, and the successional ones, which are arranged in convenient sized beds—are protected from heavy rains by lights resting on pieces of quartering laid on bricks or pots. Any spare frames are also called into use and dropped over the beds.

Pits and frames are no doubt the best for storing the Strawberry plants in, but they are so much in demand for other purposes, that only a small space in them can be devoted to these for three or four months. When, however, they are wintered in these structures, they should be plunged in some kind of material even for the sake of the pots.—*W. P. R.*

FRUITS, FLOWERS & VEGETABLES.

Horse-radish Culture.—At the last meeting of the Sale Botanical Society, Mr. Plant read an excellent paper on this subject, in which he said:—In planting this useful vegetable begin at one end of the old bed and take out every bit of root, large and small, taking care of the long white thin pieces. Tie them in bundles and bury them in damp sand; afterwards pick out all that are fit for use. Make a trench and bury them up to the crown in a corner of the garden. These will serve for kitchen use until your crop is ready. In planting the young shoots, prepare a bed 3 ft. wide, trenching and manuring it with good rotten manure, mixing it well with soil. This must be done about the end of February. Take all young roots; distinguish the crown end by clusters of young buds; rub the roots up to 1 in. from each end with a rough cloth, the object being to remove the young buds which would diminish and retard the growth of the main stem. Plant in a horizontal position, inclining a little downwards. Feeding in the way of liquid manure, and watering in dry weather is desirable, and he further advised the removal of buds or shoots from the crown end, as it only tended to feed the leaves at the expense of the stem.

Stephanotis floribunda, Fruiting.—Your correspondent, "A. M.," asks if it is common for this plant to fruit in the south of England. I know only of two instances of its fruiting. One was about nineteen years ago, when in the service of W. C. Standish, Esq. South Stoneham House, Southampton. A plant under my care produced a fruit about the size and shape of an ordinary hen's egg. About two or three years later, when visiting a flower show at Christchurch, Hants, I saw a fruit, rather smaller, on a plant exhibited by a gentleman living near Ringwood. The gardener, Mr. Harrington, sent me some of the seeds of this fruit when ripe, but it never germinated. I have heard of other cases, but never saw them.—*N. Blandford, The Gardens, Moor Hill, Southampton.*.

The fruiting of this popular plant is comparatively a common occurrence at Messrs. Lucombe, Pince & Co.'s establishment at Exeter. One of their specimen plants is now carrying two very fine egg-shaped fruits, one of which measures 5½ ins. in length and the other 6 ins., and they are far from being ripe.—*W. Napper, Nov. 23rd*, 1885.

Chrysanthemums.—Very many growers of these popular flowers (myself amongst the number) would be more than grateful to Mr. Molyneux if he would publish his *modus operandi.* Such a successful grower need fear no rival, and we should feel deeply indebted for particulars in detail from beginning to finish, say, as to what to do, when to do it, and what to avoid. We should also be glad if he would enumerate the best twenty to fifty kinds for exhibition and for successional flowering for private families.—*W. C.* [We believe we are correct in stating that it is Mr. Molyneux's intention to publish a little work on Chrysanthemum culture; but that is all we know on the subject. Perhaps Mr. Molyneux will kindly enlighten us.—Ed.]

Aralia Sieboldi.—Some plants of this now in bloom in my house, are very stately and highly ornamental. They have thrown up large panicles of white blossoms, somewhat resembling individually those of the Elder. On a sunny day many large flies come to the flowers, from which they appear to derive a sweet secretion. Even under glass, Aralia Sieboldi is much later in flowering this year than last year. It is a plant easily managed.—*R. D.*

Chrysanthemums and Public Favour.—I congratulate you on the full and admirable reports you are publishing of the exhibitions which are now being held all over the country, and which augurs well for the Chrysanthemum. It is a great pleasure to your readers in the northern counties to be able, on Saturday night, to take up your admirable paper and transport themselves, as it were, to the various exhibitions held in and around the metropolis, and I doubt not that your southern readers are equally interested in the progress we are making. The Chrysanthemum appears to be making a strong impression on the public here, and it will, I predict, become one of the most popular of flowers. It seems, some time ago, to have got up a few steps of the ladder and to have stopped there, but during the last few years it has assumed an onward movement, and as the seasons come round, we behold it gradually, but surely, climbing into public favour. It has often been asked, "has the Chrysanthemum had its day?" and some have gone so far as to say that they were afraid it had. They were, however, false prophets, for do we not see, at the present time, that almost every town and village has now its annual show; everyone is wondering how it is that the cultivation of the flower generally was not taken up sooner. Of objections urged against the flower, a few have come under my notice. Some have said, "Oh, they are too much trouble;" another remarks, "Don't like to lower the floor, or to climb a 10 ft. ladder in order to see the flowers on the top;" and yet a third says, "One months feast and eleven months hard labour, not for me." But perhaps the want of a general knowledge of the requirements of the plant has had more to do with its neglect than anything else. However, I am pleased to know that its cultivation is getting better understood, and that some of the objections can be overcome was proved by the splendid group or bank of flowering plants in pots, staged by one of our local exhibitors, Mr. Hatch, at the recent exhibition, held in this town, and reported by you at p. 188 Here might have been seen the Jones's, the Smith's, the Brown's, and the Robinson's, standing as if spell-bound in front of this group, and mumbling something about "no lowering of floors or climbing of ladders here." The plant does not require the labour and trouble that some have thought necessary, as through the winter and spring its wants are few, protection from frost, an occasional use of the watering-pot, being its principal requirements. Again, the plant is not particular whether it is growing in the Boroughs or the Counties, and, as a town flower, it has no equal. Given good soil, careful watering, and judicious dis-budding, and any trouble that is taken will be repaid by the pleasure obtained in watching them coming into flower in the dullest month of the year.—*B. L., Huddersfield.*

Tuberoses at Strathfieldsaye.—Mr. Bell, gardener to the Duke of Wellington, grows Tuberoses in the following manner with satisfactory results. He plants them out of doors in May in rich light soil, and lifts them on the approach of frost, potting them into 32-sized pots. They are then taken into the houses with the result that he has now some fine spikes of flowers with from fifteen to eighteen flowers on a spike, about 2 ft. high. Very fine flowers they are, too, and invaluable just now.—*A. O.*

Dahlias and Chrysanthemums.—A short time since, Mr. Murphy stated that he was still cutting single Dahlias and also Chrysanthemum Mad. C. Desgrange, from plants in the open ground. Although I had no plants of the latter out in the open, I had some in pots, and for some time they had been blooming in the conservatory, from which I had them removed on Saturday morning (14th inst.), as they presented a somewhat seedy appearance; while the single Dahlias, as also Juarezii, Constance, and others of that class, were still fresh in appearance. Later in the day I cut creditable flowers of the Cactus Dahlia, Juarezii, though somewhat deficient in colour through insufficient sun to develope its brightest hues, and as clean and clear blossoms of White Queen, and a good yellow seedling as I have cut during the season, the only difference being that the flowers were rather smaller. Of the varieties I have mentioned I cut quantities, and they have for the last month or six weeks bloomed more profusely than either the scarlet, rose, or purple varieties, although the latter shades of colour have given a fair amount of flowers. It is quite a change in the order of events to have Dahlias in good condition after early Chrysanthemums are past, but on the same night the frost made short work of the Dahlias, the thermometer falling to 24°, which is rather too much for them to stand. On September 26th we had 6° of frost, and—excepting in the most exposed positions—with but little apparent injury to them.—*E. Dumper, Limerick.*

Judging Chrysanthemums.—The awards made by the judges in the principal cut bloom class at the recent Bristol show were, I consider, very unsatisfactory; and in drawing attention to the facts of the case in your columns, I do so in the hope that Mr. Molyneaux, or some member of the National Chrysanthemum Society will kindly give us the benefit of their experience on the point raised, &c.; with their decision I shall be perfectly satisfied. In the class referred to, the prizes were offered for twenty-four cut blooms, distinct, of large-flowering Chrysanthemums, Japanese and Anemone excluded. The stand that was awarded the 1st prize contained blooms of Empress of India and Mrs. Cunningham, which are well known to be synonymous, and although the judges admitted that, they were the same, contended that they could not disqualify on that account. What appears to me to be so inconsistent in the matter is, that although the certificate of the National Chrysanthemum Society was offered in this class for twenty-four distinct varieties, the judges awarded that certificate to a stand that contained two blooms which the leading members of the National Chrysanthemum Society do not consider distinct.—*Exhibitor.*

Celery, Sutton's White Gem.—I have grown white Celery for the first crop for several years; but it is never so good as the pink kinds, and has, in fact, been despised when the latter has been fit to lift. In the past autumn I had one row only of the above-named kind for first crop, and it certainly proved a crisp, solid, good white kind, and I regret I did not plant more of it. The cook likes it better than the pink kinds for certain culinary purposes, *i.e.*, for sauce to accompany game, as well as for serving as a second-course dish. It is also a dwarf and most compact growing sort, distinct in habit as seen growing side by side with other varieties, and very sweet-flavoured. I intend next year to grow more of it.—*T. W.*

The Late Pear Congress.—A considerable amount of dissatisfaction, I find, exists amongst the contributors to the recent congress. Some are dissatisfied with the meagre amount of information concerning it given by the press, after heralding it with such a flourish of trumpets; while others complain that their exhibits have not been acknowledged by the authorities; while some growers who were not exhibitors have received official thanks for their services as members of the general committee. Again, it was expected that fruits sent unnamed would be named by the committee as far as possible, and that those sent incorrectly named would be corrected; but I hear of one kind in particular which was accidentally sent under a wrong name remaining uncorrected to the closing day, and yet it was so dissimilar to the true one that it ought not to have escaped notice. There were also many kinds left unnamed. To be charitable, would the matter bear a little ventilating now? For we can scarcely expect the above explained when we get the promised report on the congress.—*W. C.*

Chrysanthemum Princess of Wales.—My name having been mentioned in connection with Mr. Monk's blooms shown at Stoke Newington, I had better state a few facts. My attention was first called to the two blooms shown as Mrs. Heale and Princess of Wales, by a friend, and as both blooms were shown quite white, and either could have been shown for Mrs. Heale, I gave it as my opinion that they ought not to have been shown on the same stand. Later on my attention was again called to the same blooms; this time, in the presence of the judges, the blooms were taken from the stand and carefully compared, and I still failed to see any difference, except in size, and could not alter my former opinion. Mrs. Heale being a white sport from Princess of Wales and Princess of Wales being a coloured flower, what else could the judges make of it but a Mrs. Heale? Mr. Monk admits his Princess was shown quite white, and states that the plant had been in a shed for ten days, which would account for its whiteness, but the judges and the public did not know under what condition the bloom had been grown, and I would advise Mr. Monk not to show it again so white when showing a Mrs. Heale on same stand or he may find himself disqualified. It was an error of judgment on his part to show it so white. No one knowing Mr. Monk would doubt for one moment but that it was shown in perfect good faith. I cannot understand why Mr. Monk should think I ought to have consulted him, as I had no more interest in the matter than any other visitor to the show.—*J. George, Putney.*

Chrysanthemum Dr. Barrié.—I have no wish to enter into a controversy with Mr. Clark (see p. 186) in respect to what is done by the National Chrysanthemum Society at its floral meetings, at all events not until he can write his criticisms in a little more respectful manner. But in regard to the Chrysanthemum under notice, I wish to inform the readers of The Gar-

DENING WORLD that "Dr. Barrié" is a new Chrysanthemum to all intents and purposes; I believe that the plant imported by me in the spring of this year was the first and only plant introduced into this country. It is true the variety was catalogued by Messrs. Delaux in 1882, but it was not, I think, distributed at that time, for the variety formed part of my order to this firm in the spring of 1883. It was, however, not sent, and it was not till the spring of the present year that I was able to procure a very small and weak cutting, hence it is decidedly a new Chrysanthemum to this country, in the same way that Belle Pauline, Mdlle. Lacroix, and many others have been considered so, though they were really raised on the continent some years before. Mr. Clark might just as well say that the recent introductions from Japan are not new varieties, though probably some of them were raised before he himself was born.—*N. Davis, Lilford Road, Camberwell.*

I am pleased to find that this subject has been taken up by Mr. Clark, and I must say, I think it is high time some steps were taken by the members of Floral Committee of the National Chrysanthemum Society, to satisfy themselves that blooms exhibited as new varieties are really what they purport to be. Probably, one reason why this subject has escaped the attention of the Chrysanthemum world is, that the only report I can find of the National Floral Committee meeting which mentions this flower, spells it Dr. Burrell instead of Dr. Barrié, It is impossible for anyone to recognize the name of a flower when it is mutilated in this way. I, too, was utterly astounded to find, after the Floral Committee had made their awards, at the Royal Aquarium on the 11th of November, that a silver medal had been awarded, in class 30, to a stand containing Dr. Barrié, and I at once called the attention of one of the executive to the fact, that this variety was at least four years old (for, like Mr. Clark, I am unable to trace it back beyond 1881), and since then I have mentioned the subject to one of our leading Chrysanthemum growers and a prominent member of the floral committee, but the only explanation I can get is that they did not know the flower. Class 30, in the National Chrysanthemum society's Schedule, is as follows:—"For the best stand of new Chrysanthemums, in six distinct varieties; 1st prize, silver medal." Now in this class there were only two exhibits, one stand containing six of Messrs. Délaux's new varieties for this season, and the other stand containing five new flowers and Dr. Barrié, and it does appear to me a mistake for the committee to go out of their way to give two silver medals instead of one, especially under existing circumstances. I gather from Mr. Clark's letter, that he considers none but new varieties should be certificated. Now upon this point I do not quite agree with him, for to my own knowledge there are a number of very fine varieties in cultivation which are not to be found in any English catalogues, and have not yet been seen at any English Chrysanthemum show. Several of these I have succeeded in adding to my collection, and I find more than one are superior to some of the so-called new varieties which have received First Class Certificates. I would suggest that certificates should be awarded, not simply because a flower is a new variety, but should be awarded to such flowers as are considered by the Floral Committee to be thoroughly meritorious as exhibition flowers, notwithstanding the fact that they may have been sent out several years previously. For instance, the Royal Horticultural Society, on the 13th October last, awarded a First Class Certificate to L'Ile des Plaisirs, a variety sent out by Messrs. Delaux about eight years ago; but three very fine blooms were put up, and thoroughly deserved the award, and there are numerous other cases where the Royal Horticultural Society have awarded certificates to flowers several years old. We do not want certificates awarded to enable the trade to demand a high price for new varieties, but for the guidance of the Chrysanthemum grower in making the selection of plants he intends growing next season, whether for competition or conservatory decoration.—*Geo. S. Addison, 22, Peckham Grove, London, S.E.*

THE LARGEST FIELD OF PINE APPLES in the world is on an estate in the eastern district of New Province, Bahamas. From one spot it is possible to see, at a single glance, 1,200,000 Pine Apples growing.—*Indian Gardener.*

BOUVARDIAS.

AMONG winter-flowering plants we have nothing which can surpass these for general beauty and excellence. Whether required alone for button-hole use, or in company with other choice flowers for bouquets or sprays, they are equally valuable and charming. Brilliant beyond comparison in some instances, and in others of the purest snowiest white, accompanied by a deliciously refreshing fragrance, we have all that it would appear possible to get from a single group of flowering plants; a button-hole or spray, to whom it may be presented, seems ever welcome at any time in the year, still more so at this dull time and when the flowering occupants of our plant houses are not seen in much variety; gifted too with a natural profuse flowering quality only renders the Bouvardia still more valuable to those who are ever eager and ready to make use of it. For some years the Bouvardia was considered a stove plant essentially and treated accordingly, but the present mode of culture quite upsets this notion, thanks to that enthusiastic body known as "The London Market Growers," who bring them to such perfection by simple and easy means, and such as are within the reach of most people.

Cuttings are secured early in the year, and when rooted, duly hardened off, and potted into 2½-in. pots, in these they are well established and are kept pinched into shape, after which they receive the final shift into 48's, and when the weather permits they are placed out of doors, sometimes standing on a bed of coal ashes or plunged in suitable material. So placed and with plenty of sun the growth is thoroughly ripened, a condition so essential to their free flowering afterwards; some prefer planting them out, and were there is followed, they do not get the shift into 48's and take much less time in watering and so forth, and provided the soil is suitable, the planting out system has its advantages; but whichever course is pursued, they are much more robust and vigorous when grown out of doors than are those cultivated under glass. They require when established plenty of nourishing food, and to be taken under cover on the approach of frost, by which time the flower-buds will be seen in the leading shoots, and when they should have a temperature of from 50° to 60° which will enable them to perfect their flowers. When the leading trusses have been secured, the smaller ones and also the laterals will, if kept in a warm house, soon push forth; the plants should then be encouraged with weak liquid manure water, say three times a week, and here I would remark on the policy of giving plants manurial aid, it being far safer to give it three times weekly in a weak state than to overdose them at any time.

Nitrate of soda, at the rate of 1 oz. to a gallon of water, is ample for good strong plants, and may be given every fourth or fifth day. Standen's manure may be applied at the rate of a small tea-spoonful to two plants in 48-sized pots once a week; this is a powerful manure and requires care. Clay's fertiliser is a durable and safe manure in the hands of most people; of this a small tea-spoonful scattered over the surface once a week will make a decided improvement, and its lasting properties are considerable. Either of the three kinds named will be productive of good results, and (if carefully used) equal to any I know, and being all clean, may be used by anyone. In using either of the two latter, I prefer to do so after watering the plants, and for this reason, when sprinkled on the damp surface it becomes at once incorporated with the soil, but if applied previous to watering, and on a comparatively dry surface, the chances are that the first watering washes a goodly portion of it out of the pots, and, as a natural consequence, the plants never receive any benefit whatever, and a valuable manure is wasted. A small rose watering-can is the best thing to settle the manure on the surface, giving sufficient to damp the whole.

Some of the best white kinds are Vreelandi, Davisoni, Bridal Wreath (very fragrant), Jasminiflora, and Humboldtii corymbiflora, also fragrant; Alfred Neuner is the double white. In the other extreme we have Hogarth, Elegans, Dazzler, all excellent free-flowering scarlets; the last-named is especially brilliant in colour, and it has a good bushy habit, and bears fine trusses of flowers. Queen of Roses is a good bushy-habited plant of a distinct shade of rose; nor must I omit the pleasing flesh-coloured President Garfield, a counterpart of Alfred Neuner save in colour. Both kinds produce large handsome trusses, which, when well developed, are highly valuable for their lasting properties.—*E. J. S.*

ORCHID NOTES AND GLEANINGS.

Collecting and Packing Orchids.—Mr. Diver's remarks on this subject, at p. 171, are perfectly correct, and much to the point. There is no doubt that the main feature in successful Orchid importation depends on their being collected as soon as possible after their growths have thoroughly hardened and the resting season has begun, and on their being immediately packed and forwarded by the quickest possible route. A notion used to prevail, even among professional collectors, that the plants should have a preliminary drying in the sun on several successive days before packing; but this idea has long since been abandoned, as the plants get quite drying enough on the journey.

The best way is to select sufficient cases of moderate size, so as to be portable, and place the plants in them at once without any packing material, or, at most, but a sprinkling of some dry shavings or fibre as the packing goes on. A layer of plants should be placed in the bottom of the box with their leaves all one way, another layer should be placed on this with the heads the reverse way, and so on until the case is full of plants, gently press one against another so that the shrinking which must necessarily take place on the journey should not leave too much space unoccupied. During the process of packing, a strut or light stick here and there should be fastened across by means of nails driven into it at each end through the sides of the box, as this prevents the plants being shaken about on removal after they have lost their firmness by the journey, the struts ensuring to each the space originally allotted to it, and preventing the plants from pressing on each other. The smaller the plants are, the smaller the cases for them should be, and when the consignment contains frail specimens, they should be packed separately, and the collecting and packing should be done after the time for getting to the vessel has been calculated. For the rest but little remains but to have a fair journey to make sure of success, unless it be in very rare instances, for most Orchids collected at the proper time, properly packed, and sent quick, travel better than any other plants, perhaps Cacti and bulbs excepted.

But now a word on another point bearing on amateur Orchid collecting is necessary, as experience has taught me that many of our friends in the tropics have very hazy notions about what we want here, and fancy everything coming under the denomination "Orchids" must be acceptable. Only last year I was asked to inspect two immense cases, each as big as a sentry box, which had been brought over filled with Orchids, which the amateur collector had repeatedly written about, and the mere recital of the wonders worked up my curiosity to the highest pitch; among other things he stated he was bringing the three first blue Vandas ever found. When I was told that the plants had been plentifully watered on the journey, I was quite prepared to find the greater part dead, but I thought their remains would be interesting. Judge of my disappointment, however, when I found the contents of those huge cases were made up of a bushel or two of Pholidota imbricata (all alive, of course, whoever saw a dead one?), a like quantity of the most insignificant Cœlogynes and Bolbophyllums still living, a few plants of Dendrobium nobile and D. chrysanthum, alive, but beyond care, and many more dead together with the phenomenal blue Vandas, which certainly looked like V. cœrulea, which, if they had been alive, would have been worth at least ten shillings. This precious consignment is the type of many I have seen, and I do not think the recipients will ever trouble their friends for Orchids again, as the cost of freight of some of them has been enormous.

Nevertheless, many in this country have friends in the tropics, often in new localities, from which they could send some lovely things. In this way the localities of some of our best plants have been learnt, and it is to the interest of growers, both private and in the trade that good things should be sent by those who can, but above all they should make sure that there is sufficient beauty in the subjects, to warrant the trouble and cost of collecting and sending them. When writing to friends in the tropics who do not know Orchids botanically, it would be well to give them instructions about packing. I here give and add, that they are to send only showy flowered things as plants, but carefully dried flowers of the less beautiful should be sent in

advance, so as to get a reply as to which of them to send. The dried flowers should never be packed with the plants, but sent on by post.—*James O'Brien.*

Trichosma suavis.—This is a gem amongst the Orchids flowering at this period of the year; sweet-scented flowers. The other day, at Lord Calthorpe's, Elvetham, I was much struck with the beauty of a small plant bearing five or six spikes with as many flowers on a spike. The flowers are white and the labellum yellow and red. They are very sweet, and in habit and style the plant is something like Govenia deliciosa, another beautiful Orchid not too often met with. Both these were recently figured in *The Orchid Album*—the former plate 114, the latter plate 210. —*A. O.*

THE GARDENERS' CALENDAR.

THE FRUIT HOUSES.

THE VINES in the early house, if not already done, should be forthwith treated in the manner recommended at p. 76; that is, if ripe Grapes are required by the end of April or early in May next. In most cases, the Muscat Vines will have shed their leaves, so that the sooner the bunches of this excellent Grape are cut with a good length of wood attached for inserting in champagne bottles nearly filled with water, and having a few pieces of charcoal in each to keep the water pure, the better it will be for the Vines and the Grapes too, providing there is a suitable room in which to rest the bottles on shelves at an angle of about 20°, and in which a dry atmospheric temperature of from 45° to 50° can be maintained throughout the winter and spring months. The bunches should be looked over frequently, and whenever a berry has become injured through damp or other cause it should be removed forthwith.

Late varieties, such as Lady Downes, Gros Colmar, Trebbiano, Alicante, Gros Guillaume, Mrs. Pince's Black Muscat, &c., which are still hanging on the Vines, where, for the sake of the Grapes, it will be advisable, in properly constructed and managed houses, to allow them to remain for the next five or six weeks, should also have attention in the way of removing at once any bad berries that may appear on the bunches. Maintain a dry airy atmosphere in the houses in the meantime, and a minimum temperature of from 45° to 50° therein should be aimed at. After the Grapes have been cut in the Muscat-house, the Vines may be pruned back to a good plump bud, removing at the same time any unsightly spurs that may be on the Vines, wherever young shoots of the current year's growth from the main stem are procurable to take their place, and these should be cut close back to one bud from its base. The washing of the Vines, cleansing of the house, top-dressing of borders, &c., should then be proceeded with in the way advised in THE GARDENING WORLD for October 3, p. 76, and an abundance of air should be afterwards admitted to the house until the time (new year) for starting the Vines arrives.—*H. W. Ward, Longford Castle.*

THE KITCHEN GARDEN.

Complete the earthing-up of late plantings of Celery and Cardoons, so that as much of the stem as possible, consistent with keeping the soil out of the hearts of the plants, may be covered with the soil. Get all vacant pieces of ground manured, dug or trenched, in readiness for early plantings of Peas and Cauliflowers. Remove forthwith to the rubbish heap any useless Cabbage, Cauliflower, and Broccoli stumps. In damp weather the garden walks can be freed from weeds and fallen leaves, and be afterwards rolled. Manure heaps can be turned, Oak and Chestnut leaves raked together and carted to the leaf-coop for hot-beds and leaf-mould; Pea and Bean sticks can be got in and made ready for future use. As a rule there are plenty of jobs reserved for doing on wet days, such as the making and tying up of labels in different sizes for pot plants, seed beds, Roses, &c., and mat tying, the making of crooks for pegging and layering plants, together with the preparing, sizing, and tying up in bundles of sticks for pot and border plants; also the breaking, sifting, and sizing of crocks, and looking over seed Potatos and other roots.

FRAME GROUND.—Abundance of air should be given to ubjects in this department in the absence of frost and snow—I mean the young Lettuce and Cauliflower plants for spring planting—to ensure a sturdy growth. Look over the established plants of Endive and Lettuce, and remove any decaying matter that may be adhering to them, destroying any slugs that may be found.

FORCING DEPARTMENT.—Another frame of Asparagus should be got in at once. Give sufficient air to beds in bearing, so that the "grass" does not become drawn, and cut the same as soon as it attains 6 ins. or so in height, and stand the butt ends in a saucer containing about ½ in. of water, out of the reach of frost, until required for use. Another batch of Rhubarb and Sea-kale roots should be put in the Mushroom-house or wherever they are forced. Failing this accommodation, the root-stocks should be covered with pots or long boxes, and these covered with 3 ft. or 4 ft. thick of Oak or Chestnut leaves. The present is a good time to put sets of the Ashleaf and other Potatos into pots or boxes, embedded in leaf-mould, starting them in a little heat, to be planted later on in the hot-beds when they have made 2 ins. of growth.

Sow Mustard and Cress at short intervals, covering with a board for a day or two until the seeds sprout, and see that successional beds of Radishes are attended to in the way of watering and airing. Stable dung (including the horse-droppings) and leaves (a little more of the latter than the former) should be thrown together, and turned over a couple of times in the course of a week or two to sweeten, wherewith to make up hot-beds for Potatos, Carrots, Radishes, &c. About the middle or third week in the ensuing month, keep a good supply of rich soil in a shed in readiness for sowing and top-dressing French Beans and other purposes connected with this department.—*H. W. Ward, Longford Castle.*

THE PLANT HOUSES.

FLOWERS FOR JANUARY AND FEBRUARY.—It is during January and the early part of February that flowers are generally very scarce, and, as at that season, there is often a great demand, it requires some management to keep up a sufficient supply; but if timely consideration is given, many things may be brought on in time to succeed those that are exhausted at Christmas time. Spiræas, and Lily of the Valley should now be started; the Spiræas should be plunged where there is a gentle bottom heat, and should have a covering of about three inches of cocoanut fibre refuse over the crowns, this should not be removed until the flower spikes are well started. A few leaves will often come through before the flower spikes get properly started, and, if exposed too soon, the flower spikes will often remain dormant, especially in the case of early forced plants; liquid manure may be used freely after the plants are well started into growth.

Lily of the Valley may be placed in a higher temperature, but, like the Spiræas they should be kept well covered until the flower spikes are started. Hyacinths, Tulips, Narcissus, &c., for keeping up a succession: a few of these should be taken in every week. Lachenalias are beautiful winter-flowering bulbs, and should find a place in every collection. They do not require anything above an ordinary greenhouse temperature to have them in flower early in the year. L. Nelsoni is one of the best varieties, the flowers of which are of a deep orange-yellow, and the spikes are larger than those of L. tricolor, but this is also a useful plant, and should not be despised.

Primulas, both double and single, and Cyclamen persicum, will give a valuable supply of flowers during January and February, if the plants are kept in a growing state and free from damping. Tree Carnations should have a light airy position, but not too much heat.

Plants of Eucharis amazonica that have had a period of rest, will flower freely during the winter, provided they can be given sufficient heat, but they require a higher temperature than is usually given them. Liquid manure, made from cow-dung and soot, may be used freely for any plants that have well filled their pots with roots; it should also be borne in mind, that, although the Eucharis will grow freely under the shade of other plants, they require a lighter position to flower them successfully.

APPLES.—The number of bushels of Apples imported into the United Kingdom in 1884, was 2,679,800, of the value of £786,415.

CHRYSANTHEMUM SHOWS.

St. Neots.—*Nov. 17th.*—A very good exhibition took place in the Corn Exchange on the above date, and was well attended. In common with other societies, the St. Neots Show had to suffer somewhat from a late season, and plants though scarcely up to the usual mark, were good; and the cut flowers, both of incurved and Japanese types, very fine. In the class for twenty-four blooms, twelve incurved and twelve Japanese, Mr. T. Tillbrook, gardener to B. Brown, Esq., St. Neots, was 1st with a very good lot; Mr. G. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, St. Neots, 2nd; and Mr. Abbey, gardener to Lord Esmo Gordon, Paxton Park, St. Neots, 3rd. Mr. Tillbrook had the best twelve incurved blooms, showing some very good ones; and Mr. Redman was 2nd, and prizes were awarded in the same order for twelve Japanese varieties. Mr. Redman had the best twelve blooms of reflexed varieties; Mr. Abbey coming in 2nd. With twelve large flowered Anemone varieties, Messrs. Tillbrook and Redman, were severally 1st and 2nd; while Mr. Redman had the best twelve bunches of Pompon varieties; Mr. Abbey being 2nd; and Mr. Redman was also 1st with twelve Pompon Anemones.

In the open classes for plants in pots, Mr. Redman was invicible, for he was 1st with a group; also with six plants in pots, and for a single specimen also. In the amateurs division the most successful exhibitors were Messrs. G. Taylor, T. Plum, C. Fox, and J. Hall. The best collection of fruit came from Mr. Tillbrook; Mr. W. H. Williams, gardener to Geo. Boner, Esq., being 2nd. Messrs. Redman and Abbey both contributed a miscellaneous collection of plants of a high order of merit; and Mr. J. Hall, of Eaton Ford, a collection of Gourds. The arrangements of the show were as usual in the hands of Mr. W. Ratchelous, the secretary of the St. Neots Horticultural Society, and they were carried out in a way that gave the greatest satisfaction.

St. Peter's, Hammersmith and District.—*Nov. 19th.*—This represented a gallant effort on the part of some amateurs and gardeners to hold a Chrysanthemum Exhibition in St. Peter's Schoolroom, near to the Broadway, Hammersmith. It was on a small scale; it was inaugurated with much faith and hope, and it must be pronounced a decided success. More than that, it seemed to interest the people in the neighbourhood, for a good attendance visited the show. It may be further remarked that there are periodical meetings of the members of the society, when discussions take place, and papers are read; and one result appears likely to flow from it—that amateur gardening will be encouraged in this populous district. Let us hope that in course of time the society may be able to command a large and more serviceable room in which to hold its show.

The leading class was open to all comers, and was for twenty-four Chrysanthemums, twelve incurved and twelve Japanese, Mr. James Sharp, gardener to W. H. T. Hatchell, Esq., Parkfield, Grove Park, Lee, Kent, was 1st with good blooms of Golden Empress, Mr. Bunn, Cherub, Baron Beust, Beauty, White Globe, Jardin des Plantes, Golden Beverley, Princess of Wales, Mabel Ward, Barbara, and Lady Slade; of Japanese varieties there were Madame C. Audiguier, Curiosity, Sultan, Peter the Great, Comte de Germiny, Fauny Boucharlet, Boule d'Or, Hiver Fleur, Yellow Dragon, Album plenum, Thunberg, and Dr. Masters; 2nd, Mr. H. Davis, gardener to W. G. Lake, Esq., Fairlawn House, South Acton, whose best blooms were Queen of England, Empress of India, Princess Imperial, Princess Teck, Golden Empress, Venus, Lord Wolseley, Barbara, Guernsey Nugget, Jeanne d'Arc, and Mr. Brunlees; of Japanese varieties, Fair Maid of Guernsey, Comte de Germiny, Madame C. Audiguier, Mdlle. La Croix, Thunberg, Sultan, Meg Merriles, Roseum superbum, Peter the Great, Jean Delaux, Mons. Astorg, and R. Ballantine; 3rd Mr. J. R. Wood, gardener to Mrs. Saunderson, Chiswick. An extra prize was awarded to Mr. Stanton, gardener to Henry Smith, Esq., Griffin Brewery, Chiswick.

All the following classes were confined to members. Twelve blooms, six incurved and six Japanese, 1st, Mr. G. Lampard, gardener to W. J. Sich, Esq., Chiswick, who had Princess Imperial, Empress of India, Golden Empress, Guernsey Nugget, Princess of Wales, and Cherub; Japanese, Triomphe de la Rue des Chalets, Madame C. Audiguier, Meg Merriles, Bronzed Dragon, Mons. Ardene, and Boule d'Or; 2nd, Mr. J. R. Wood,

who had Guernsey Nugget, Lord Alcester, Golden Empress, Hero of Stoke Newington, Isabella Bott, and John Salter; Japanese, Madame C. Audiguier, Fair Maid of Guernsey, Mons. Ardene, Album plenum, Grand Turc, and Boule d'Or; 3rd, Mr. Stanton.

In the classes open only to amateurs, Mr. A. Jones, 23, St. Peter's Grove, Hammersmith, had the best six Incurved and six Japanese, but they were unnamed; 2nd, Mr. H. J. Farrow, 52, Black Lion Lane, Hammersmith. The hon. secretary of the society, Mr. Farrow, had the best twelve booms, staging Golden Empress, Queen of England, Empress of India, Lord Alcester, Lady Slade, Mr. Bunn, Madame C. Audigier, Margot, Mons. Ardene, Dr. Macary, Jean Delaux, and Souvenir de Caen; 2nd, Mr. A. Jones; 3rd, Mr. J. Evans, Beavor Villa, St. Peter's Road, Hammersmith.

The best bouquet of Chrysanthemums came from Mr. H. Wakeman, 28, Black Lion Lane, Hammersmith.

In the gardeners' division, the best eighteen plants came from Mr. E. Worsfold, gardener to J. Mason, Esq., Albion House, St. Peter's Square; Mr. French being 2nd. In the amateurs' division for the same number, Mr. L. Woodhouse, 43, St. Peter's Grove, was 1st; Mr. A. Jones, 2nd; and Mr. H. Wakeman, 3rd.

The best six Chinese Primroses came from Mr. H. Stanton; Mr. J. R. Wood being 2nd. Mr. A. Jones had the best three Isolepis tenulla and two Selaginellas; Mr. H. J. Farrow being 2nd; and Mr. T. Evans, 3rd.

Vegetables.—Mr. Stanton had the best lot of six varieties, staging all good. A collection shown by Mr. H. Banfield not being in accordance with the terms of the schedule was highly commended. Mr. Stanton had the best dish of Kidney Potatos, staging Magnum Bonum; 2nd, Mr. J. R. Wood with the same. The best dish of Round was Schoolmaster, from Mr. Stanton. Prizes were also offered for boiled Potatos.

Fruits.—Mr. Stanton had the best dish of dessert Apples, staging good King of Pippins; Mr. J. R. Wood was 2nd with a dish unnamed. Mr. Wood had the best dish of dessert Apples staging Warner's King; and Mr. Worsfield was 2nd with Lord Suffield. Mr. Worsfield had the best dish of Pears, staging Beurre Diel; Mr. Stanton being 2nd with General Todleben.

Mr. Howell, Queen's Nursery, Hammersmith, exhibited a group of plants that greatly helped the show, and was highly commended. Mr. J. Hillier, 91, Black Lion Lane, had the same for thirty-one dishes of Pears and Apples, a very good lot indeed; and Mr. J. C. Swailes, Cromwell House, the same for three dishes. Mr. H. J. Farrow was also the exhibitor of nine blooms of new Japanese Chrysanthemums that were commended.

Birmingham and Midland Counties.—The twenty-fifth annual exhibition of Chrysanthemums, fruit, and winter-flowering plants, held in the Town Hall, Birmingham, on 18th and 19th, was well attended, notwithstanding that the weather was very severe, something like 12° of frost being registered at the time, which was not very encouraging to the exhibitors, especially those who brought their tender exotics for exhibition. This society is making good headway; it has a thorough working committee, whose aim is to further the extension of horticulture, and to develope and encourage floriculture. The entries were numerous, and the competition keen; but we have seen better blooms staged, as with the exception of the 1st prize specimens, there was a noticeable falling off. Primulas are nowhere done so well as they are in Birmingham, and of these there were over 300 plants staged, most of them being grand examples of cultivation, and well flowered. Those exhibited by Messrs. Pope & Sons, both double and single, were simply grand; I question if ever a finer lot were ever before brought together. Noticeable amongst whites was the lovely Alba magnifica, which was shown well. Fruit was first rate, grand examples being exhibited in the various classes. Some two dozen varieties of Orchids were shown by Mr. Cooper, gardener to the Right Hon. J. Chamberlain, not for competition. These were greatly admired; noticeable amongst them was Cattleya exoniensis, C. aurea, Lælia elegans alba pumila, L. autumnalis, Cymbidium elegans, Odontoglossums, Oncidiums, Calanthes in variety, Cypripediums, &c. Special prizes were offered in several classes in the Primula division, as well as for banks of naturally grown Chrysanthemums, which brought out three exhibitors; but their groups were poor, wanting in arrangement, and not to be compared with those seen at Reading, let alone those at Kingston, the Aquarium, Crystal Palace, &c., lately. The 1st prize was awarded to Mr. J. Pattison; 2nd, Mr. Dyer, gardener to Mrs. Marigold. Plants, specimen, Japanese excluded, the 1st prize for nine and six went to Mr. Dyer, whose plants were a long way ahead of the others. The 1st for Pompones was awarded to Mr. W. White; while of standards there were no exhibitors.

Cut Blooms.—These were shown in great quantity, but the quality was not what one expected to see, most people considered it was through the lateness of the season, this may be partly the cause, I admit, but there was a wanting in the foundation to make first-class flowers. The liberal prizes, ranging from £10 to £2, were well contested. The first falling to Mr. P. Southby, for twenty-four incurved, and twenty-four Japanese; the first for twelve of each, going to Mr. S. A. Everett; the first for eighteen incurved, to Mr. H. Lovatt, the other firsts falling to Mr. Lovatt and Mr. Everett, and Mr. Southby, who was also first for Anemones. In the classes for growers residing within twelve miles of Birmingham, the best prizes for twenty-four and six, fell to Mr. G. A. Everitt, and for those grown within a radius of three miles, to Mr. F. Madelay.

Plants.—Of Primulas, some splendid examples of cultivation were shown; the leading honours falling to Messrs. Pope & Sons, for well-grown, profusely-flowered specimens of both double and single varieties. The first for Cyclameus and Epiphyllums going to Mr. Cooper, Gardener to the Right Hon. Joseph Chamberlain, M.P. For nine stove and greenhouse plants, in or out of flower, Mr. F. A. Walton was first, and for six, Mr. Dyer, Gardener to Mrs. Marigold, both collections being fairly well done. In the Gentlemen's Gardener's section, Primulas were again shown in splendid form, the first prizes falling to Messrs. Martineau, Matthews, and Tannion. Poinsettas: first for three, Mrs. Marigold. Mignonette: first, Mr. Martineau, for three grand pots. Zonal Pelagoniums: first, Mr. Cooper. Bouquets: (Nurserymen), first, Messrs. J. B. Thompson, Birmingham; (Amateurs), first, to Mr. C. E. Mathews. Some good bouquets in both classes were shown. For an Epergue: first, Mrs. Marigold; and for three Button-holes, first, Mr. Payton.

Fruit.—Grapes though not shown in great quantity were of first-rate quality. The 1st prize for three bunches of black Grapes was awarded to the Rev. B. W. Saunus, and for Muscats to Mr. Corbett; the other prizes falling to those named and Mr. J. A. Everett. Apples and Pears were shown in great numbers, fine, clean, well-coloured, fruits, The 1st prize for Apples was taken by Mr. H. Higgins; for Pears by Mr. Corbet; and for dessert Apples and Pears by Sir H. Vernon and Mr. Thornley. Of Cucumbers, a nice brace from Lady Edwards was 1st; while a good dish of Mushrooms shown by Mr. Mitcheson, Perry Hall, also secured 1st honours.

Miscellaneous.—Mr. Hans Niemand, Royal Nurseries, Edgbaston, showed a fine group of plants artistically arranged, consisting of good decorative Palms, Dracænas, Ferns, and other fine foliage plants, mixed with Solanums, Bouvardias, Carnations, Roman Hyacinths, Poinsettais, the bright yellow Eranthemum flaveolum, Callas, &c., and which formed one of the principal features of the show. The same exhibitor also staged a fine collection of well-grown Cyclamens of a good type. This group was arranged in one corner of the hall, the corresponding corners were devoted to Messrs. Thompson's collection of foliage and flowering plants, suitable for decorative purposes. Messrs. Thompson also showed a splendid wreath and cross. Another corner was occupied by a collection of miscellaneous plants from the Nurseries of Mr. R. H. Vertigans, Chad Valley, including well-grown Roman Hyacinths, Primulas, Cyclamens, Poinsettas, and foliage plants; and a splendid wreath much attracted the notice of the public. In the opposite corner, Messrs. Pope & Sons' showed a fine lot of Double and Single Zonal Pelargoniums, Poinsettias, and rustic baskets, pots, &c. From the far-famed nursery of Messrs. Cannell, of Swanley, stands of various Cut Pelargoniums, Single Chrysanthemums, and C. Cullenfordii, which were greatly admired. In the galleries, Messrs. Richard Smith & Co., Worcester, showed an admirable collection of Apples and Pears, and a group of hardy ornamental plants suitable for decorative purposes. The Rev. A. Williams, Stratford-on-Avon, contributed four dozen varieties of Apples, good clean fruit. Messrs. Perkins & Sons, Coventry, sent a box of Cut Roses, a wreath, and a cross beautifully made. A new fern, a fine form of Gymnogramma schizophylla, shown by Messrs. Pope & Sons, was awarded a Certificate of Merit. This is a good distinct fern, which will make a fine basket plant; and we understand that the entire stock was purchased by Mr. Alfred Outram for Mr. B. S. Williams of Holloway. It is satisfactory to know that everything passed off pleasantly at this important midland exhibition, the management reflecting great credit upon those in charge of the arrangements.—*Cor.*

Ramsbottom.—*Nov. 21st.*—The second annual exhibition of the Ramsbottom Floral and Horticultural Society was held on the above date in the St. Paul's Schoolroom, over £50 being given in prizes. The late summer has been the worst ever experienced in this (Rossendale Valley) district for the cultivation of Chrysanthemums; but the show was remarkable for the good quality of the exhibits all through, excepting in the case of a few cottagers' classes. The school was well filled. The leading feature of the display was the specimen Chrysanthemums in 10½ in. pots, one plant in each. Many of them were models of what a specimen should be, with foliage down to the pot, and from 2½ ft. to 4 ft. high. Empress of India was shown with sixteen superb full-sized flowers; Mrs. Forsyth with seventeen good blooms, and many other popular sorts equally as good, and would easily have taken leading honours at the Manchester show held early in the week. Japanese varieties were also very strongly represented, together with Primulas of good quality. Although only the second exhibition, the society is in a flourishing condition, having the support of Lord Derby, &c, which is highly encouraging to the Committee.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.—*Nov. 17th, 18th, & 19th.*—The autumn exhibition of this society was held on the above dates, the gathering taking place in the large St. James Hall, Oxford Street. Beside very liberal prizes for plants and cut blooms, the society offered gold and silver medals for the best collection of Apples and Pears; the result being a capital display of productions of a high-class character. The general testimony of growers of the Chrysanthemum—more especially of these northern districts—is the lateness and irregularity of the blooms which may in a measure be due to the dull and damp months of August and September, just the season when abundance of light is most needed for the development and perfection of the buds. However, though a few may on this account have been absent, there were many others who came forward, so that the competition in many cases was rather severe.

From the society's gardens at Old Trafford, there came a very fine display of plants arranged in the centre of the Hall. Tall Palms, Tree Ferns, and other fine foliage plants were well associated with about 200 flowering Chrysanthemums, the whole being edged with small Coniferæ in pots. A short distance from this fine group were two others arranged for effect, the 1st prize falling to Mr. Kirton, gardener to J. Allen, Esq., Altrincham, whose plants were dwarf, with plenty of good foliage, and flowers of large size and brightness; the 2nd prize fell to Mr. R. Hardwicke, Ashton-on-Mersey. With twelve large-flowered plants Mr. Thos. Slatter was 1st, showing good plants of Prince Alfred, Prince of Wales, Cassandra, Mr. Bunn, White Venus, Golden Beverley, &c. in good form; the 2nd fell to Mr. S. Bles; and 3rd to Mr. J. Allen. Mr. J. P. Bollard was 1st for six plants, having Queen of England, Golden Empress, Alfred Salter, and Prince of Wales as his best; Mr. J. Allen, 2nd; Mr. S. Bles, 3rd. With three plants, Mr. Thos. Slatter, Mr. S. Bles, and J. P. Bollard were respectively 1st, 2nd, and 3rd. Mr. S. Bles was successful with six Japanese, showing good examples of Triomphe de la Rue de Chalet, La Nymphe, Gloire d'Toulouse, L'Isle d'Plaisirs, and others. Mr. T. Slatter came 2nd with Margot, Hiver Fleur, Bouquet Fait, Elaine, and Peter the Great, very well done; Mr. J. Heywood was 3rd; Mr. J. Allen 4th. The Pompones were not very good, Mr. S. Bles being 1st for eight; Mr. Hazzopolo, 2nd; whilst for three, Mr. T. J. Bollam was 1st; Mr. S. Bles, 2nd. There was, however, a fine display of cut blooms, incurved and Japanese were very finely shown; among the latter form were blooms of exceptional merit. Lieut.-Col. Pilkington, Prescot, showed thirty-six varieties, eighteen incurved and eighteen Japanese, and was placed 1st, his blooms were unusually fine, among his best were Emily Dale, John Salter, Empress of India, Golden Empress, Mrs. Heale, Lord Alcester, Prince Alfred, and Lord Wolseley; the Japanese being Mrs. Marsham, Bouquet Fait, Jean Delaux, Meg Merriles, Comte de Germiny, Madame C. Audigeuir, Flambeau, and Soleil Levant; Mr. J. Allen was 2nd, having fine blooms of Nil Desperandum, Mrs. Brunlees, Prince Alfred, Beauty, Mons. Lemoine, Boule d'Or, Madlle. La Croix, and Comte Beauregard; Mr. E. G. Wrigley, Pakenfield, was 3rd; equal 4th being awarded to J. E. Platt, Esq., Cheadle, and H. S. Woodcock, Esq. In the class for twenty-four and eighteen incurved Mr. J. Allen was the only competitor, his blooms were, however, so good, the judges awarded him 1st prizes in both classes. A. Tate, Esq., Liverpool, was 1st for twelve incurved, showing Inner Temple, Mrs. How, Jardin des Plantes, and Jean d'Arc in grand form; Mr. J. Allen, 2nd; Mrs. Shaw, 3rd. J. King, Esq., and W. Lees were placed 1st and 2nd with six incurved. The Japanese were well shown, Mr. J. Allen being 1st with twenty-four; here we observed Mrs. Townsend, Thunberg, Baron de Prailley, Madame de Sevin, Sultana, Chang, Oracle, &c., in good condition. E. G. Wrigley was 2nd with a splendid lot; the 3rd prize falling to the Stockport Corporation. With twelve Japanese, A. Tate, Esq., was 1st; Mrs. Shaw, 2nd; Mrs. Monks, 3rd. The class for twenty-four miscellaneous blooms was well contested, the prizes ultimately were awarded to Mr. J. Allen, 1st, who had capital incurved, Japanese, reflexed, and Anemone flowers; the Stockport Corporation was nd; equal 3rd being taken by Mr. Lees and Mr. Woodcock. A nice lot of cut blooms were shown

by Messrs. W. Clibran & Sons, Altrincham, also Mr. J. W. Springbett, Cheshunt. In this last exhibitor's stands were fine examples of about eighty leading sorts, among which Vale d'Andorre and Cullingfordii were very conspicuous. In the class for ten dishes of fruit, the 1st prize was awarded to Mrs. Ackers, Congleton, who had good Muscats, Gros Maroc, Pine, Melon, Golden Drop Plum, Worcester Pearmain and King of the Pippins Apples, and Glou Morceau Pear; Mr. Upjohn, gardener to the Earl of Ellesmere 2nd with Black Alicante, Golden Queen, Gros Colmar, and Raisin de Calabre Grapes, Melon, Plums, Apples, &c. Mr. G. T. Miles was 1st with two Pines, also with one Pine; Major Dixon and Mrs. Ackers being 2nd and 3rd in this latter class. The Grapes all through were good, the Earl of Ellesmere was 1st with black, having Gros Colmar in splendid condition; D. Adamson, Esq., 2nd with the same variety; Mr. J. Heywood coming in a good 3rd. With white Grapes Mrs. Ackers showed excellent Muscats, splendid in colour, and was placed 1st; Mr. H. S. Woodcock, 2nd; and Mr. J. Wallis, Keele Hall, 3rd. An extra prize was awarded to Mr. J. Wallis, for a collection of Grapes, including Alnwick Seedling, Gros Colmar, Mrs. Pearson, White Tokay, Black Alicante, Barbarossa, Mrs. Pince's Black Muscat, Royal Vineyard, Muscat of Alexandra, Burchardt's Prince, Lady Downs, and Gros Maroc. From Messrs. Bunyard, Maidstone, came a splendid collection of Apples just 100 dishes, including all the best culinary and dessert sorts, this was awarded the gold medal. Mr. J. Watkins, Hereford, had a collection of 180 dishes, and was awarded the silver medal; in the latter were many small varieties, chiefly used in that county for cider making. Messrs. Bunyard also secured the gold medal with sixty grand dishes of Pears, these were mostly gathered from cordon trees, and were of an unusually large size. Mr. C. W. Newman, showed also about fifty dishes, and obtained the silver medal. Messrs. F. & A. Dickson & Sons, Chester, Messrs. Smith & Co., Worcester, and the Royal Horticultural Society, also had fine collections of Apples and Pears. Capital bouquets were shown by Mr. Cragg, gardener to A. Heize, Esq., who was placed 1st for three; Mr. J. Mason, Victoria Street, being 2nd. Mr. Mason secured 1st honours with one bouquet, the 2nd falling to Mr. J. Heywood, Mrs. Lord coming 3rd. Mr. Craggs was 1st with a vase for table decoration; this was a capital stand, and was much admired. Mr. D. Adamson was 2nd, and Mr. W. Irvine came 3rd. Cut spikes of Bougainvillea speciosa were shown by S. Schloss, Esq., of Bowden. Mr. H. Slatter sent a plant of the beautiful Oncidium Jonesianum in flower. A capital group of flowering greenhouse Rhododendrons was put up by Messrs. Fisher, Son & Sibray, who had several flowering Orchids nicely intermixed with them. Messrs. W. Clibran & Sons had a large space taken up with flowering Chrysanthemums, Primulas, &c. Mr. B. S. Williams showed a quantity of winter-flowering plants; while from the Liverpool Nursery Company a good group was staged, including many useful decorative objects. Messrs. W. A. Caldwell & Sons had collections of Crotons, Heaths, Primulas, &c., as well as a nice lot of small Coniferæ in pots. Messrs. Dickson, Brown & Tait showed a quantity of Roman Hyacinths in capital condition, as well as excellent examples of Cyclamen. Messrs. Dickson & Robinson filled a large table with Heaths, Solanums, Cyclamen, &c. Mr. J. Hooley, of Stockport, sent a nice assortment of plants of a miscellaneous character. Messrs. Webb & Sons, Stourbridge, had a very large show of Potatos of excellent quality. Messrs. W. and J. Birkenhead, of Sale, staged a fine lot of Ferns, quite filling a large corner of the hall. Mr. Robson, of Bowden, sent stands of cut blooms of Chrysanthemums. Messrs. J. Leech & Sons, Smithfield Market, made a capital display of fruit, Ferns, flowers, and other articles of a decorative character. The whole of the arrangements were under the personal direction of the able curator, Mr. B. Findlay, who is well known as a thorough manager of exhibitions of an extensive character.—*W. S., Nov.* 21.

Royal Horticultural of Ireland.—*November 19th.*—The annual show of Chrysanthemums, Fruits, &c., was held at the Rotundo, Dublin, on the above date, and it was generally admitted to be an improvement on previous autumn displays. The special feature of the Exhibition consisted of three grand bunches of Gros Guillaume grape, shown by Mr. M'Kenna, gardener to the Chief Secretary, Phœnix Park. The largest bunch weighed 20 lbs., and was shapely and well finished—a fine example of high cultural skill, cut from a cane only 2 years old. The other bunches weighed 14 lbs. and 11 lbs. respectively; and Mr. M'Kenna was deservedly awarded the Society's large Silver Medal. Apples and Pears were well shown in all the classes, and the cut blooms of Chrysanthemums were generally good, although in some cases a little dressing would have greatly improved them.

For a group of plants not exceeding 80 square feet, the Rev. F. Tymons, Baskin Hill, Cloghran (Mr. M'Keogh, gardener), was placed 1st, for beautifully grown plants of all sections, he being closely followed by James M'Cann, Esq., whose plants bore blooms of good substance, and were more stiffly trained than the 1st prize lot. Richard Pim, Esq., Blackrock (Mr. Coghlan, gardener), was 3rd. For twenty-four cut blooms, incurved, Richard Pim, Esq., was 1st, as also for twelve blooms, incurved; the 2nd prize for twenty-four falling to James M'Cann, Esq., Simmonscourt Castle, Donnybrook (Mr. Goff, gardener); and 3rd, Lord Longford, Summerhill, Enfield (Mr. Pithers, gardener), while the 2nd prize for twelve blooms fell to Mr. Jenkins, gardener to A. Comyns, Esq., Ardcuaine, Glenageary, and the 3rd to Lord Longford. For twenty-four Japanese, J. T. Poë, Esq., Riverston, Nenagh, Co. Tipperary, was placed 1st; Lord Longford 2nd; and the Rev. F. Tymons, 3rd. For twenty-four Anemone-flowered varieties, Mr. Comyns was 1st, followed by the Rev. F. Tymons, and the Marchioness of Headfort, Headfort House, Kells (Mr. W. J. Ireland, gardener), in the order named. For twenty-four Pompous, three trusses of each, the Rev. F. Tymons was 1st; 2nd, L. Lefroy, Esq., Ardmore, Bray (Mr. Scott, gardener); 3rd, Marchioness of Headfort.

Fruit.—For three bunches of black Grapes Mr. M'Kenna, gardener to the chief secretary was 1st, followed by the Earl of Wicklow, Shelton Abbey, Arklow (Mr. Tyler, gardener), and Mrs. Shudman, Gortmore, Ballyhock (Mr. Gerarty gardener). For three bunches of white Grapes Mr. M'Kenna was again 1st; 2nd, Mrs. Shudman; and 3rd, Earl of Wicklow. For a dish of dessert Pears, J. L. Naper, Esq., Loughcrew, Oldcastle (Mr. Taylor, gardener) was 1st; C. Cobbe, Esq., being placed 2nd. Dish of baking Pears, 1st, Lady Durrant, Scotton Hall, Norfolk, with enormous examples of Uvedale's St. Germain. Dish of dessert Apples, 1st, C. Cobbe, Esq.; and 2nd, J. L. Naper, Esq.; C. Cobbe Esq. was also 1st for a dish of Tomatos. For a collection of twelve varieties of Pears the 1st prize was awarded to the Earl of Wicklow; and for a like number of Apples the chief secretary was 1st with a grand collection, he also taking the lead for six varieties of dessert Apples. Several other exhibits were staged, not for competition, including a large and varied collection of Apples and Pears from the nurseries of Messrs. T. Rivers & Son, Sawbridgeworth. A large number of Palms, &c. from Glasneven and the Vice-Regal Lodge, and a collection of Coniferæ, &c. from Messrs. Henderson & Sons, Fortfield Nursery, Tampleogue, Dublin. The show was well attended, and it is hoped that it will go on improving, as very few are held on this side of the Channel.—*Visitor.*

Royal Caledonian Horticultural.—*Nov. 25th and 26th.*—For a first November show of Chrysanthemums and hardy fruits, this must be recorded as a great success, especially as regards the display of Apples and Pears. Owing to the vagaries of the season, the Chrysanthemums were hardly up to the mark, but the ball having been set rolling in this direction, the progress that will be made next year, will no doubt be commensurate with the importance of the plant as a winter decorative subject. On this occasion, the leading exhibitors of plants, were Mr. R. Grossart, Oswald Road; Mr. Charles Smith, Mr. Waterston, Mr. Dougal, and Mr. M'Millan. In the cut flower classes, Mr. J. Forbes, Dover House, Roehampton, Surrey, swept the board of the first prizes for twenty-four Japanese and incurved varieties, for twelve incurved, for six anemone, and six reflexed; and six Japanese with a fine lot of blooms; the next most successful competitor being Mr. A. M'Millan. In the Nurserymen's classes, Messrs. T. Methven & Son, took all the first prizes for plants; but were beaten by Messrs. Ireland and Thompson for a table of Chrysanthemums and other plants. In the principal cut-flower classes, Mr. J. B. Morton, Darlington, had the best twenty incurved blooms; and Messrs. Ireland and Thomson, the best twenty Japanese. Mr. Morton was also successful in several other classes.

In the gardeners' and amateurs' classes for plants, there were competitions with Orchids, Ferns, Fern-foliaged plants, Chinese Primulas, Cinerarias, and other decorative subjects; the leading exhibitors being Mr. Grossart, Mr. John Forbes, Mr. Souza, Mr. McIntyre, and Mr. G. M'Clure; and in the nurserymen's divisions the awards were pretty equally allotted between Messrs. Ireland and Thomson, Messrs. R. B. Laird & Sons, Messrs. Methven & Sons, and Messrs. Cunningham & Frazer.

In the well contested fruit classes, Mr. McIndoe, Hutton Hall, was 1st for six dishes, for the best flavoured White Grape, for twelve sorts of Apples, and two sorts of Pears. Mr. David Murray, Culzeau Castle, Maybole, took two 1st prizes for Grapes, and Mr. W. Murray, four firsts; Mr. Johnston, of Glamis, Mr. M'Neil, Mr. G. Greig, Mr. Brunton, and Mr. Jeffrey securing one each. Mr. Hunter, Lambton, took all the 1st prizes for Pines; and Mr. A. M'Kenzie, Lintou Park, Kent, showed the best collection of Apples, and the six heaviest fruits. Several of the above-named exhibitors also figured conspicuously in the vegetable classes; other successful competitors being Mr Souza, Mr. D. M'Bain, and Mr. G. Donaldson. Messrs. W. Thomson & Sons, Clovenfords, exhibited a fine table of plants and fruits; the Grapes, of course, being the special feature.

The enormous collections of Apples and Pears sent for the conference from all parts of the country, occupies four tables extending the whole length of the Waverley Market, besides several cross tables at the west end, but we must reserve a notice of them till our next.

QUESTIONS AND ANSWERS.

Todea superba.—*Exhibitor:* Yes, you will be quite within your rights in showing this as a Tree Fern, inasmuch as it is sometimes seen with short woody stems; but the advisability of doing so is another matter.

Grafting.—*G.K.:* The most useful work on the subject is Baltet's *The Art of Grafting and Budding*, published at 37, Southampton Street, W.C.

The Fruit Manual.—*W. C. M.:* 1. No, we believe not. 2. The last edition, greatly enlarged and extended, was published in October, 1884, and there is not likely to be a new edition until that one is out of print. The last edition is the 5th.

Heating a Greenhouse.—Will some of your readers be kind enough to give their experience of heating amateur's greenhouses with hot water.—*G. B.*

Chrysanthemums.—*B. L., Huddersfield:* 1, Empress of India; 2, Bertha Rendatler; 3, White Trevenna; 4, Gloire de Rayounante.

Names of Fruits.—*Scobell:* 1, Ribston Pippin; 2, Golden Noble; 3, Cox's Pomona; 4, Blenheim Pippin; 5, Knight's Monarch; 6, Glou Morceau.

Communications Received.—H. & S. (many thanks)—J. Fawcitt—R. Nick.—W. E. B.—W. J. M.—W. J. I.—A. O.—L. P. & Co.—F. W. B.—D. B. L.—E. D.—T. S. W.—W. S.

TRADE CATALOGUES RECEIVED.

Little & Ballantyne, Carlisle.—Forest Trees, Conifers, Shrubs, Fruit Trees, Roses, &c.

Fotheringham & Wallace, Dumfries.—Forest and Ornamental Trees, Fruit Trees, Roses, &c.

LONDON SEED TRADE.

November 25th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report trade in agricultural seeds generally very slow, and although prices are firm, there is no appreciable change in values on the week, except perhaps in Trefoil, which owing to some slight speculation may be considered about 1s. to 2s. per cwt. dearer than previous quotations. Red Clover maintains the late advance, but very little business is being done, and White and Alsike are only occasionally enquired for. Rye Grasses are also almost entirely neglected, and Foreign Italian of lower grades is being offered at reduced prices. Canary is now steady at the late advance. Hemp is a little dearer, and other Bird seeds are unchanged in values.

COVENT GARDEN MARKET.

November 26th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	2 0	
Grapes, per lb.	1 0	2 6	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces ..per dozen	2 0	2 6
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ....per doz.	1 6	2 0	Onions, per bushel	5 0	7 6
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	0 9	
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Anemone, 12 bunches			Mignonette, 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	6 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	2 0	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	0 6	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses, Tea, French,,	1 0	1 6
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	1 6	2 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays	5 0	6 0
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	6 0	Tulips, 12 blooms	1 0	1 3
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	5 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.	....		Hyacinths, Roman, per dozen	12 0	15 0
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21 0
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	8 0	12 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific, at 1 p.m., in the Lindley Library, on TUESDAY next, DECEMBER 8th.
N.B.—Exhibitors' Entrance, East side of Royal Albert Hall.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 5, 1885.

MARKET VEGETABLES.—It will probably surprise many readers to learn that such common and bulky vegetables as white Turnips are being sent into London markets from places so remote as Yorkshire, and these Turnips not medium-sized Snowballs or Six Weeks, but large field samples. It is very doubtful whether such an exceptionally common and bulky vegetable has ever before found its way such a distance and realised a profit. The fact shows not only how dependent is the vast population found in the Metropolitan area upon the country for its simplest articles of food, but also that the resources of civilisation, as found in steam and railways, have surmounted space and distance, and rendered possible and profitable what half a century since would have been regarded as utterly Utopian. But the question is naturally asked, why send so far for Turnips? The answer is simple. It is because we have none within the ordinary area from which garden vegetables are usually raised for the London markets. Very probably there are few in the whole of the south of England, and certainly in all those districts in which the drought prevailed Turnips are very scarce.

When such trifling articles of food as Turnips are thus made subjects of considerable deportation, we may well regard the provision of ample sustenance of the four millions of the Metropolitan population as a matter for grave consideration, and one that may become acute at any unexpected moment. Still farther, it is one so momentous that may well induce those who so glibly propose to tax food imports to pause ere they rush into acts that may be fraught with the gravest evil and the direst distress. Under all circumstances and conditions, we should imagine those to be the greatest benefactors of humanity who placed the most ample supply of food, in many and varied forms, within easy reach of all, and especially of the poor; for in the case of that seething portion of our population which exist just on the borders of poverty and starvation, cheap food of all useful kinds, and plenty of it, means almost absolute prosperity, whilst dear food means pauperism.

Now, it is not generally known, that in sending us Turnips at this exceptional season, and Potatos galore as a rule, that the north is but repaying us for favours showered down upon that less hospitable clime earlier in the year. One of the mainstays of the London market trade in fruits and choice vegetables are the "packers," by which designation is meant all those dealers in the markets who purchase largely of good samples, and send them away to the great northern towns for disposal. Of course, the products so forwarded are those which the north cannot well produce, or if productive of, then later in the year. Still, all experience shows that we can here in the south produce earlier and much better samples of garden produce than the north can. Hence, in thus sending of our southern products to the north, we are not only finding good and healthful food for the teeming millions of the black and weaving counties, but we are also very largely benefiting the market growers and workers of the south. Any fiscal attempt to check such internal trade, assuming such a suicidal policy is attempted, would but result in great injury to trade, and the population would immensely suffer.

What is thus true of internal intercourse, seems equally true of international intercourse. We have but to write France, Germany or America for Middlesex, and England for Yorkshire or Lancashire, and the same thing happens. The good of one nation is the good of its neighbour when both indulge in free and unrestricted trade, just as two parts of a kingdom find benefit in the same course of action. Green vegetables present with Turnips evidences of the effects of seasons upon the produce of the soil, for not only are Turnips scarce, but all kinds of green stuffs are scarce too. Probably we have two-thirds less of green vegetables for the winter supply about London this year than is usually the case. This scarcity is not an unmixed evil in so far that when we have good crops these are usually so extensive that a glut with very low prices ensues. This year the various green products are obtaining good prices, but then the very materially lessened bulk hardly suffices to make good the loss consequent upon it otherwise. We shall probably find very soon that France, the Channel Islands, and our own most southern counties are sending into the metropolis large quantities of Broccoli; and the metropolitan growers are naturally anxious to make the best market they can of their produce before these importations turn up. The market growers are not as a rule selfish and stupid; in that respect they differ from the usual characters of large cultivators of the soil. Their market associations, and active interchange of thoughts and opinions in the markets, enables them to perceive that not this or that man's profits, but the feeding of the people is the first consideration; hence they accept the inevitable, being assured that could not the foreigner send us such supplies, the people must often go short of food of such wholesome kinds as it is the market gardeners' duty and vocation to create.

The great need for the soil cultivator and food producer of this country is first found in more genial seasons, enabling the fruits of the earth to come to us freely and regularly; but also some material reduction of those burthens which oppress the cultivator on every hand. He starts in the race of production heavily handicapped by charges for rent, too often an exceptionally oppressive impost, which alone swallows up all his profits. Then he has taxes, tithes, rates, all amounting to a heavy sum; also labour, seed, manure, tools, and various other disbursements, all of which come to so large a sum per acre that it is marvellous how myriads of cultivators bear up. But when allied to these disadvantages the poor grower has to endure bad seasons, and possibly low prices, it is obvious that only a revolution in land tenure and of imposts can enable the middleman or tenant occupier and cultivator to exist. Very much is said from time to time as to the need for relieving land from the heavy charges for local rates, but these charges are for almost purely local objects, and relief can only be afforded by giving grants in aid from the imperial taxes. That is a sort of fiscal arrangement, which lightens the rates and burthens the taxes, or is robbing Peter to pay Paul. Certainly the local charges or burthens must be borne somehow, and unless the owners of land submit to larger reductions of rent, there is no hope of burthens in that direction being reduced.

It is an undoubted fact that local rating burthens must rather increase than diminish. There does not exist the being who can hope to bring about such a result. The forces of civilisation are far more powerful than man is, and these demand with imperative power that local expenditure shall increase; but occupiers and cultivators may well look for relief in the matter of tithes as well as in rent. Certainly there are many districts in which these impositions do not exist, but where they do they prove to be a heavy burthen, and one to many most oppressive. On the other hand, it is not at all probable that consistent with due and profitable cultivation labour can be reduced or cheapened. Probably there is no article connected with the cultivation of the soil so dear as cheap labour, and we have no desire to see it introduced. Manure and seed can hardly be cheaper than now, and may at times be dearer; hence we find that beyond the coming of better seasons, and these seem to be remote, the only hope of the market cultivator lies in the reduction of these burthensome charges on land that are not imperative, though at present legal and inexorable. The market garden interest is a very important one, and cannot be lightly esteemed. Its chief force is found in the most undoubted energy thrown into it, and its chief burthen the heavy imposts found in rent and some other pecuniary charges.

GARDENING MISCELLANY.

Orchid Show at Birmingham.—The Birmingham Botanical and Horticultural Society, have decided to hold a grand show of Orchids in the Botanical Gardens at Edgbaston, on May 12th and 13th next. The show will be held in the new exhibition hall, and a schedule has just been issued which contains eleven classes, ten for plants and one for cut flowers. Prizes of £15, £10, and £5, are offered in an open class for a group of twenty distinct plants; and there are trade and amateurs classes respectively for groups of ten and six plants; for ten distinct Odontoglossums; for six Cattleyas or Lælias; and for twelve Masdevallias.

National Auricula and National Carnation and Picotee Societies.—The annual general meeting of these societies will be held, by permission of the council of the Royal Horticultural Society, in the Conservatory, South Kensington, as soon after twelve o'clock as possible, on Tuesday next. The business of the meeting will include the election of officers and committee; receiving the Secretary's and Treasurer's report; the election of judges for the ensuing year, and any other business that may pertain to the annual general meeting.

National Chrysanthemum Society.—A well-attended meeting of the general committee of this society was held at the "Four Swans," Bishopsgate Street, on Wednesday evening, the president (Mr. Sanderson) in the chair, supported by Mr. Ballantine, Mr. Blake, Mr. Stevens, and other prominent members of the society. Some discussion ensued upon the mode of carrying out the show of late Chrysanthemums, to be held at the Royal Aquarium on the 13th January, 1886, and it was resolved to select the judges for the exhibition from the floral committee, who will hold a meeting upon the same day. The most important business of the evening was the fixing of the date upon which the exhibition for next year should be held, and

it was ultimately decided that the show should take place on Wednesday and Thursday, the 10th and 11th November, 1886, at the Royal Aquarium, as on former occasions. The roll of members was increased at this meeting by the election of fourteen new members; this brings the total up to 323. The annual dinner of the society is fixed to take place at the "Four Swans," on Monday, the 14th December next, and we hope the officers and committee of the society will receive that support on this occasion from the members and their friends which they so well deserve.

The Proposed National Dahlia Show, 1886 (Northern Section).—This proposal must, we fear, be classed among the floricultural abortions of the year. It will be remembered that the committee of the Grand Yorkshire Gala were prepared to promote such an exhibition, and hold the same in the exhibition building of the Yorkshire Fine Art and Industrial Exhibition, and a circular was issued by Mr. John Wilson, the secretary, asking for subscriptions and donations to a guarantee fund of not less than £400. The project included prizes for fruit, plants, and cut flowers in addition to Dahlias. We regret to have to state that the response to Mr. Wilson's circular is so small—showing a strange lack of interest on the part of the Dahlia exhibitors—that it appears as if the project must be abandoned. Whether the committee of the Grand Yorkshire Gala have decided not to proceed farther we cannot say, but we could wish another effort should be made in early spring, because it may be imagined the general scope and character of the proposed enterprise is already roughly sketched. What help have the Dahlia growers in the north rendered? They should certainly take the initiative in the matter.

West of Scotland Horticultural Society.—The Directors of this Society have decided to hold their 1886 Exhibitions in the St. Andrew's Hall, Granville Street, Glasgow, on the following dates:—Spring, Wednesday, 24th March, 1886; Autumn, Wednesday, 8th September, 1886.

The Naughty Chrysanthemum.—Of late the Chrysanthemum has become fashionable. It has been long a favourite among artists, and probably these facts have turned the head of the formerly prim little blossom, and caused it to assume the wild exuberance of spirits which now characterises it. For the audacious and utterly preposterous rambling of the Chrysanthemum through the entire gamut of colour is something quite paralysing to the ordinary observer. One finds them of maroon, *cuir*, old gold, pink, white, brown, every imaginable shade and tint of yellow, down to cold matter-of-fact white. Colours that no other flower wants the Chrysanthemum greedily absorbs. Colours that are the pride, hope, and ambition of Rose, Pansy, Tulip, Lily, and the rest—scarlet, crimson, blue, royal purple—are flouted by the Chrysanthemum, which rejoices in vagaries of neutral tints charged with the least suspicion of the primary colours. It is as though the specious flower desired to exhibit the possibilities of hues which have hitherto been considered attributes of a modest and retiring disposition, the furthest possible from the insidious daring of the wily Chrysanthemum. The chromatic extravagance which permits this aggressive plant to perpetrate the floral anachronism of half-a-dozen blossoms of utterly unheard-of hues, all different, calmly projecting themselves from one mother stem, is something so perfectly ridiculous that only a gardener could contemplate it with impunity. And as for form, the Chrysanthemum is a wilderness of startling surprises. From the simple, diminutive, harmless-looking ordinary Chrysanthemums of the period to the Medusa head creation of the erratic recent gardener, is a wonderful and unprecedented stride into the abnormal. Our own belief is that the Chrysanthemum is a colossal Japanese imposture, a spasmodic effort of floral witchcraft which should be abated in the interest of morality.—*New York Herald.*

The Gardeners' Royal Benevolent Institution.—Mr. Charles Ellis, Chudleigh Knighton, South Devon, writes, under date of November 26th:—"In reading the notice in the *Times* of the 'Memoir of Henry Fawcett,' I am reminded of the gardeners' 'self-help,' the Benevolent Institution, to provide annuities for the aged and infirm, and the widows of that interesting body of intelligent and useful men. The great majority of them are sober, industrious, and earning good wages. There is no class of noble labour better capable of 'self-help' by an annual subscription to that excellent institution. Of Mr. Fawcett, it is remarked, 'he declined to entertain the request to authorise a compulsory deduction from wages of letter-carriers to provide a pension on retirement. He preferred that they should rely on their own habits of thrift.' Now it is a fact that comparatively very few gardeners subscribe to the institution founded for their benefit, and those who do are by no means the most able to do so, and why? It is to be feared the answer is the selfish hope that they themselves will never need such help; but if this hope were a truly healthy one, it would be an additional incentive to support an institution which benefits the less fortunate of their own fraternity. As to employers support, that would be better done by a life subscription—a donation of ten guineas. I trust you will give this insertion, and that other gardening journals will prominently and permanently advocate 'self-help.'"

Chrysanthemums on the Stage.—The *American Florist*, states that at the close of the Chrysanthemum show recently held in New York, the plants were sold at auction, realizing nearly $3000, at which some spirited competition was displayed. A standard grown plant of Golden Gloire de Rayonnante brought $105, and was purchased for the "Mikado" company at the Fifth Avenue Theatre. Many other fine plants were obtained for this company and were used in the garden scene the same day, giving the stage a very realistic appearance.

FRAME POTATOS.

In these days of free trade and cheap transmission by steam, from earlier and more sunny climes, the cultivation of Potatos in frames may seem to many to represent so much wasted energy; especially, as we find good looking samples of new Potatos in the markets and shop windows at prices which bring them within the means of many, to whom, not so many years back, they were unattainable luxuries so early in the season. But still, although many samples are doubtless very passable, they do not, as a rule, equal home-grown frame produce, which must still be the luxury of the privileged few; and as they are generally highly appreciated, it behoves all who have the means at command to secure one or more crops, according to the accommodation available. Those who have brick pits with hot-water pipes running through them may soon commence operations, for with the aid of fire heat a steady uniform temperature, of about 60 degrees, may be maintained in adverse weather, but those who have to depend entirely on fermenting materials had better defer commencing till the middle or end of February.

Leaves are the best material for making the hot beds with, as they do not heat so violently as manure, and retain the heat for a greater length of time. If manure, owing to a scarcity of leaves, must be used, some old dry litter mixed up with it to moderate the heat would be advantageous. I have myself mixed disused dry potting bench soil to moderate the heat, and can recommend the practice to those who have no choice but fresh stable manure. Whatever material is used, it should be trodden down firm. Where moveable frames are employed for the purpose, the beds must be made some inches wider all round than the frame, and may be made up to a height of from 4 ft. to 5 ft., according to the material at command; with these it is not essential to tread tight, because the frame will sink with the bed and keep the haulm of the Potatos at an equal distance from the glass.

Those who have to depend on this plan should well consider when they begin, if they can command sufficient material to keep up an equable temperature from the time of starting the crop till it is ready for table, because should the bed lose its heat from the want of fresh linings being placed round it, the crop must be checked in its growth, and a partial failure will be the result. After the beds are made, 9 ins. of soil, moderately rich and of medium texture, should be placed on them, and when at a suitable temperature the sets may be planted 4 ins. deep. The advantage of this plan is that the soil gets properly heated, and there is no checking the young shaws by the introduction of a lot of cold soil. A sprinkling of Radish-seed can be sown after everything is finished and the soil properly levelled. Plant in drills 16 ins. apart, and have the sets carefully prepared for planting by placing them in a temperature of from 55° to 60° for about a fortnight to start the shaws, and the stouter and deeper colour these are at planting time the better chances are there for a good crop.

The frames may remain closed till the shaws push through the soil, when ventilation must be commenced and be regulated by the state of the weather. Let it be sufficient to ensure a stout short-jointed growth. With crops started in March it will sometimes happen that the lights may occasionally be taken off with advantage for a few hours, but this will seldom happen with the earlier crops. The soil must be kept in a moderately moist condition, and whenever watering is necessary take care to saturate the soil and use only chilled water. A temperature of 60° when cloudy, with a rise of from 10° to 15° with sun heat is suitable. In unheated frames some covering material should be kept at hand in sufficient quantity to prevent any great lowering of the temperature during the night; but keeping it on longer during daylight than is absolutely necessary should be scrupulously avoided, for the more daylight they can have the better.

With regard to varieties, there is room for differences of opinion; but the old Ashleaf is, in respect of flavour, quite unsurpassed. I have found the Victory Ashleaf give good results, both as to quality and quantity of produce, and think it cannot, for forcing purposes, be beaten. I have sometimes, when the crop has been fit to lift and the frame has been wanted for other things, lifted it and placed the tubers in damp soil in a cool place, taking them out as required for use, and can recommend the plan to anyone who may not have tried it.—*W. B. G.*

ORCHARDS—MARKET GARDENS.

From the agricultural returns of Great Britain, which have recently been published, we gather that there has been a further increase this year in the area of the orchards of Great Britain, there being now 197,539 acres, as compared with 194,723 acres in 1884. Many of the collectors, it is stated, refer to new plantations of fruit trees, of all descriptions, in consequence of the continually growing demand for fruit in the large towns. Part of the addition is, however, owing to ground so occupied having being previously returned as under grass only, without including it as it should have been under orchards also. It appears that rate books, if consulted, do not always show the acreage of orchards, except where they are separately assessed, so that omissions under this head are not easily discovered. Market gardens have, likewise, extended, more land being annually appropriated for the growth of Strawberries and bush fruits, as well as with the object of increasing the supply of fresh vegetables. The acreage under market gardens is, this year, 59,473 acres, as compared with 52,975 acres in 1884. For land used by nurserymen for the growth of trees and shrubs, &c., the returns for 1885 show practically the same acreage as last year, the total being 12,594 acres.

The county which has the largest acreage of orchards in England is Hereford, 27,164 acres; Devon following closely with 26,426 acres. Somerset has 23,660 acres; Worcester, 18,190 acres; Kent, 17,926 acres; Gloucester, 15,179 acres; and Rutland may be quoted as the smallest of all, having only 79 acres. In Scotland the highest county on the list is Lanarkshire, 613 acres, and the lowest, Selkirk and Kinross, which are only credited with the possession of one acre each. In Wales the county of Brecon heads the list with 1,097 acres, and the lowest is Anglesey, with eight acres only, or one more than last year.

Of land used by market gardeners in England, Kent has the largest acreage, the returns this year being 8,817, as compared with 8,071 acres last year. Middlesex, which comes next with 7,670 acres, also shows an increase to the extent of 88 acres. Bedford is the next highest, 3,885 acres, and the other counties, which contain above 1,000 acres, are Cambridge, Cheshire, Cornwall, Devon, Essex, Gloucester, Hants, Lancaster, Norfolk, Surrey, Sussex, Worcester, and the West Riding of Yorkshire. In Wales the largest acreage is in the county of Glamorgan, 332 acres; and in Scotland Lanark takes the lead with 1,400 acres, followed by Edinburgh with 814 acres.

Surrey stands far in advance of all other counties as regards the extent of land used for nursery purposes, the acreage being, this year, 1,458 acres, as compared with 1,380 acres last year. The next highest total is

returned for the West Riding of Yorkshire, 815; and the only other counties which return above 500 acres are Kent and Cheshire. In Scotland, Edinburgh heads the list with 411 acres; the next highest being Dumfries with 193 acres; while in Wales, Glamorgan, with 78 acres, stands well ahead of all the other counties.

DISEASE OF ASPARAGUS, MINT, LUCERN, BULBS, &c.

The Copper-web Fungus, *Rhizoctonia violacea, Tul.*—Asparagus is sometimes extensively destroyed by a fungus which is generally first noticed in the form of small brown or tawny patches on the stems. The patches spread, and in bad instances at length envelope the whole plant. In its later stages, the fungus assumes a black and furry appearance. Asparagus grown as a farm crop over many acres, is sometimes killed by this pest—(Rhizoctonia violacea, *Tul.*)—to the ground line. Sometimes fresh shoots spring up, but in bad cases no new growth is made, and the plants are utterly destroyed. Immoderately bad attacks, no flowers are produced. When the roots are dug up, they are found to be putrid and have a disgusting odour. A week or two is sufficient for the fungus, which generally appears in July, August, and September, to utterly destroy every plant.

The Asparagus parasite is one of the "Copper-web" fungi placed under Rhizoctonia; these pests grow not only on Asparagus, but on Potatos, Saffron, Crocus sativus, Lucern, Medicago sativa, *L.*, Mint, Purple Clover—Trifolium pratense, *L.*, Rest-Harrow—Ononis, Arvensis, *L.*, Colchicum, Narcissus, Dyer's Madder, Rubra tinctoria, Dwarf Elder, Sambucus ebulus, *L.*, the Orange Gladiolus, and other plants. The genus of fungi is, however, ill defined, and very imperfectly known; the growth of Rhizoctonia has been seen most complete in Saffron, Lucern, and Mint. The fungi of two first named plants have been named Rhizoctonia crocorum, *D. C.*, from being seen on the Saffron Crocus, and R. medicaginis, *D. C.*; they are probably the same with each other, and both are better known under the name of R. violacea, *Tul.* The parasite of Mint is R. Menthæ, *B. & Br.*

The name Rhizoctonia is derived from the Greek, rhiza,—a root, and kteino—to destroy, in reference to the root, rhizome and bulb destroying nature of the fungus.

The disease sometimes partially attacks the roots of Lucern, Medicago sativa, *L.* The illustration, Fig. 1, shows part of a root that is badly invaded by the "Copper-web" of English growers,—the "Tacon" of the French, the fine felt-like tawny or violet mycelium, is seen dotted over with the minute brown, violet, or at length black, fleshy tubercles or peridia of the fungus. One of the hairy tubercles or peridia, is shown enlarged twenty diameters at A. Fig. 2, and a section through a similar tubercle is shown at *B.* The mycelium and felted hairs of the tubercles are shown enlarged, 400 diameters at C. No spores or seeds, except the conidia (dust-like spores or seed) seen by Mr. C. Edmund Broome on Mint, have ever been seen on the fungus named Rhizoctonia.

The Copper-web fungus of Mint has been distinguished as a species, by Messrs. Berkeley & Broome under the name of Rhizoctonia Menthæ, *B. & Br.* It was first described in the Annual and Magazine of Natural History for June, 1861, No. 985. The parasite is undoubtedly, very near R. violacea, *Tul.*

Rhizoctonia Menthæ, B. & Br., attacks Mint in gardens, it grows just above the surface of the soil, is at first tawny in colour, and densely floccose, with short threads, at length it is compact and violet. The threads are the same in structure but not in colour as in R. violacea, *Tul.* The threads which carry sub-globose spores, conidia or seeds ·003-·004 in. in diameter, are at length violet in colour, and as the tint spreads the tufts become compact, and converted into smooth Sclerotium-like bodies about the size of a Mustard-seed. A. Sclerotium is a compact ball of fungus spawn or mycelium. Occasionally the Sclerotium-like growths exhibit tawny patches showing traces of the original threads. In the parasite of Mint there is no papillæ-form or nipple-like apex of the tubercle as in some forms of Rhizoctonia, and the little Sclerotium-like growths resemble more nearly the floccose bodies seen on the Rhizoctonia of Lucern.

The Copper-web fungus is often highly destructive to the Saffron-crocus in the months of April and May. In its earliest state it is white in colour, but soon becomes violet, it grows on the internal face of the dry covering or skin of the bulb. The corms of Gladioli are destroyed in a similar manner. Whilst the mycelium is still white the minute tubercles are developed, each tubercle being surmounted by a kind of minute papilla or nipple. This development is not unlike the mode of growth common to the numerous fungi found under the genus Sphæria. There is, however, in the fungus before us no opening to the nipple: the substance of the tubercle is firm, filamentous, moist, and stuffed, not hollow. The spores or seeds of the fungus should be sought for within these tubercles, but at present, with the exception of the Mint Rhizoctonia mentioned above, no bodies of the nature of spores or seeds have been seen.

Fig. 1.

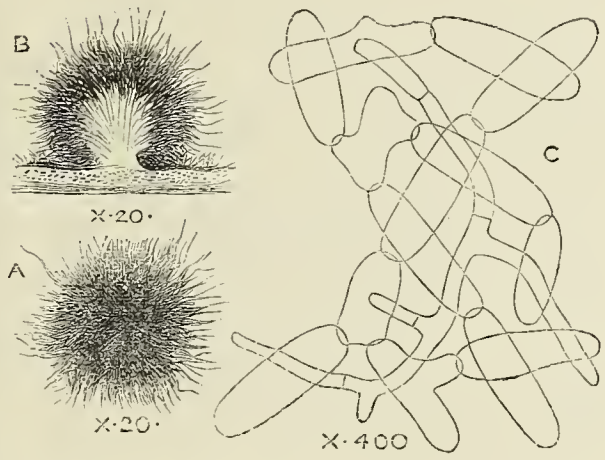

Fig. 2.

Copper-web Fungus—Rhizoctonia violacea.

With our present knowledge it is impossible to point out any preventative or remedy against the "Tacon" or "Copper-web" fungus. Whence it comes in the spring, or how it rests in the winter no one has yet explained. It can doubtlessly rest for considerable periods in the spawn or mycelioid condition. In this state it often makes havoc with Potatos in cellars in the winter.

There is a remarkable error in reference to this fungus in *Paxton's Botanical Dictionary.* It is there said the Copper-web fungus is one of the "Agaricaceæ," *i.e.*, a kind of Mushroom, with stem and gills like the edible Mushroom of our markets. The fungus no doubt belongs to the Sphæriceæ, microscopic fungi which always produce their spores within small globular receptacles, termed perithecia.

The destruction caused by the Rhizoctonia is generally the most complete and damaging when it attacks and sweeps off large crops of Asparagus. The only known remedy at present known is the destruction of all affected parts by fire.—*Worthington G. Smith, Dunstable.*

India-rubber.—The British Consul at Greytown, Nicaragua, states that the India-rubber trees once numerous along the banks of the San Juan river in the neighbourhood of Greytown, have been almost entirely destroyed by the short-sighted policy of the rubber-cutters, in injudiciously and excessively bleeding them, and the entire want of efficient police supervision.

MR. MOLYNEUX ON THE CHRYSANTHEMUM.

For the information of "W.C." allow me to say that I hope shortly to write a series of articles on the Chrysanthemum in all its various forms, in which I shall endeavour to make all things in connection with its cultivation as clear as possible, so that even the uninitiated may grow them. I venture to say that when once anyone takes to the Chrysanthemum he will not rest content until he has made a great effort to achieve success, such a charm has the Chrysanthemum upon the feelings of those who cultivate it. Many articles have been written upon the Chrysanthemum, but to my mind most of them have not been sufficiently clear to those who have had no experience. I append a list of varieties in each section of the family (the colours can be found in any catalogue), kinds that are really suitable, and which I have proved to be good ones. No doubt there are many which another person would substitute for some of those named or add to them; this must be a matter of purely personal fancy. Still, anyone restricting themselves to those I enumerate cannot go far wrong. There are a few of this season's novelties which, I think, are improvements upon some older kinds; but my advice to those who have little experience, is to grow those kinds which have been proven good, and wait till someone else proves the "novelties"; but if there are some anxious to grow a few of the newer kinds, and I know there is generally a hankering after variety, the following may be named as most promising:—L'Adorable, in the way of Val d'Andorre in shape, but in colour bronzy yellow; Jupiter, fiery red; Mons. Freeman, rosy violet; Maiden's Blush, white ground suffused with blush; L'Eboureffe, in the way of Criterion in form, the colour yellow; La Triomphante, white; and Mdme. Laing; fuller descriptions can be had from the catalogues. I do not attach much importance to the description of colours given, in many cases not being able myself to see the wonderful combinations that are set forth in some catalogues; I think more simple descriptions would be much better, and not so misleading.

I make a point now of not growing a variety without I have seen it, or it is recommended to me by someone whom I consider does know a good variety. As many people will be anxious to know when to propagate, I take this opportunity of saying that I consider any time in December, after about the 10th, a good time to strike the cuttings. The following is a list of varieties, suitable for blooming in succession, for private families, as "W. C." puts it:—Madame Desgrange is the best of the early-blooming kinds, which can be had in September; followed by Lady Selborne, a handsome decorative variety; then comes the snowy white Elaine, so much appreciated by almost every one; then we have James Salter, as a companion to the former variety; and at the same time comes Mrs. G. Rundle, Mrs. Dixon, and George Glenny, which are much appreciated for decorative work or for cutting, as they are so free of bloom. These varieties are considered too small now as exhibition cut flowers. Simon Délaux and George Gordon come into bloom about the same time and make a good contrast in colour, as they are both of a rich dark crimson hue; Mons. Henri Jacotot, a rich handsome dark colour with gold tips on each floret is very attractive; Dr. Macary, one of the lilac varieties, is a good companion to the former kind. These named are a few of the best early blooming kinds, which will be succeeded in turn by the general collection.

Hacon de Neige is a variety I think highly of for cutting; it was sent to me as a reflexed variety, but it is decidedly Japanese of the same style as Elaine, except that the florets are fewer in number and more vertical in form, they do not lie so close and stiff looking as they do in Elaine; this I consider the only fault the latter possesses. Some of the best late blooming kinds are Princess of Teck, Hero of Stoke Newington, Meg Merrilies, Fair Maid of Guernsey, Grandiflora, and a variety named Ceres, not much known as yet; it is a white Japanese variety with loose florets, which are disposed in a graceful manner rendering it very attractive. Some of the Anemone-flowered varieties are very attractive for decorative purposes; some of the best are Fabian de Mediana, Madame Cabrol, Sœur Dorothée Souille, and Mdme. Clos, the best of the new race of Anemone Japanese. Of the ordinary type of Anemone, we have Lady Margaret, Glück, Acquisition, and a late blooming white kind which can

be had in flower till Christmas, named Miss Margaret. I had almost forgotten to name two of the best kinds of any section, Cullingfordii, which I am glad to see has been placed among the reflexed varieties—its proper place according to my idea; grown well it is a grand variety, producing flowers of wonderful depth and solidity, of such a colour that it has no equal; it requires good cultivation to bring out its full beauty. I have seen a few blooms of it this season, having defective centres, to which I attribute want of high cultivation. King of Crimsons is another grand reflexed variety, eclipsed now by the former kind in its being of a brighter colour. Still the King is a grand variety, as it blooms so very freely, and is a free growing kind.

SELECT CHRYSANTHEMUMS.

THIRTY-SIX JAPANESE VARS.

Belle Pauline
Madame C. Audiguier
Fair Maid of Guernsey
Meg Merrilies
Baron de Prailly
J. Délaux
Val d'Andorre
Criterion
Golden Dragon
Boule d'Or
Mdlle. Lacroix
Madame de Sevin
Peter the Great
Japonaise
Fernand Feral
Hiver Fleur
Marguerite Monarch
M. Ardenne
Mdme. Bertha Rendatler
Grandiflora
Balmoreau
Comte de Germiny
Duchess of Albany
Elaine
Mons. Astorg
Mons. Tarier
Mrs. Mahood
Madame Devielle
Soleil Levant
Sceptre Toulouse
Triomphe de la rue du Châtelet
Thunberg
Album plenum
M. Burnet
Margot
Fanny Boucharlet.

THIRTY INCURVED VARS.

Lord Alcester
Queen of England
Empress of India
Golden Empress
Alfred Salter
John Salter
Golden Queen of England
Prince Alfred
Lord Wolseley
Jean d'Arc
Jardin des Plantes
Empress Eugenie
Hero of Stoke Newington
Refulgence
Mr. Bunn
Mrs. Heale
Princess of Wales
Princess of Teck
Lady Carey
Barbara
Baron Beust
Cherub
Beauty
Mrs. W. Shipman
Lady Hardinge
Eve
Nil Desperandum
Sir Stafford Carey
White Venus
Princess Beatrice.

TWELVE REFLEXED VARS.

Cullingfordii
King of Crimsons
Mdlle. Madeline Tezier
Golden Christine
Pink Christine
Mrs. Forsyth
Distinction
Dr. Sharpe
Phidias
Cloth of Gold
Félicite
Chevalier Domage.

ANEMONE-FLOWERED JAPANESE

Fabiana de Mediana
Madame Cabrol
Madame Clos
Marguerite Villageoise
Sœur Dorothee Souille
Madame Bertha Pigmy
Souvenir de l'Andorre
Duchess of Edinburgh.

ANEMONE-FLOWERED VARS.

Empress
Lady Margaret
Fleur de Marie
Mrs. Pethers.
Glück
Acquisition
Minnie Chaté
Prince of Anemones.

POMPONS.

Golden Madame Marthé
Madame Marthé
President
Toussaint Maurisot
Nelly Rainford
Rosinante
Pygmalion
Prince of Orange
Black Douglas.
La Pureté
Marabout
Lizzie Holmes.

POMPON ANEMONES.

Queen of Anemones
Marguerite de Coi
Pale
Madame Montels
Antonius
Mr. Astie
Marie Stuart
Zobedie
Calliope.

—*E. Molyneux, Swanmore Park, Bishop's Waltham.*

PERFECTION IN THE DAHLIA.

Can it be said that raisers of Dahlias have yet produced a perfect flower? Take a finely developed bloom of Mrs. Gladstone among the show flowers, and one of Flora Wyatt among the fancy flowers, and one must admit they are approximately perfect, but not entirely so. The raiser has, in his mind's eye, his ideal flower, and he has not as yet reached it, the fact is, his ideal recedes as he advances; all the perfections he has secured serve the purpose of enabling to build up an ideal in which these shall be intensified, and so he labours on until the fulfillment of his hopes shall be seen in a perfect bloom.

It has been said that a perfect Dahlia should possess eight points, but how seldom is it that a flower can be caught as the growers say, with six or seven of these as prominent as can be desired. Half a point may be lost in the centre or eye, the same in the shoulder outline, and in others also. We have never seen a flower in which we could find all the points that are desirable. There is a deficiency somewhere. That would be a remarkable stand of thirty-six blooms that could average six points each. Every grower for competition should, and invariably does, select the flowers that come nearest to his ideal of perfection. A little practice enables a young beginner to do this with ease. It should always be remembered that a point saved is equal to a point gained.

The qualifications required in the Dahlia may be set forth as follows:—We may say that the eye or centre is the first point to begin with, it should be tight, symmetrical, and well up; if the eye is low, half a point at least is lost; if the flower be too young the centre will have a greenish tinge, and there is a loss also; if stale and open the flower counts nothing, and were strict showing is followed, disqualifies the stand in which it is placed.

The shoulder comes next: it should recede from outline to centre; every row of petals being of the same form, and gradually getting smaller to the finish. Outline is a point of prime importance, it should be as circular as possible; the eye will detect, in a moment, any preponderance to one side or the other. If the petals are not well arranged, the outline is defective. Then depth constitutes another main point. The petals should recede from the outline to the flower stalk, so that the flower may be as near the form of a ball as possible. Flowers that are placed too low on the showboard lose on this point, they should stand half-an-inch clear, at the very least.

Arrangement and substance of the petals are very material points; the want of regularity spoils most of the others. The petals should be round, smooth, and of good substance, level with one another, and all the rows equal in height. A single petal too high or too low spoils the appearance of the flower. Colour is a pleasing point, and if the flower has other good qualities and this in combination, it will always tell on a stand, but it is only one point. A flower may be of very attractive colour, but weak in other respects.

Size is also to be taken into consideration. Provided it is not out of all proportion, size, if the flower be fine otherwise, always counts a half or whole point. Uniformity of size in a stand of flowers is of importance, and greatly increases its effectiveness. Full-sized flowers should be 4 ins. to 4½ ins. across, and medium ones 3½ ins. The smallest flowers should be in the front row of the stand, the larger ones behind. Mixing them up with full-sized ones gives a stand an irregular and uneven appearance.

Staleness is a bad point, and detracts from all the others. If the centre is old and open the flower is lost; the same if some of the petals tumble from the shoulder. But a flower may lose a few petals at the bottom and only want in depth, and yet be a thoroughly good one in all other respects. Old flowers will sometimes stand long. Some sorts are liable to drop their petals when in water, and all such should be put in dry tubes; but this, for some reason or the other, is not so frequently necessary as it was some years ago.

Judges who are well up to their work can soon tell which stands are likely to take the lead. Two or three will come near to each other, and then it is necessary that flower be compared with flower, beginning at one row and going through with it, noting the merits and demerits of each until the whole have been gone through. Points are not now generally so strongly insisted upon as they were a few years ago. Still, in all Dahlia exhibitions of any moment the best men are selected to make the awards.

In three respects the Dahlia has been materially improved, and they are distinct from those already dwelt upon. In the first place tall-growing plants are now the exception, not the rule. More than that, they are of a dwarfer and more bushy growth, throwing up flowers freely from the bottom as well as the top branches, and instead of the flowers hanging down they are generally erect, and (as an old cultivator remarked not long since) for some reason or the other flowers of Dahlias are much easier to get than they were a score of years ago—that is to say, it is easier to get blooms up to show form than it used to be.

POTATOS.—In 1884, 2,444,160 cwts. of Potatos of the value of £824,205 were imported into the United Kingdom.

SCOTTISH GARDENING.

THE PLANTING OF DECIDUOUS TREES AND SHRUBS may be done any time while there is no frost. Evergreens are different—they may be planted carefully in September and October, but when these months are passed I prefer leaving the planting till April and onwards into May. However, we know that many Evergreens are planted during the winter months; well prepared ground, good soil next the roots (which should be well spread out when no balls of soil keep them together), and quick transit of the plants to their permanent quarters, does much towards successful planting. Mulching is of more importance to newly planted trees than it generally gets credit for. Any shrub planting to fill beds, where flowers grew in summer, should be finished as early as possible, so that the whole grounds may appear clean and orderly as soon as the leaves are swept up. Grouping small shrubs in beds, gives them a cheerful appearance during winter, and the retaining of hardy plants which have done duty during the past summer may be done with great advantage.

The present time is very favourable for Rose planting, Dwarf-budded plants may be planted with the junction of the scion and stock covered; it is there that the frost has the most deadly effect on plants; good deep ground is very desirable for roses, and if planted with fresh clean soil next the roots, then finished with a good coating of farm-yard manure the plants will keep right through the winter. Teas and other delicate kinds ought to be lifted and protected in a pit, as frost ruins many of them. When protected on the ground they are subject to injury from the damp confined about them. Pruning may be left till March or April. All bulbs which were not put out in October may yet be planted. The soil should be rich, but not sour from excessive manuring, and the bulbs placed on a sandy surface (this is much in their favour) at regular distances, 4 to 6 inches apart, covered with fine soil. The beds when finished should stand above the ordinary ground level. Ranunculus may stand over till next season, about the end of January, as they often suffer from damp. When frost sets in a covering of old tan, leaf-mould, fern or other material may be placed over the bulbs as protection. Those left in herbaceous borders, such as Liliums, may be marked with pegs and covered with fine ashes or leaf-mould. All herbaceous plants which have increased beyond bounds may be lifted, reduced in size and replanted with a little fresh soil. In very rich soil the borders need not be turned up, but coated with some clean loam for appearance sake. All pieces chopped off should be removed right away from the borders, so that mixing may be avoided.

WINTER WORK WITH FRUIT TREES.—One would suppose that so much having been written on the management of fruit trees, there is little left to be said which can be of use in a cultural sense; but many prefer to take their instructions from their "weekly," instead of referring to cumbrous books (of which there are enough and to spare), and it is gratifying to know that while it is difficult to supply anything novel or original to the man of practice, there are numbers, both among amateurs and young gardeners, who are anxious to obtain sound information, and who look eagerly for their paper at the end of the week. The present is a very suitable time to direct the thoughts of such readers to the best methods of managing fruit trees. Supposing that the trees have had the best of attention during the summer, they cannot be left alone now that they are denuded of their foliage. Indeed, some almost leave their trees alone entirely during summer, and when all foliage is off, and the trees show what they have done in growth, the knife (or may be, in some cases, the saw) is applied with vigour. For trees of full development, the less cutting they have the better for their health and productiveness. Trees of restricted growth should not want much cut from them now, but merely a completion of the summer manipulation.

Where it is in contemplation to make new plantations of trees, it is very necessary to choose a good open position, where the soil is of the best, well drained and sheltered from north-east and north-west. That the land should be trenched and well broken up in the bottom is, in most cases, very desirable, especially where trees are to be cultivated as large as they can be grown. I, however, believe in keeping all from the cold or unhealthy subsoil, and for general purposes medium-

sized trees are more manageable. It is well to have fruit gardens separate from ordinary vegetable gardens; but necessity often places them so that the one becomes a part of the other. To keep trees firm in growth and healthy, the system of planting on the surface of the soil unbroken, fastening them to a stout stake and covering the roots with good soil and well mulching them is the best system to follow. The choice of healthy trees to begin with is of great importance; no one should accept badly cut ones at any price, especially if burdened with "snags" (pieces which have died back and become hard and dry), or suffering from canker. Maiden trees (those which have not been pruned or fruited) in healthy condition are better than large ones which have been trained and often had the knife unskilfully used among them. The quantities and names of the kinds should be noted before any purchases are made, and then they may be brought from the nurseries and planted without delay, thus saving loss of substance by exposure of the roots. If they have been budded or grafted and raised on the premises, the work is simplified and quickly executed.

Apples being so serviceable among all classes of the community, are grown more extensively than other fruits; and by making a good selection of kinds which fruit every season, one can always have fair supplies of fruit. We have several lists before us which have been written by friends who have been wise enough to plant certain bearers instead of kinds which are good, but shy croppers. At Dunkeld may be found the following kinds:—Lord Suffield, Ecklinville Seedling, Nelson's Glory, Keswick Coldin, Warner's King, Cellini, Manx Codlin, Tower of Glamis, and Northern Greening for kitchen supply. To these, that useful and abundant cropper, Stirling Castle, should be added. For dessert: Worcester Pearmain, Oslin Summer Thorn, Emperor Alexander, Golden Pippin, Nonsuch, Lass of Gowrie, Winter Strawberry, Red Astrachan, Hawthornden, Nonpareil, King of Pippins, and others yield good crops. Each district has its favourite; but a collection which does so well as the above in the centre of Perthshire, ought to do well anywhere else in the north. On walls, Apples are often done well, the colour coming out beautifully. Where little growth takes place on the trees, and the fruit is freely exposed to the sun and air, the quality is greatly improved. Ribston Pippin, Margil, and Blenheim Orange, grown on walls, are changed almost out of recognition, their excellence being so great, and appearance so good. Cordons kept close to a wall, with roots near the surface, give a variety of the best kinds, which the ordinary system cannot do, and by attention to "root culture," the buds will stud every part of the stem. When roots are matted together, manure-water, or other nutriment can be given with advantage, and without causing much wood-growth, which is objectionable.—*M. T.*

Scottish Horticultural Association.—On Tuesday evening this association met in the Bible Society's Rooms, Edinburgh, Mr. Alexander Milne presiding. Mr. Lindsay, Curator of the Royal Botanic Gardens, read a paper written by Mr. F. W. Burbidge, F.L.S., of the Trinity College Botanic Gardens, Dublin, on "Orchids, abroad and at home." The paper stated that the growing conditions abroad were principally intense light and dewy moisture, especially at night. The nearer these conditions could be imitated at home the better would be the results. Orchids had of late years attained to such popularity at home, and the rarest and most beautiful had realised such high prices, that Mr. Burbidge was irresistibly reminded of the Tuliponiania which raged in Holland a century or two ago. Cattleyas, Dendrobes, and Vandas of the rarest quality realised to-day from £100 to £250 or more each, and our merchant princes paid these prices with the same alacrity and zest which must have possessed the Dutch burghers when they paid 1,300 florins for a single bulb of Tulip. In conclusion, Mr. Burbidge pointed out that there was no royal road to Orchid culture, but only the long and certain one of observation and practical experience. A sketch showing the generic distribution of Orchids throughout the world was exhibited. A discussion followed the reading of the paper. Mr. Alexander M'Millan, Edgehill Dean, had on the table a plant of Chrysanthemum segetum, a British wild plant, brought for the purpose of showing how well it could be flowered in a hothouse in winter. There was also exhibited a collection of Ferns gathered in Ireland by Mr. D. Redmond, Antrim. Votes of thanks to this gentleman, as well as to Mr. Burbidge and the chairman, closed the meeting.

The Amateurs' Garden.

THE GREENHOUSE.

Damp is now the greatest enemy to contend with in the greenhouse, and must be expelled if the flowers of Chrysanthemums and other plants are to be kept in condition, for if allowed to condense on their petals, they soon become shabby and fog off at a very quick rate. The way to keep a pure and agreeable atmosphere, is to have gentle fires so as to give just enough heat to warm the pipes and flues and set the air in motion, which is easily done if the ventilators or lights are slightly open, as they should be whenever the weather is mild.

Camellias.—Amateurs and others are often puzzled with these at this season, as unless under skilful management they have a provoking habit of casting their buds, which may arise from either of two causes, the one giving them too much artificial warmth, and the other allowing them to become dry at the roots. This being so, it will at once be seen that it is useless attempting to force the plants, as they are very impatient of heat, and if by chance the flowers are brought on under its influence, they are sure to be small and poor, and fade or fall quickly after they are open.

Watering Camellias.—To make certain whether the plants want water or not, the soil should be carefully examined, and if dry should receive a good soaking by filling up the pots or tubs two or three times the same day, and if the roots are at all limited for root room, they will be much benefited after this by having frequent applications of liquid manure.

Azaleas.—There are several varieties of these that are naturally early blooming, two of the best varieties for this purpose being the old Fielders' White, and A. amœna, the last named a most floriferous kind that every one should grow, as well as the seedling from it, A. amœna Caldwellii, which is larger but of much the same colour. Azalea mollis, of which there are numerous kinds, is also first-rate for greenhouse decoration, and seedlings of it set with buds may be had at a cheap rate, and if they are potted up and stood anywhere under glass, they will flower in March and make a fine display in the house.

Rhododendrons are equally, or even more valuable, as the Nobleanum section, Altaclerense, Caucasicum, and others of that class are remarkably brilliant and showy, and as the plants lift with good balls, they receive little or no check through removal.

Deutzia gracilis.—This is a general favourite, and those who are so fortunate as to have plants of it, may forward them considerably and soon get them into bloom by standing them in amongst others on the stage, or anywhere in a little warmth, as they require but little, or no light till the buds begin to swell, neither do any other of the deciduous plants, that are generally used for greenhouse decoration in spring.

THE FRUIT GARDEN.

Transplanting Fruit Trees.—The most important matter in this department of the garden is the transplanting, an operation that should be brought to a close as speedily as possible, for if deferred till later, not only may hard frosts set in and seal up the ground, but plants or trees moved after this do not stand anything like the chance of those lifted sooner in getting fresh root-hold and becoming established.

Mulching.—What aids them much in making a start is a mulching, which keeps the soil about them in a uniform condition, and therefore each tree or bush should have a good layer placed round the stem, extending from it 2 ft. or 3 ft., the most suitable material for the purpose being half-rotten strawy manure, which lies light and does not shut out the air.

Staking and Tying.—With the planting and mulching complete, the next thing to think about is the staking and tying, as without proper support the plants wave to and fro, which motion strains the roots and produces great friction, by first pulling one way and thrusting the other, and it is impossible with such a movement constantly occurring that any fibres can form. In staking and tying care is needed to prevent chafing of the bark of the tree, and to prevent this, it is a good plan to have a piece of old carpet or a wisp of hay round the stems where the tie is made, and if well secured then the plants will stand against any wind.

Strawberries.—The system of denuding Strawberries of their leaves—as is too often done at this season of the year—and the digging among them, cannot be too strongly condemned, as stripping them of their foliage exposes the hearts and crowns to the severity of the weather, and though they may not suffer much in an ordinary winter, the tender young leaves are almost sure to get cut in the spring. This being so, the best way is to allow the tops to remain as they are, and do nothing to the ground between the rows beyond the necessary hoeing and cleaning. But after this is effected it will be a great help to the plants if they can have a good thick dressing of old soil mixed with half-rotten manure, into, and under which they will root and gain strength when they begin to grow and bear fruit.

The Vinery.—Rods that have been run up this season ought now to be ripe, and the sooner they are cut back the better, as when this is done early they have plenty of time to heal, and there is then no danger of their bleeding and losing strength through the sap oozing out at the end. The distance at which they should be shortened depends on their size, but if they have done at all well, they may be left half the length of the rafter, as the more top they have the more roots will they make, and the quicker will the house be filled and a crop obtained from the Vines.

THE VEGETABLE GARDEN.

Mushrooms.—Although generally considered very difficult to cultivate, Mushrooms may be had with ease and certainty by anyone who has the necessary material and a suitable place to make up a bed, the best situation being a close shed or cellar, where (if the temperature ranges just above 50°) they are sure to do well.

Forming the Bed.—For forming the bed there is nothing equal to horse-droppings or stable manure, as it does not matter in the least about a little short straw being in; but the dung should be fresh and not exposed to much wet, and as soon as a few barrow-loads are collected, the way to prepare it is to lay it in a heap under cover, so as to bring it into fermentation, and as soon as it is a little warm it should be turned over to let out the rank steam and sweeten it a bit, when it may be put together again, and the process be repeated after the heat is renewed. This will get rid of the violent fermentation, and the next proceeding is to put the stuff together in the cellar or shed, where it should be spread out on the floor to a depth of 1 ft. or 18 ins., and beaten or trodden down firm, and directly it starts heating again it may be spawned.

Spawning and Soiling the Bed.—The way to spawn the bed is to make holes in it about 9 ins. apart and put a piece of spawn the size of a small Potato in each, and when this is done the manure should be pressed down close, and the surface lightly covered with hay. This will keep the temperature regular, the proper heat being 80°, which will soon set the spawn at work and cause it to run through the whole of the bed. This it will do in about a month, when the soil should be put on 1 in. thick and beaten down with the back of a spade, the thing being to make it firm and smooth on the top. To encourage the Mushrooms to come through, it is necessary to keep the bed covered with soft hay, which maintains an equable degree of warmth and moisture, and under such favouring influences the Mushrooms grow fast and come full of juice.

Sea Kale and Rhubarb.—Those who would have an early supply of these highly prized vegetables will find it is the best way to take up the roots and place them on a bed of fermenting material, or in a pit or frame, where they can have a little heat under to start them, and if there kept close and covered so as to exclude light, the produce will become beautifully blanched and be of a delicate flavour. To succeed the roots so forced, and give a long continuous supply, others in beds should be placed under large pots or tubs and have litter or leaves, or both mixed, put over the top.

Fruit Culture in Oregon.—Vice-Consul Laidlaw states that much more attention is being paid to orchards in Oregon, as through the opening of new lines of railroad a ready market has been found for green fruits in Montana, Dakota, Minnesota, and other states. The crop was a very heavy one, Apples, Pears, Cherries, Plums, Prunes, Currants, Raspberries, and Strawberries grow in great profusion and perfection, and the crop of all fruits was a very heavy one last year, and of superior quality. Peaches grow to great perfection in Eastern Oregon.

THE ROOKERY, ECCLES.

The Rookery, Eccles Old Road, near Manchester, is the residence of Elkana Armatage, Esq., the eldest son of the late Sir Elkana Armatage, the eminent manufacturer and merchant of Salford and Manchester. It adjoins Hope Hall, of which you published some notes of mine in your last volume. The mansion has a west aspect, and is sheltered on two sides by trees of good age, one a fine Beech, which has its roots carefully bricked round to keep them from injury. The Elms have a colony of rooks in them; and one of them has a peculiar feature in it. Some years ago a branch had been taken off close to the stem (as all such branches should be), and the wound has healed over, and now shows the profile of a barrister with his wig on. There are fine banks of Rhododendrons enclosing the house on those sides where there are no trees. The principal windows open out upon a fine lawn dipping down to the kitchen garden. Adjoining the house is a good-sized conservatory fitted up as a Fernery, with windows into the billiard room and library. The centre of this is a piece of rockery of tufa, by Clapham, of Stockport; on this is a fine Alsophyla, throwing its fronds out boldly, while underneath are Adiantums, Selaginellas, Dracænas, Begonia Lemoinei, and others of the variegated section, with Tradescantia variegata and other creepers growing naturally; while on the walls, growing out of imitation rocks formed of cement were, at the time of my visit in early autumn, fine masses of various Begonias of the Rex section; these are growing in profusion, and are of good colour and health. The rockery stones are well covered, and the whole must be considered a well-designed piece of work.

Leaving the conservatory we pass down the long and somewhat steep drive to the kitchen garden, and note something which may be of interest to your readers. The road has a gentle fall to either side, and to prevent the gravel being washed down the incline, some U shaped pipes have been laid, with sand wells at regular distances; at the back of each grid which takes the water into the main under-ground drain, is inserted a stone about 9-ins. square with a flat top, this is 2 ins. or 3 ins. above the grid, and not only acts as a check to the surface-water running down hill, but it is adapted for standing specimen plants upon during the summer months. In the first compartment of the extensive range of glasshouses in the kitchen garden, we found a grand lot of Chrysanthemums, Guiding Star Dahlias, double Ivy-leaved Pelargonium Gloire de Orleans, Lapagerias, a fine lot of Primulas close to the glass, and Madame Desgrange Chysanthemum, just coming into flower. The next house is a vinery in which were bunches of Barbarossa from 6 lbs. to 8 lbs. weight; Pearson's Golden Queen, well finished and of good colour; Lady Downe's Seedling, and Alicantes, while trained on the back wall were Camellias. In the next house the Grapes had been cut as also the early house, these were filled with about 200 Chrysanthemums, and some plants of Dendrobium nobile, &c. The next house is a small stove, here we found Stanhopea tigrina in bloom, well grown pots of Calanthe Veitchii, various Palms, Dracænas, and a pretty specimen of Cycas revoluta (much valued as a table plant), various Amaryllis, and Nepenthes, and Tomatos, are grown overhead in summer. The next house was chiefly filled with Pelargoniums, and from here we were taken to see something we were not quite prepared for, a shed with a glass roof, on a stage in which were growing heavy crops of Tomatos, and underneath an equally satisfactory crop of Mushrooms just coming in. Other houses containing Roses, Poinsettias, and other useful plants adapted for cut flowers, which are in great demand. The trees in the long range of Peach houses, were exposed to the weather, but full of plump firm buds. In pits were a named lot of Cinerarias, Calceolarias, Tea Roses, Parsley, &c., &c., while heavy crops of vegetables occupied the open quarters of the garden. Beans were last summer almost a failure, but the Peas were good. The Strawberries in pots showed bold crowns, and in one pit we found Gardenias just coming into bloom.

Mr. Bawser, who has charge of these gardens, is evidently a first-class all-round gardener, but if we were asked as to his speciality, we should be inclined to say he is most at home in the forcing of fruits—Peaches and Nectarines, from here having successfully competed with others from more favoured districts. Heavy crops are taken annually, and the trees are well worth seeing when in season.—*N. D. J.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—I.

Now that most of the Chrysanthemum exhibitions are over, there are, doubtless, many of your readers who will soon be commencing preparations for another season's display. Who is there that does not appreciate the value of this beautiful autumnal flower? Even the amateur with his small greenhouse (and very small they sometimes are) does not regret devoting a small space in his garden to the cultivation of a few plants during the summer, as he knows that when November comes round he will be amply rewarded for all his trouble by having a nice display of blooms. It cannot be denied that this grand flower is continuing to gain in public favour. We have only to look through the horticultural journals for the last few week, and observe not only the number of shows, but the number of new societies that are springing up everywhere, to be convinced on that point; and before proceeding further let me advise any reader who does not yet belong to any such society, to take an early opportunity of becoming a member as he will find

Chrysanthemum Cutting.

it greatly to his benefit, for a great deal can be learnt from information gained by attending the meetings of such societies.

The Chrysanthemum season really commences in the first week in September with the early-flowering varieties, and lasts till the end of December, and even later in some districts. They can of course be had in bloom earlier than September, in fact, I had La Petite Marie, Petit Mignon, La Bien-Aimée, and a few others in bloom early in June, but I think September quite early enough to have them in flower, as it is then when the summer flowers are on the wane that we begin to appreciate their value. We have only to look back upon the last few months to learn something of their usefulness, for while the plants in our borders in many instances had their beauty spoilt by the rainy weather, the Chrysanthemums looked very little the worse for it. Then there is the herbaceous border in which a few varieties should always be planted, consisting chiefly of the early and semi-early flowering varieties.

For the benefit of those who are about to commence the cultivation of Chrysanthemums, I will, in a few short articles, give such directions as, I hope, will help them to attain success. Presuming that the plants have now done flowering, the first thing to do is to let them get a little dry at the roots, and then to cut them down to within 6 inches of the soil. If they are exposed to the open-air for a day or two it will greatly benefit them, as the cuttings will get firm and not be so liable to damp off when inserted in the cutting pots. Where the amateur is possessed of a greenhouse or frame he will, no doubt, desire to try his hand at striking cuttings, for which a particularly good soil is not required, in fact they may be struck in almost any ordinary garden soil (providing it is not too heavy), with the addition of silver sand, but a good compost for striking cuttings in, consists of equal quantities of loam and leaf soil, with plenty of silver sand, and if leaf-soil is not to be had cocoa-fibre refuse will do as well. They are best struck in 3 in. pots, which should be perfectly clean and well crocked to ensure thorough drainage. Fill up the pots nearly to the rims with the soil, and press it down firmly, and over this place a sprinkling of silver sand.

The strongest cuttings should be selected and taken off with a sharp knife, and should be about 3 ins. or 4 ins. long; this length is quite sufficient, for the object now is merely to get them rooted, there will be plenty of time for them to commence growing and make plants when the days lengthen. Neatly cut off, a few of the lower leaves, as shown in the accompanying illustration, and they will then be ready for inserting in the pots in which they are to be wintered.

Four or five cuttings should be inserted around the sides of the pots, and the soil should be pressed firmly about them. This done sprinkle them with water, and the operation so far will be complete. If the amateur is only possessed of a frame, the pots can be placed in such frame on a layer of ashes; but a better plan is to procure a little of that cheap and useful material, cocoa-fibre refuse, and put a layer in the frame to the depth of 3 ins. or 4 ins., into which plunge the pots up to their rims. This will be found a good protection during frosty weather. Keep the frame shut up close till the cuttings have taken root, then admit air on every favourable occasion to prevent them from becoming drawn. During the frosty weather the frame should be covered over with mats, and if the sides are protected with a little short litter it will greatly help to keep out the cold.

Those who are possessed of a greenhouse, can winter their cuttings with more ease and safety, and nothing suits them better than to be placed on a shelf near the glass. From the time the cuttings are put in until February, they will require no further attention than careful watering and protecting from frost.—*W. E. Boyce, Verbury Road, Holloway.*

(To be continued.)

ODONTOGLOSSUM ELEGANS.

Mr. Pollett's variety.—One after another the apparently insurmountable barriers between what are regarded as distinct and widely separated species belonging to this genus, fall by the appearance of varieties intermediate between them; the lovely variety here illustrated being one of the finest and least expected of the welcome strangers. Before its advent, who would have been bold enough to hint at the possibility of an alliance between the slender O. cirrosum and the stately O. Hallii? and yet a study of the features here represented leaves no doubt of the parentage of the plant. The tendril-like finish to the segments, the peculiar elongation of the lip, the slender form of the flower spikes, and the elegant arrangement of the flowers thereon are forcibly suggestive of O. cirrosum, while the crest, the serrature on the labellum, and the bold and rich marking is just what might be expected by blending O. Hallii with it.

The ground colour is white tinged in places with pale yellow, the marking being of a bright chestnut-red; the lip is white, spotted with the same colour; the crest in the centre being bright yellow. It was much admired when Mr. H. M. Pollett, of Fernside, Bickley, was awarded a First Class Certificate for it at South Kensington in May, 1883, and since that time it has grown very vigorously in the cold house at Fernside, which contains many other rare things, eminently fitted to bear its company. This season it promises to be in greater beauty than ever. Mr. Pollett, we understand, purchased it, as an imported piece, about five years ago, for a few shillings; and the plant now has sixteen bulbs, and is throwing up several spikes.

A TRADE TELEGRAPHIC CODE.

The following telegraphic code has been adopted by a committee of the Society of American Florists, and recommended by the society for general use to the wholesale flower trade. In view of the sixpenny telegrams, the publication of the code in our columns may be useful to some of our trade readers, as the basis of a code for their own use.

Abrogate: In case you cannot fill order, telegraph at once. *Anticipate:* Answer at once, stating whether you can or cannot fill the order. *Ambition:* If you can only partially fill order, do so, and reply, stating what. *Ambulance:* Want all of order filled or none, and prompt answer back. *Admiral:* Order must be sent on train mentioned only. *Adjacent:* If cannot send on train mentioned next one will do. *Affection:* Fill if possible, even at extra expense. *Affable:* Send prepaid by baggage master, if no express messenger on train. *Ancestor:* This order is in addition to my regular order. *Admission:* This order is a substitute for my regular order. *Decorate:* If cannot send all on train mentioned, send all you can, and send balance on next train. *Dancing:* If cannot fill exactly as specified, you may substitute according to your best judgment. *Durable:* these flowers are for funeral purposes and coloured flowers must not be substituted for white. *Fabricate:* Flowers ordered are to be re-shipped to a distance, therefore buds must be cut specially close. *Fortunate:* Select extra stock and charge accordingly. *Devotion:* For cheap work, and can use second class flowers if at reduced price. *Flattery:* If price has advanced since last quotation do not send goods, but telegraph. *Forgery:* This order countermands all previous orders. *Fandango:* This order to be duplicated daily till further notice. *Formation:* Add these items to the order which you already have, but in case first order is already shipped, cancel this addition. *Flamingo:* We are in a bad pinch; send us *something* to help us out, even if of poor quality. *Flocking:* Have sent mail order; if not yet received, send following at once, and cancel mail order when received. *Foraging:* This order includes all items previously ordered and wanted for this date.

Potatos at Bingley Hall.—The principal prizes for Potatos offered at Birmingham this week were awarded to Mr. Joseph Hughes, Eydon Hall Gardens, Northamptonshire; Mr. Thomas Morgan, Acton Burnell; Sir C. Frederick Smythe, Bart.; Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Edgcote Park, Banbury; and the Birmingham Tame and Rea District Drainage Board.

INSECTS INJURIOUS TO HOP PLANTS.

Mr. Charles Whitehead, Barming House, Maidstone, is preparing for presentation to Parliament a series of reports on insects injurious to Hop plants, corn, fruit, and root crops, and the first of the series, that on insects injurious to Hop plants, has just been issued. The insects enumerated and dealt with in separate chapters, are the Hop Fly, the Hop Cone Fly, the Hop Wireworm, the Hop Jumper, the Hop Flea, the Otter Moth, the Thousand Legs, the Hop Bug, the Red Spider, and the Strig Miner, and of nearly all illustrations are given, with details respecting their life history, mode of attack, and the most suitable remedies to adopt. As a sample of Mr. Whitehead's method of dealing with the different subjects on which he writes, we quote the following remarks on :—

"The Hop Cone Fly, *Dilophus vulgaris.*—This is one of the numerous species of Tipulidæ, of the sub-family Bibionides, according to Westwood. Several of those species do much injury to plants both in their larval state, in which they bear more or less resemblance to the larvæ of the common Daddy Long-legs, and in their winged state. According to Taschenberg, Asparagus, Ranunculi, Barley, Rye, and other plants are attacked by different species. Curtis speaks of the larvæ as injuring Potatos. The larvæ of the Dilophus vulgaris were found in Hop roots in Kent, as Miss Ormerod reports; and the flies were found in Hop cones at Rainham, in Kent, towards the end of August. Hop cones were sent to the writer from the neighbourhood of Maidstone full of these flies, which much injured the cones. The male fly is black and smaller than the female, whose colour is rather lighter. Miss Ormerod says that this fly sometimes appears in large swarms, especially upon the Norfolk coast in 1862, when it was recorded as hanging in millions on flowers, and in bunches on grasses.

Prevention.—It is supposed by Curtis, and considered most probable by Miss Ormerod, that the eggs of this fly are laid in manure. In this case the grubs or larvæ are taken with the manure close to the roots of the Hop plants. Manure-heaps or mixens lying in the neighbourhood of recent attacks, or where flies have appeared, should be carefully turned and treated with lime.

Remedies.—When it is ascertained that the grubs or larvæ of the Hop Cone fly are doing mischief to the plant-centres, dressings of lime, soot, lime-ashes, or of sawdust or ashes steeped in paraffin oil should be put as closely as possible around them. (In America about one quart of paraffin oil is put to a wheel-barrow load of ashes, and very carefully mixed.) It is important to prevent the development of the flies, as there is no remedial measure that can be applied when these have established themselves in the cones."

With respect to the Hop fly, *Aphis humilis*—the losses occasioned by which, to Hop planters, have been almost incalculable—Mr. Whitehead states that Hop plants have been liable to its attacks for at least two hundred years, but "no remedy in any way effective was discovered until about thirty-five years ago, when washing the plants was adopted to disturb the insects and to cleanse the leaves. Water alone was used without much effect. Then soft soap was used with the water, and sometimes a little Tobacco-juice was added. This mixture is fairly efficacious if applied properly and often enough; but the best mixture is water, soft soap, and quassia. Quassia and water will not answer without soft soap, as the Aphides have the power of resisting liquid without soap. It simply runs off and over their bodies, as water runs off and over the backs of water-fowls. When soap is mixed with water and quassia, the detergent nature of the soap neutralises their oily secretion and exposes them to the action of the liquid, and fixes the bitter of the quassia on the leaves, making them unpalatable. The soft soap also acts as a lubricator of the pumps of the machines employed for washing the plants. The best composition is—100 gallons of water (soft water if possible, or if hard with soda added), 4 to 5 lbs. of soft soap (pure), and 6 to 8 lbs. of quassia, boiled well to get full extract."

Mr. Pollett's variety of Odontoglossum elegans.

SELECT HARDY PERENNIALS.

(*Continued from p.* 150.)

Megaseas.—In the closing remarks of my last chapter (p. 150), I spoke in warm terms of the value of some of the Indian Poppies or Meconopsis. To those who know them, however, it will be obvious that I have by no means over-estimated their worth as garden ornaments. I will now pass on briefly to note another small group of perennials, equally valuable in their way, though of totally different aspect. I refer to the Megaseas, a group of plants closely allied to the Saxifragas; indeed, under this head they are included by many. These are perennials in the strict sense of the term, and are, for the most part, exceedingly showy and useful subjects. Being strictly spring-flowering renders them valuable in this respect, and their bold panicles of flowers towering above their thick leathery leaves cause them to be generally admired when seen in good condition.

Nowhere, perhaps, is this little group of plants so justly dealt with as in the spring gardens at Belvoir, where they are employed by Mr. Ingram with such telling effect. As seen there during April and May, they tell their own tale; and, indeed, that they are employed so extensively in these gardens is in itself a sufficient guarantee of their usefulness, their adaptability for the purpose for which they are used, and their general decorative value as a whole. Almost every kind procurable may be seen at Belvoir, including some exceedingly rare. The majority are of robust growth and very hardy, save one, M. ciliaris, which needs protection in severe winters. In most gardens the stock of this kind is limited and grown in pots, so that it will be an easy matter to take them under cover during the winter months. Its flowers are white and it is readily distinguished from the rest by its rough hairy leaves, which lie close upon the surface.

M. cordifolia is an evergreen species of more frequent occurrence and very hardy; it is of vigorous constitution, and produces freely its spikes of rose-coloured flowers. The variety of this plant known as purpurea is exceedingly handsome; its panicles of flowers attain a height of about 18 ins. and are rich purple. This is considered one of the finest of the group. By no means inferior to any of the foregoing is M. Stracheyi, which stands in the foremost rank, large handsome leaves and spreading panicles of white flowers; these are very beautiful when seen in good condition. Quite distinct from all else is the smaller-growing M. purpurascens; the leaves of this species are heart-shaped, more compact than in many, and lie close upon the ground, and it is by no means a common plant.

Then we have besides those named above such kinds as M. orbicularis with large heads of rose coloured flowers, and M. crassifolia media, a variety with large dark shining leaves and rosy pink flowers, produced in large thyrsoid panicles in great profusion during the

months of March and April: and last, but not least, comes M. ligulata, which, all things considered, is the hardiest and best of all; this is the one which, every spring, may be seen in such quantities at Belvoir, flowering in the greatest profusion for several weeks; the flowers are of a reddish hue, the robust panicles generally growing from 1 ft. to 1½ ft. high.

The uses of these plants are not entirely confined to the spring garden, for they make a good display when grown in pots for conservatory decoration, while, as exhibition plants, among hardy spring flowers they must not be overlooked. For exhibition purposes, I used to grow these in large pans of about 8 in. deep and from 10 in. to 14 in. in diameter, well flowered examples of this size form very imposing objects, All the group may easily be increased by division; some of the rarer kinds, however, are slow growers and will require patience, they seed somewhat freely, and in this direction there is ample scope for raising new kinds.

Mertensia virginica (Pulmonaria).—The Mertensias constitute an attractive little group of spring flowering plants. Delighting in leaf-mould and peat, and in damp half-shady positions they are a very distinct race, at present very little known, but owing to their characteristic beauty they form pleasing groups. arranged either on the rockery, or on the margins of beds of low growing shrubs, American plants, and the like. The above-named species is, perhaps, the most showy and vigorous, it grows about 1 ft. or 18 ins. high when well established; the leaves and stems assume a slightly glaucous hue; the flowers are drooping and of a beautiful bluish purple, and nearly an inch in length; it is easily increased by dividing the rootstock, an operation which should be performed when it is dormant. This plant has also been known under the generic name of Pulmonaria, which has rendered it somewhat confusing, seeing that the specific name here used is also applied to one of the Lung Worts, the two plants being in themselves of totally different aspect; There is also a Siberian species, M. siberica, a plant similar in growth to the above-named, rather larger perhaps, and differing from it in its drooping panicles of sky-blue flowers; a white variety of the latter is also in cultivation, which makes a pleasing trio of those distinct and pretty plants. They all flower during April and May.

Menyanthes trifoliata.—In this we have a striking example of the lost beauty of one of our native bog plants; I say lost beauty, simply because it appears to have been almost overlooked by all lovers of flowers, and yet it is so beautiful and chaste in its flowers, that I know of no plant which might favourably compare with it, and to all this beauty I may add that it is one of the most common of our native bog plants. It is freely and abundantly distributed in many parts, and to this particular character may be laid the fact of its falling into neglect; no greater error than this can be possibly conceived, and it should at once be reversed. Though strictly a bog plant, it may be cultivated successfully in pots placed in shallow pans of water, and even without these if copious waterings be given it. I have always been an ardent admirer of this much neglected plant, but never did I realise its full value and beauty, till I saw it in one of the water tanks in the Messrs. Rollisson's nursery at Tooting, some ten years ago. It was growing in a water tank in a warm stove, and was simply exquisite, and beautiful fringed flowers being of the purest white; in a wild state its flowers are of a soft rose, and borne on pyramidal trusses, and seeing that by forcing they become white, they should be valuable in a cut state. It may also be employed in the artificial bog, or in any low lying position where abundant moisture may be guaranteed.

Monarda didyma (Bergamot).—This old favourite still maintains a prominent position among old-fashioned perennials, and showy border flowers. There are few I suspect who are unacquainted with it under the familiar name of Bergamot; the pleasing fragrance of its leaves seems acceptable to all comers, who generally give it the wonted rub when passing it. It is perhaps the showiest of the group, growing 3 ft. or so high, and being furnished with whorls of flowers of the most brilliant scarlet; it thrives in any ordinary vegetable soil, and makes a good effective plant for the margins of shrubberies, and similar places. Not that it must be omitted from the herbaceous border proper, for it is a telling bit of colour in summer time. It forms a compact rootstock which may be divided into any number annually. M. didyma alba bears whitish whorls of flowers, and is similar to the type in other respects. The refreshing odour emitted by its leaves is a characteristic of this genus, possessed by very few other hardy plants, at least to the extent which it here abounds.—*J.*

FRUITS, FLOWERS & VEGETABLES.

Chinese Primulas.—I noticed "R. D's" interesting notes in your last, anent the Primulas at Reading, and am induced to bear testimony to the merit of Gipsy Queen. It is a very great step forward, and as "R. D." truly remarks, "the visitor contemplates it with something akin to wonder." It makes a charming table plant, and will be most useful in many other ways. No doubt the hybridiser will welcome it. —*R. Gilbert, Burghley.*

Chrysanthemums Princess of Wales and Mrs. Heale.—I imagine there has been more difference of opinion regarding these two varieties of Chrysanthemum than any other two kinds in existence, but when once known thoroughly, there is no difficulty in discriminating between them. Two blooms of quite a different character can sometimes be cut from one plant of Princess of Wales, but not so from Mrs. Heale; the difference in the two blooms on one plant being caused by the different times at which the buds are taken on the plant, and by the age of the blooms, caused by being kept too long after developing, when it loses its natural pink tinge of colour. When the buds are taken too early, the colour is too light to represent it in its true character, hence the confusion caused sometimes, and the cry that they are both the same. Where I think the fault lays is with the exhibitor in staging a bloom which is not true to its proper character, and in consequence cannot carry so much weight as it would do were it staged in its true form. Mrs. Heale being a sport from Princess of Wales, renders them exactly alike in habit of growth, colour of foliage, shape of bud, and form of the flower, as is always the case in sports from all varieties that I am acquainted with, except perhaps that some varieties may have the petals more pointed or broader than in the parent. In the case of Mrs. Heale, the petals are a trifle broader sometimes, owing probably to good cultivation or difference in soils. Princess of Wales is a blush-white heavily veined with deep pink, and Mrs. Heale is white, with a very pale creamy shade, certainly not pure white.—*E. Molyneux.*

Pelargonium, La Cygne.—I am the fortunate possessor at the present time of a large number of these exquisite Pelargoniums; they are in 60-sized pots, occupying a shelf near the glass in our stove. The flowers are a clear white and perfectly double; I can highly recommend it to all my friends as a real gem.—*R. Gilbert, Burghley.*

Stephanotis floribunda, Fruiting.—This plant produced fruit at Worksop Manor, Notts, several years ago, the size and form of the fruit being similar to those described at p. 202. In due course the fruit arrived at maturity and perfected its seeds, which were afterwards sown by Mr. Sutton in a light compost of peat, loam, and leaf-mould in equal parts, and kept on a shelf in the Melon-house. The seeds germinated freely, were duly pricked off, and Mr. Sutton very kindly gave me three of the number. These were potted into 4½ in. pots, and when they were established I threw away the weakest plant and potted the others into 6 in. pots, and kept them growing in an intermediate temperature. During the past summer these were transferred into pots 11 ins. in diameter in a compost containing more loam than previously, and placed in separate houses of an ordinary greenhouse temperature, where they will remain. I hope to see them flower about next summer, and it will be interesting to observe whether there is any variation in the inflorescence from that of the parent plant. At present the foliage is similar in form, but slightly darker in colour, and the stems are distinctly purple. It is frequently stated that there are more varieties than one of the Stephanotis floribunda in cultivation, and the statement is as frequently scouted and ridiculed, and that by keen, clever, and experienced men; but up to the present time I have seen no statement which proved the idea to be fallacious.—*J. Udale, Shircliffe Hall Gardens, Sheffield.* [There are undoubtedly good and poor varieties of the Stephanotis, some flowering much more profusely than others—the Elvaston variety to wit.—Ed.]

Early Peas.—I have for two years past grown Mr. Burbury's two new Peas, Kenilworth Early and William the Conqueror. I find the former three days later than Laxton's Number One, a superior cropper, and equal in flavour; whilst William the Conqueror is one week later than Early Kenilworth, but the best cropper of any early Pea that I am acquainted with.—*R. Gilbert, Burghley.*

Judging Chrysanthemums.—With pleasure I give my opinion of the point raised by "Exhibitor" at p. 202 on judging Chrysanthemums at the late Bristol Show as stated by him; I am of course quite ignorant as to who were the judges at the show in question. I consider that "Empress of India" and "Mrs. Cunningham" are one and the same thing, and I should certainly not admit them in the same stand as distinct varieties. If judges were firm in such cases as are quite clear and disqualify, we should not hear so many complaints, as exhibitors would be chary of staging blooms of which there was the slightest doubt. I cannot see why the judges did not disqualify in the particular case stated by "Exhibitor," as the facts appear to be quite plain. I do not think the argument of "Exhibitor" carries much weight as to the awarding of the "National Chrysanthemum Society's Certificate" in this case, because, perhaps, the judges did not know what varieties that society considers synonymous. Everyone does not read the society's catalogue, and if they did, that same catalogue is not binding on any person or society beyond the National Chrysanthemum Society itself. It was only on Friday last that I had a bloom of this very same kind submitted to me, to see if I could detect any difference in any way, but of course I could not; some argue that the petals are broader in this supposed kind than in Empress of India, but that is not the case, as Empress of India produces broader petals in some cases than in others, owing solely to cultivation.—*E. Molyneux.*

Chrysanthemums at Worksop Manor, Notts.—At few private establishments are Chrysanthemums better grown for home use and decoration exclusively than at Worksop Manor, by Mr. T. H. Sutton. When competition is the object in view, then we naturally look for something above the average, but although that is not the object at Worksop Manor, yet there we find them grown much better than they are usually seen; and were Mr. Sutton to enter the lists of competitors, some of us would have to look to our laurels. In the large early Vinery at the present time are seen three or four hundred plants of the various classes of Chrysanthemums grouped in the form of a sloping bank, and presenting to the eye a long, broad, border of colours, ranging from the purest white to deep crimson-purple, and of size and form varying from huge snowballs of Empress of India, the fantastic Golden Dragon and Fair Maid of Guernsey, to the charming Pompone, Snowdrop. They are grown in pots, 7 ins., 8 ins., 9 ins., 10 ins., and 11 ins. in diameter, and carry from five to a dozen shoots on the incurved and Japanese, and more in the case of the reflexed and Pompones. The best varieties are:—Japanese: Elaine, Bend Or, James Salter, Comtesse de Beauregard, Comte de Germiny, Peter the Great, Lady Selborne, L'Isle des Plaisirs, Ethel, Fair Maid of Guernsey, Lord Beaconsfield, La Nymphe, Meg Merriles, Madame C. Andiguier, Soleil Levant, Thunberg, Golden Thread, and R. Ballantine. Incurved: Beauty, Barbara, Beverley, Empress of India, Golden Empress, Lady Hardinge, Lord Wolseley, Mrs. Rundle, Prince of Wales, Prince Alfred, Princess of Wales, Queen of England, Venus, and Mr. Bunn. Reflexed: Chevalier Domage, Christine, Progne, Hermoine, and Julie Lagravére. Pompone: White and Golden Cedo Nulli, Bob, Adonis, Madlle. Marthé. Quilled or Anemones: Fleur de Marie, Madame Lowe, Queen Margaret, Model of Perfection, and Orange Boven.—*J. Udale, Sheffield.*

The Crop of Holly-berries.—It was remarked in June last in your columns, that in all probability we should have a good crop of Holly-berries this autumn, such a profusion of blooms were there on the Holly everywhere; and so it has come to pass. The berry-bearing trees are literally laden with fruit, and the hedgerows are a sight to see and admire. I have a tall pyramidal tree of the yellow-berried Holly which fruits annually; but like the others, it is more heavily laden than I think I ever saw it before. We shall have plenty to cut for decorating purposes during the coming festive season, without mutilating any particular trees. It

often happens that we have to make use of a quantity of pot plants to fill up corners and other places in domestic decoration during the winter months, and large branches of Holly heavily laden with berries, inserted in pots of earth and staked so as to form miniature trees, are very effective when grouped amongst other plants. I have used other shrubs in the same way, and shall use the Holly largely this winter.—*T. W.*

The late Stoke Newington Show.—There is a slight error in your report of the late Stoke Newington Chrysanthemum Show, which I should be glad if you would allow me to correct. I won the cup there for twenty-four incurved varieties three years in succession. Mr. Udale, Shireclifie Hall Gardens, Sheffield, succeeded in winning it last year, but I secured it again this year, and not Mr. Monk as reported by you.—*S. Gilbey, gardener to B. B. Booth, Esq., The Cazenove, Upper Clapton.* [Having to attend so many shows within a few days, we are not surprised to find that some of our facts got a little "mixed." We regret this error, however, very much, as our constant aim is to render honour only to whom honour is due.—Ed.]

Chrysanthemum, Dr. Barrié.—I think the remarks made by Mr. Clark, at p. 186, were quite uncalled for. I cannot see how Mr. Davis could be doing wrong in staging the variety in question as a new kind. I think that if a variety were raised by any of the Continental firms twenty years ago and did not find its way here till this year that variety should be regarded as new in England, and why not? I think we should have something to do if we had to search all the foreign catalogues, of both known and unknown firms, previous to staging a flower of any kind as new to this country. If a variety is shown and certificated at any of the exhibitions that has been lost sight of and brought forward again in two or three years and again certificated, I consider it would not be right or honest, but in the case of Dr. Barrié this does not appear to be the case. Look at the variety Belle Pauline, which has been so much honoured and admired this season; this variety was in commerce in England last season, but did not happen to be much known, now this season it is regarded as a new kind, and has rightly been certificated. Lord Alcester was in England several years before it was well grown and brought out, but not known by reason of its not having been cultivated sufficiently well to bring out its true character.—*E. Molyneux.* [We have received another communication from Mr. Clark; but as it is in confirmation only of his previous statements, and contains no fresh facts, it would serve no useful purpose to publish it. Until it is proved that the variety in question was in this country before the time stated by Mr. Davis, we must consider that his defence holds good.—Ed.]

Boilers and Heating Apparatus.—I note an enquiry by "G. B." in your last issue as to the best mode of heating a small greenhouse. The experiences of amateurs are so varied that no wonder their opinions become bewildering. If, however, my experience is worthy of a corner in your very useful paper, I am only too glad to give it with a view to helping my fellow amateurs. I have tried furnaces and flues, upright, coil, and suspension boilers, all of which have proved far from satisfactory. I have now a Horse-shoe boiler at work, and so far it is certainly superior to any I have tried or met with, it being remarkably economical and regular, and worked with very much less trouble than others. I was induced to try this boiler by my friend, Mr. W. C. Burden, the well-known Lily grower of Leicester, to whom, for further information, I should advise "G. B." to write. Mr. Burden's address is Bond Street, Leicester, and I am sure he will courteously answer any inquiries. I may add that Mr. Burden has suggested an improvement in this boiler which, if carried out by the makers, will, I feel sure, contribute very much to its effectiveness.—*A. Rundell, Amateur, 26, Northwood Road, Highgate, N.*

ORCHID NOTES AND GLEANINGS.

Potting and Potting Materials.—No delay should take place in seeing that all the requisites for potting are to hand and properly stored ready for use. Orchid peat and sphagnum moss particularly should now be got, or when the time arrives for using them it may be difficult to get those articles from stocks collected at the proper time. One of the reasons why good Orchid peat always commands a good price, is that it is above all things necessary to cut it during and after a long run of fine weather and to store it dry, which together with the difficulty of getting access to a good sample at any price, of course makes it a much more expensive thing to deal in than other potting materials. However, a really good peat, principally of Fern, is to be obtained at prices not of much consequence, when the importance of the results of its use is considered.

Peat should be stored cool and dry, either in the potting shed or in any other convenient place where it is sheltered from the weather. Sphagnum moss I always found kept best in the open air under the shade of a north wall, a mat being thrown over it in summer; in this situation it will keep for any length of time, and its growing powers be retained, whereas, if kept dry for any length of time in a potting shed it is killed, and when used for potting it decays and injures the plants. A small quantity of sphagnum should be brought in as wanted, and roughly picked over with a view to remove sticks or other objectionable matter, and also to break up the lumps into which it masses in collecting. Crocks intended for using again should be thoroughly cleaned by being placed in a tub of water and well brushed round with and old birch-broom, they should then be exposed in the open air to sweeten, and when dry stored near to where they are to be used; crocks should never be used a second time without being submitted to this process. Baskets, rafts, pots, and all other requisites should immediately be put in stock if required.

During this month it is very important to keep the temperatures in the houses well down to those prescribed below, and to avoid excessive moisture, especially among the Cattleyas, Lælias, Saccolabiums, Aërides, Vandas, &c. The Cattleyas and Lælias plump up more, and those which are rooting root better at this season when an atmosphere is kept up, which, without being harshly dry, is not too moist; the watering of the plants at the same time being well attended to, so that each one is allowed to get nearly dry before it is again watered. If the smaller plants are kept well up to the glass, and the watering and heating is regulated as directed, the plants will pass through the dull season in good order, and without giving trouble. Cypripediums, evergreen Calanthes, and Phajus should be placed in the moister and duller parts of the houses, as these situations suit them well, and leaves brighter places for other things.

Pleione lagenaria, P. maculata, and other varieties which are out of bloom, should now be repotted. Once in two or three years is often enough to shift them, and even then they would go on longer equally well, but that it is necessary to separate the bulbs when they get too crowded. Shallow pans or half-pots suit them well, and they grow best near the glass in a warm part of the cool-house, or the cooler part of the Cattleya-house. The new roots being active, water should be given them. Any fibry compost grows the Pleiones well where they are properly managed; half of peat, a quarter of loam, and a quarter of sphagnum moss, generally suits them well.

The Temperatures for the Month of December should be:—Warm or East Indian house: 65° to 70° by day, 60° at night. Cattleya or intermediate house: 60° to 65° by day, 55° at night. Cool or Odontoglossum house: 50° to 55° by day, 45° at night. Degrees, Fahrenheit.—*James O'Brien.*

Lælia xanthina and L. grandis.—I notice in some of the catalogues of nurserymen who deal in Orchids, that Lælia xanthina and Lælia grandis are stated to be one and the same thing, while in others they are said to be quite distinct. In Bateman's *Second Century* they are both figured and there described as quite distinct plants, L. xanthina flowering now, whilst grandis does not flower till May. Mr. B. S. Williams, in his *Orchid Album*, also makes them quite different. I remember seeing a fine plant of Lælia grandis in bloom in Stevens' Rooms, at the sale of the collection of Mr. Smith, of Brentham Park, Stirling, which took place at the end of May, showing its time of flowering to be quite different from that of Lælia xanthina, which I have had in flower for some weeks. Mr. Ballantine, who, if I mistake not, has charge of the plant of Lælia grandis I refer to, might give us his opinion regarding this subject. I know that Lælia xanthina is often sold under the name of Lælia grandis, but, I think, those who do this are doing wrong, at least, that is the opinion of *An Orchid Grower.* [Although somewhat resembling each other in form and colour, these two Orchids are quite distinct, as stated by our correspondent, and there is no excuse for anyone selling one plant for the other.—Ed.]

Cœlogyne Massangeana.—This graceful Orchid with its long pendulous spikes has proved itself to be a good grower and a free bloomer. We have a plant consisting of four bulbs with leaves, and from the oldest or four-year old bulb a good growth is coming away; the two-year old bulb is also showing a good break. This year's bulb has produced two flower spikes, one in September bearing eighteen flowers, another, this month (November) with sixteen flowers. I saw a fine specimen the other day at H. Lovatt's, Esq., Low Hill, Wolverhampton, which Mr. Raffell the gardener told me had borne a spike of twenty-eight flowers. This Cœlogyne thrives in an intermediate house and will flower freely with less exposure to sunlight and air than its invaluable ally C. cristata.—*J. Simcoe, The Gardens, Lake House, Cheltenham.*

Zygopetalum Mackayii.—This sweet and handsome old plant seems coming into favour again, if we may judge by the number of specimens we have had sent us lately. The latest is just to hand from Messrs. John Laing & Co., who certainly do, what Orchids they attempt, well. Their Zygopetalum Mackayii is of the best original type with massive flowers of fine substance, the bright violet veining in the large white labellum, being very clear and distinct.

THE GARDENERS' CALENDAR.

THE KITCHEN GARDEN.

No opportunity should be lost in pushing forward to a finish any work that may have got in arrears. The rubbish heap will by this time have accumulated to a goodly size, and have been turned over a few times, and divided into separate heaps according to the state of decomposition, in readiness for present and future use. Take up sufficient Jerusalem Artichokes at one time to serve for a couple of weeks; but in case of frost, a portion of the ground containing the crop should be covered with litter to prevent its being frozen. The stock of Onions, Shallots, &c., should be looked over occasionally, and any bad ones that happen to be amongst them removed forthwith, so as to prevent them from affecting their neighbours.

Forcing Department.—If not already done, no time should be lost in throwing together a good heap of long stable-dung and oak or chestnut leaves (about two-parts of the latter to one of the former), which should be turned over a couple of times between now and the middle of the present month, with which, at that time, to make the necessary number of hot-beds for the forcing of Potatos, Carrots, Radishes, &c. The beds should be made sufficiently high at the onset to admit of their subsiding 2 ft. during the next few months, after which, in order to retain a moderate heat in the beds, they should be about 4 ft. high. When the frames are placed on the beds, it will be necessary to put a little dung and leaves inside them to make the depth correspond with that of the first, and over this 2 ins. thick of rotten dung, then 9 ins. or 10 ins. of garden soil and leaf-mould (about three-parts of the former to one of the latter); this should be in the frames a few days to become slightly warmed before planting the Potatos. These should be planted in rows 1 ft. apart, and 7 ins. or 8 ins. in the rows. Before putting the soil on the bed, tread the latter firmly over, and in doing so, allow the centre to be fully high, inasmuch as it is the hottest part of the bed, and consequently the first to decompose and subside.

Previous to sowing Early Nantes Horn and James's Scarlet Intermediate Carrots (two excellent varieties for early work) in rows, 1 in. deep, from 9 ins. to 12 ins. from row to row, scratch a dusting of fresh soot into the soil with the rake when levelling the latter; this wil save the roots from the attack of wire-worm, as well as enrich the compost. Where accommodation of this sort is not plentiful, a row of Wood's Frame Radish may be sown between the Carrots, covered with ½ in. thick of sifted soil, and patted with the back of the spade or a board to compress it. At first these frames will require

special attention in the way of airing them, and in order to prevent steam from rising and getting pent up in the frames, it will be advisable to leave a little air on them day and night for the present, and subsequently to give sufficient to prevent the occupants from making a weakly growth.—*H. W. Ward, Longford Castle.*

THE PLANT HOUSES.

The continuation of dull and wet weather which we have experienced during the last month has been very injurious to plants generally, but more especially to winter-flowering subjects, and it will require an extra amount of care and attention to keep up a good supply. In the first place, sufficient fire-heat should be kept up to allow of air being given freely on all favourable occasions, but in case of foggy weather, when it is advisable to keep the ventilators closed, the temperature should be kept as low as is consistent with safety; all plants should be gone through and cleaned, as opportunity occurs. Winter-flowering Begonias are very liable to rot off if any leaves that have fallen off are allowed to remain about the stems. Many plants will do better if stood up on inverted pots, as this gives a better chance of the air passing through them, besides bringing the plants nearer the glass.

Soil for Potting.—It is very important that any compost required for potting should be in good condition; that is, that it should not be too wet or too dry, and were there is any difficulty in obtaining it dry enough, it will be better to delay potting until the soil has been dried. We like to mix a little soot with any manure, or leaf-mould that is required for potting, and allow it to lay for some time before using it; or for some plants a little slack lime mixed with dung and laid up for some time before it is required for use, will be very beneficial.

FLORICULTURE.

Auriculas.—I do not know what is the experience of other cultivators of the Auricula, but I have had fewer autumn trusses than usual this season. The plants are losing their leaves and falling off to their winter's rest; they are gone over occasionally, any dead leaves removed, and where necessary the surface soil is gently stirred. Damp is hurtful at this season of the year, and I keep a current of air passing through the house on all favourable occasions. Water is given only to those plants that need it, but I have a great objection to allowing the plants to go dust-dry. The stage in my house being a raised one, any water running out of the pots on to the shelves is soon dried up, and damp does not gather about the pots as it would were they standing on an ash bottom in a cold frame. It is during December and up to the middle of February that a collection of Auriculas has the least interest for the cultivator, but he can yet find some delight in visiting his collection even at the darkest and deadest period of the year. The absence of autumn trusses leads me to hope that I may have an earlier bloom in consequence, and the strongest blooming plants look as well as one can well desire to see them.—*R. D.*

CHRYSANTHEMUM SHOWS.

Liverpool.—*Nov. 24th & 25th.*—The autumn exhibition was held at St. George's Hall, and was a most successful and satisfactory undertaking. This show deservedly ranks among the finest in the kingdom, and the one just closed was no exception to the rule. It was admitted to have been one of the finest, if not the best autumnal show ever held in Liverpool. The cut blooms were very numerous and of excellent quality; the collections that were staged for the silver vase being exceptionally fine. Trained Chrysanthemums were of an excellent order, whilst the fruit was first-rate in every particular. In almost every class, and there were about seventy, there was a very strong competition, some having eight collections, whilst in one class for two bunches of black Grapes fifteen stands were put up for the prizes given. The first sight of the show on entering was of a very pleasing character, the handsome hall when filled with articles of a high-class character adding very considerably to the beautiful character of the show. There were many plants of a miscellaneous character staged round the hall, Palms, Ferns, and stove and greenhouse plants being well blended with the trained, Incurved, and Pompone Chrysanthemums. With a good working committee and such an enterprising secretary as Mr. Bridge, it is no wonder that the exhibits were arranged in a pleasing manner, and in sufficient time for the judges to get to their duties, so that at the appointed time all was ready for an admiring and appreciative public. Though a steady downpour of rain continued during the whole of the first day, and there was the counter attraction of an exciting election the second day, there would appear to have been little or no falling off in regard to the numbers who visited the show, as a constant stream of visitors were passing through all the time; during the evenings it was difficult even to get a glance at some of the cut blooms.

Among the Japanese were some of very recent introduction; such as Val d'Andorre, Punch, F. A. Davies, Balmorean, and Belle Pauline, while Cullingfordii in other stands stood out very boldly. In the class for thirty-six blooms, eighteen Incurved and eighteen Japanese, the 1st prize was a ten-guinea vase, the fortunate winner being Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Woolton, who had excellent examples all through; a capital lot was put up by Mr. F. Roberts, gardener to W. D. Holt, Esq., who was 2nd; a fine collection also was staged by Mr. T. Leadbetter, gardener to R. N. Dale, Esq., who was awarded the 3rd prize. With twenty-four Incurved F. H. Gossage, Esq., was again 1st, and R. N. Dale, Esq., 2nd. Mr. J. Marten, gardener to Mrs. W. G. Bateson secured the 1st prize with eighteen blooms; J. E. Reynolds, Esq., being placed in the premier position with twelve. A most magnificent display was made with Japanese; Mr. A. R. Cox, gardener to W. H. Watts, Esq., coming in well with twenty-four, and Mrs. W. G. Bateson, 2nd.; whilst with twelve, W. S. Taylor, Esq., was 1st, and W. H. Jones, Esq., 2nd. For six anemone and six reflexed, the highest prizes in both cases were secured by Mr. H. Cunningham.

A class set apart for exhibitors who had not won a prize at any of the society's exhibitions, and including six Incurved and six Japanese, was well contested; the prizes falling to R. N. Greenshields, Esq.; R. Cain, Esq.; and H. J. Robinson, Esq. A good lot of trained plants were staged, the large flowering section comprising plants about 2 ft. high, with from 30 to 40 blooms; whilst the trained Pompons were capitally shaped plants, with abundance of bloom upon them. Mr. J. Hughes, gardener to H. MacIver, Esq., was 1st for six large-flowered plants, which included Jardin des Plants, Empress of India, Mrs. G. Glenny, Mrs. Shipman, John Salter, and Lady Hardinge; Mr. C. Finnegan was 2nd with a very fine half dozen. Mr. J. Jones, gardener to W. Clark, Esq., was 1st with three. With six Pompons, Mr. Finnegan, New Brighton, was 1st, having splendid examples of White, Yellow, and Lilac Cedo Nulli, St. Michael, Mrs. Wheeler, and Mr. Astey; H. MacIver, Esq., 2nd. Mr. Finnegan was again 1st with three. Mr. W. Busland, gardener to H. Lewis, Esq., succeeded in being placed 1st with six untrained specimens, which were full of bloom, but by the side of trained specimens looked rather rough and untidy; Mr. J. Vaughan, gardener to R. C. Coltart, Esq., was 2nd.

The stove and greenhouse plants were very numerous, and in capital form. For six, H. Watts, Esq., came well to the front with good examples of Latania borbonica, Dicksonia antarctica, Croton Queen Victoria, Erica hymalis, and Ixora coccinea; F. H. Gossage, Esq., was 2nd. W. H. Watts, Esq., was again 1st with four plants, staging a splendid Croton Disraelia, Ixora Dixiana, Cypripedium insigne, and a Calamis; Mrs. A. Johnson was a capital 2nd. The last named exhibitor was 1st with four Ferns, staging Davallia Mooreana, Dicksonia antarctica, a grand plant of Mirolepea hirta cristata, and Adiantum trapeziforme. Mrs. A. Johnson was again successful with three palms, showing large plants of Seaforthia elegans, Areca lutescens, &c.

Many good collections of Roman Hyacinths were staged, the 1st prize falling to R. Singlehurst, Esq.; while Mr. F. Foster, gardener to Mr. J. Brancher, was 1st with six fine pots of Chinese Primulas. Poinsettias were shown by Mr. B. Hall and Mr. J. Woolwright, the former being 1st; Mr. J. Cunningham was 1st with Mignonette. For six table plants Mrs. J. Watts was 1st, beating numerous competitors. Some very nice Orchids were shown, E. Harvey, Esq. (Mr. T. L. Worth, gardener), winning with three and a single plant; W. Holland, Esq. (Mr. W. Moss, gardener), was 2nd. W. Holland, Esq., was also 1st with one Cypripedium, two pots of Calanthes, and a Single Calanthe. Some nice Bouquets were shown, B. Hall, Esq., Mrs. Watts, Miss A. Cooke, and Mr. G. Downs being successful in the two classes.

A fine lot of fruit was shown, Mr. Goodacre, gardener to the Earl of Harrington, winning with twelve dishes, also with six sorts of Grapes. S. Smith, Esq., (Mr. A. Collins, gardener), showed grand examples of Gros Guillaume, and was 1st. For Black Hamburghs Mr. Goodacre was well 1st; Mr. Alderman Raynes, 2nd; and F. H. Harrison, Esq., 3rd. Splendid Muscats were shown by R. Pilkington, Esq. (Mr. G. Middleton, gardener), 1st; A. C. Jones, Esq., (Mr. J. Bounds, gardener), 2nd; and A. R. Gladstone, Esq. (Mr. T. Elsworthy, gardener), 3rd. Apples and Pears were shown in large quantities and of excellent quality, Messrs. R. Smith & Co., Worcester; Messrs. J. Dickson & Sons, and Messrs. F. & A. Dickson & Sons, Chester; and Mr. C. Rylance, staged large collections of Apples and Pears, and were awarded First Class Certificates. From Messrs. R. P. Ker & Sons, came splendid varieties of Cyclamen, the pure white form being splendid examples. The Liverpool Horticultural Company (J. Cowan), Limited, also staged a fine lot of miscellaneous plants, including Palms, Callas, Dracænas, Crotous, Primulas, &c., also numerous pots of Duc van Thol Tulips.—*W. S.*

York.—*Nov. 25th, 26th, & 27th.*—Whether or not the ancient society of York Florists comprises among its ranks any young men is not quite clear, it may be that its members when they reach (say the age of fifty) never become older; but if they are ancient men, they are certainly endowed with a good deal of that go-a-head spirit which is characteristic of younger citizens of the horticultural world. On this occasion they originated an exhibition worthy of their ancient city. It was held in the Fine Arts Exhibition Building, a commodious and airy building, not far removed from their noble Minster, and therefore central and easily accessible. The plants and cut flowers were in the large ante-room and spacious hall, together with the choice fruits, and in the gallery were the vegetables, collections of Apples and Pears, competitive for the special prizes offered by Messrs. Backhouse & Son, of York, and an extraordinary collection of Onions shown by Mr. Henry Deverill, of the Seed Stores, Banbury, which appeared to thoroughly astonish the "tykes." I have seen his exhibitions of Onions before, but I think this fairly eclipsed them all, as several hundreds of extraordinary bulbs were staged on stands which covered a space of 12 yds. by 1 yd. Among them were samples of Rousham Park Hero, the Anglo-white Spanish, and the Wroxton, some of the specimens being perfect models, and scaling 1½ lbs. each. Dotted here and there on the stand were specimens of stems of the Wroxton strain of Brussels Sprouts, a remarkably fine one, the stems being quite a yard in length. To this stand a special prize and a First Class Certificate was awarded.

The specimens of Chrysanthemum plants shown here were with very few exceptions untrained, that is to say, they were of upright growth, and simply tied out with stakes. A few of the specimen Pompon Chrysanthemums were trained in the usual fashion, but they were the exceptions. The plants were placed under the galleries on either side, the groups of Chrysanthemums arranged for effect were placed in circles along the hall, and a line of tables running down the centre accommodated the cut flowers. The weather was very dull and heavy on the opening day, but there was a great deal of colour, and looked at from the organ-gallery the general effect was very good. The arrangements did great credit to the secretary, Mr. J. Lazenby, who, with a staff of assistants, got the exhibits in order in good time.

In the ante-room were the groups of plants of a miscellaneous character, arranged for effect; these were well done, the 1st prize going to Messrs. Simpson & Son, Heworth Nurseries, York, to a group of Palms, Ferns, &c., lit up with gaily coloured Crotons, Dracænas, and other foliaged plants; 2nd, Mr. J. T. Hingston, Clifton (we regret we cannot give the names of the gardeners); 3rd, Mr. T. S. Brogden, Heworth Hall; 4th, Mr. J. Key, Clifton. Here too are the specimen Palms and Dracænas, and the groups of six exotic Ferns. Messrs. Simpson & Son had the best Palm; Mr. Hingston being 2nd; Mr. Hingston had the best Dracæna; Mr. Key being 2nd; Mr. T. S. Brogden had the best six exotic Ferns; Miss Stewart being 2nd. The groups of Chrysanthemums lost somewhat in effectiveness, by being

in circles, as it was a little difficult to get them to face nicely all round. The 1st prize was a silver cup given by the Lord Mayor of York, and it was won by Dr. Baker, the Friends Retreat, York, Mr. J. R. Dawe, gardener, who won with plants almost all along the line; Mr. Alderman Close, Dringhames, being 2nd; and Mrs. Gutch, Holgate Lodge, York, being 3rd. The best lot of nine plants, incurved and reflexed, came from Mrs. Gutch, well grown and flowered, they were Christine, George Glenny, Mr. Geo. Rundle, Mrs. Dixon, Prince Alfred, Baron Beust, Guernsey Nugget, Miss M. Morgan, and King of Crimsons; Mr. Alderman Close was 2nd, his best specimens being John Salter, Lilac Queen, Guernsey Nugget, Lady Slade, Mrs. Forsyth, and Hermine; 3rd, Dr. Baker. But with six plants, Dr. Baker was 1st, having capital plants of John Salter, Mr. Dixon, Mrs. Sharp, Christine, Guernsey Nugget, and Mrs. Forsyth; 2nd, Mrs. Gutch; 3rd, Mr. J. T. Hingston. Dr. Baker had the best three in King of Crimsons, Guernsey Nugget, and Julia Largravere; Mr. C. B. Lamb being 2nd with Lady Hardinge, Golden Queen, and Princess of Wales. Dr. Baker had the best specimen in John Salter, finely flowered; Mrs. Gutch being 2nd with George Glenny.

Dr. Baker had an excellent lot of nine plants of Japanese Chrysanthemums, the varieties being Diamond, James Salter, Delicata, Peter the Great, Elaine, Etoile du Midi, To Kio, Flambeau, and Hiver Fleur. The 2nd prize was withheld. The Dr. had the best six also, the best three, and the best Single specimen; the six consisted of Elaine, John Salter, Hiver Fleur, Peter the Great, Dr. Macary, and Dr. Masters; the three of James Salter, Elaine, and Dr. Masters; the Single specimen was Elaine. Mr. Hingston had the 2nd best six; Mr. Alderman Close 2nd with three; and Miss Gutch 2nd with a single, having Fair Maid of Guernsey. Dr. Baker had the best nine Pompons, also staging good but late plants of Mr. Astie, Mdlle. Marthe, Anna de Belocea, White Cedo Nulli, Golden Circle, Model of Perfection, and Bijou d'Horticulture; 2nd, Mr. Hingston; 3rd, Miss Stewart. Dr. Baker had the best six also, staging Lilac, White and Golden Cedo Nulli, Bijou d'Horticulture, Lizzie Holmes, and Anna de Bolocca; 2nd, Miss Stewart; and 3rd, Miss Wharton, Barton Grange, York. The best three from Dr. Baker were Golden and Lilac Cedo Nulli, and Mdlle. Martha; Miss Stewart was 2nd. The best specimen was White Cedo Nulli from Dr. Baker; Mrs. Gutch being 2nd with Golden Circle. The plants of Anemone-flowered Chrysanthemums, both large and Pompon, were not good enough to demand notice. In the amateur division, Mr. R. Hudson, Acomb, had the best three plants; Mr. T. Smith, Martore, being 2nd; and Mr. J. Pilmoor, Grove Terrace, York, 3rd. Mr. Hudson had the best Single specimen; Mr. G. Hudson, Lower Elden Street, York, being 2nd; and Mr. G. S. Palliser, Martore, 3rd. Table plants were largely and excellently shown, Double and Single Primulas were fairly good, but Cyclamen persicum poor. The two best lots of table plants came from Mr. R. Wyse, Auburn Hill, Malton; and Messrs. Simpson & Son.

There was a good display of cut flowers, but not so extensive as was expected; the damp weather caused a falling off. The leading class was for thirty-six blooms, eighteen incurved and reflexed and eighteen Japanese. The best came from Mr. R. Jameson, who had of "Japs," fine blooms of Madame Bertha Rendatler, Mdlle. Aug. Gauthent, Madame de Sevin, Simon Délaux, Madame C. Audignier, Peter the Great, Mrs. Tarvin, Duchess of Albany, Criterion, Mrs. Marsham, Golden Dragon, Mrs. Jno. Laing, Triomphe du Nord, &c. Of incurved and reflexed blooms, Queen of England, Golden Queen, Golden Beverley, Jardin des Plantes, Pink Venus, King of Crimsons, Incognita, Mr. Bunn, Mr. Geo. Rundle, Empress of India, Inner Temple, Geo. Bainbrigge, Alfred Salter, White Venus, Phidias, Lord Alcester, Prince of Wales, and Félicite. 2nd, Mr. D. Wilson, Cottingham, whose best blooms were Agreements de la Nature, Comte de Germiny Mdlle. Lacroix, Dr. Macary, Bend d'Or, Criterion, Grandiflora, Thunberg, and Mrs. Jno. Laing. Incurved, Empress of India, Princess Teck, Lord Wolseley, King of Crimsons, Mrs. Shipman, Venus, Empress Eugenie, Angelina, Prince Alfred, and Princess Teck. 3rd, Mr. M. Firth, Oakbrook, Sheffield. The best twelve came from Mr. Alderman Richardson, who had good blooms of Empress of India, John Salter, Queen of England, Lord Alcester, Lord Wolseley, Golden Empress, Jeanne d'Arc, Prince Alfred, Mr. Bunn, King of Crimsons, Venus, and White Venus. 2nd, Mr. R. F. Jameson; 3rd, Mrs. M. Firth. Mr. Alderman Richardson also had the best six; Miss Moore being 2nd. And the worthy Alderman had the best twelve Japanese, staging fine blooms of Meg Merrilies, Jeanne Délaux, Fair Maid of Guernsey, Madame C. Audiguier, Golden Dragon, Ethel, Japonaise, Mdlle. Lacroix, Le Sceptre Toulousain, Rosa Bonheur, Sarina, and Bouquet Fait; 2nd, Mr. D. Wilson. Mr. R. Jameson had the best six blooms, staging Peter the Great, Mon. Planchercau, Mrs. Marsham, Criterion, Triumpe du Nord, and Elaine; 2nd, Mr. Alderman Richardson.

Pompones were very sparely represented, and were not worthy of notice. Mr. D. Wilson had the best twelve large-flowered Anemones, staging good blooms of Sœur Dorothee Sonille, Lady Margaret, Fleur de Marie, Prince of Anemones, Madame Clos, Minnie Chaté, Empress, and Glück. 2nd, Mr. Alderman Richardson, who had fine blooms of Fabias de Maderanaz, Glück, Madame Goderaux, and Prince of Anemones. A very fine lot of cut blooms of Chrysanthemums was shown (not for competition) by Mr. F. B. Morten, Hendon Bridge Nursery, Darlington, which comprised fine blooms of Japanese: Elaine, Criterion, Mrs. Tarvin, Le Sceptre Toulousain, Triomphe du Nord, Mdlle. Lacroix, Jeanne Délaux, and Flamme du Punch. Incurved: Alfred Salter, Lord Alcester, Empress of India, John Salter, Mr. Bunn, and Mrs. Heale.

Fruit.—Mr. Clayton, The Gardens, Grimston Park, Tadcaster, had the best six bunches of Grapes in three varieties, staging well-finished bunches of Alnwick Seedling, Gros Colmar, and Muscat of Alexandria; 2nd, Mr. Cochrane, Alden Grange, Durham, with Gros Colmar, Muscat of Alexandria, and Alicante; 3rd, Mr. G. B. C. Yarborough, Campamount, Doncaster, with Alicante, Gros Colmar, and well-preserved Black Hamburgh. Six lots competed.

Messrs. Backhouse & Sons, nurserymen, York, offered prizes for the best collections of Apples, and also of Pears—in two classes, grown north of the Trent. There were nine lots of Apples, averaging fifty dishes or so each. The best came from Mr. J. T. Kingston; Mr. A. Pease was 2nd, and Mr. D. Wilson 3rd. Messrs. Backhouse & Son staged a fine collection of nearly 100 dishes, the leading varieties being Ribston Pippin, Tower of Glamis, Pott's Seedling, Peasgood's Nonsuch, Nancy Jackson, Mere de Menage, D. T. Fish, Fearns' Pippin, Golden Reinette, Chaplin Pippin, Annie Elizabeth, Cellini, New Hawthornden, King of Pippins, Rymer, and Royal Russet. These may doubtless be taken as sorts well adapted for culture north of the Trent. There were three collections of Pears, Mr. A. Pease being 1st, Mr. T. M. Weddale being 2nd, and Mr. R. Bell 3rd. The leading varieties were Brockworth Park, Knight's Monarch, Durandeau, Van Mons Leon le Clerc, Nouveau Poiteau, Beurre Diel, Beurre Baltet, Passe Colmar, Soldat d'Esperen, Josephine de Malines, Marie Louise, Glon Morceau, Louise Bonne of Jersey, Easter Beurre, Beurre d'Amanlis, and Beurre d'Aremberg.

Mr. A. Pease had the best six dishes of Apples, having admirable examples of Pott's Seedling, Lord Derby, Emperor Alexander, Peasgood's Nonsuch, Blenheim Orange, and Greenup's Pippin; 2nd, Mr. R. Wise, with Mere de Menage, Golden Noble, Blenheim Orange, Cox's Pomona, Ecklinville, and Warner's King; 3rd, Mr. Aldermau Close. The best dessert Apples shown in single dishes were Cox's Orange Pippin and Blenheim Orange; and the best culinary varieties, Peasgood's Nonsuch and Warner's King. Mr. Thomas M. Weddall had the best six dishes of Pears, staging good fruits of Durandeau, Clapp's Favourite, Marie Louise, Beurre Diel, Brockworth Park, and Louise Bonne of Jersey; 2nd, Mr. A. Pease, with a very good lot, mixed.

Vegetables.—These were both numerous and good, but the time did not admit of taking notes of them. They afforded a good illustration of Yorkshire green produce, and they did great credit to the cultivators.

The silver medal of the National Chrysanthemum Society was awarded to Dr. Baker for a plant of John Salter, as the premier specimen in the show; and the bronze medal to Mr. D. Wilson for Lord Wolseley, as the premier flower. The judges were:—Chrysanthemums and flowers: Mr. R. Dean, Ealing, Middlesex, and Mr. Lawson, Welton House, Brough. Fruit and Vegetables: Mr. Culverwell, Thorpe Perrow, Bedale, and Mr. Link, Everingham Park.

Clonmel Chrysanthemum Show.—*November 26th.*—On the above date was inaugurated in this town what we hope will in future be an annual event of no mean importance. Despite many discouragements, the show was pronounced an unqualified success, while the number of visitors, at least in the early afternoon, exceeded expectation. The arrangements in the ball-room of the Court House were simply perfect, and reflected much credit on the managing committee (Messrs. Thomas Phelan, Hon. Sec., Spring Gardens; F. Clibborn, Anner House; and H. S. Boyd. Suirmount). Six classes were provided, and the number of competitors in each did credit to the floral resources of the surrounding district. For six Chrysanthemums in pots, the 1st prize went to Mr. F. Clibborn, Anner House (gardener, Mr. P. Crowley); the 2nd to George Gough, Esq., Birdhill (gardener, Mr. T. Bulfin). Other very creditable and floriferous groups were shown by Messrs. Boyd and Phelan, but none were either trained or grown as "specimens," though suiting admirably for conservatory decoration.

For twelve incurved blooms, Mr. T. Phelan was a good 1st, with distinct varieties. The 2nd stand was very creditable, but in size a few "points" behind, the prize going to Mrs. Malcolmson, Minella (gardener, Mr. John Crehan). If size alone were the test, nothing could have taken a prize from Mr. F. Clibborn, but his immense blooms were too far gone. There were three other very creditable stands with many blooms of superior merit.

For twelve Japanese, the 1st prize went easily to Mr. Phelan, whose stand would almost for certainty have gained a prize at any show in the kingdom. The 2nd prize, after much difficulty, went to H. S. Boyd, Esq. (gardener, Mr. J. Keating); being hard pressed by Mr. Clibborn, and Mrs. Malcolmson, already named, winning by only a few points.

Reflexed and anemone flowered, Mr. Boyd here came 1st and Mr. Phelan 2nd, both staging some capital blooms.

Twelve Pompons (in bunches), for this there were three entries, and the prizes were as in the last section. Mr. Boyd had three gems of the fimbriated class, "perfect little cushions of beauty," as one Lady described them.

Twelve blooms (any variety): we regard this as a most important class, intended for amateurs who have no gardeners. Mrs. Jellicoe, Cahir, got 1st prize with a creditable stand. We would suggest that next year this class be sub-divided for those who grow under glass and in the open air

Lastly, in this department came the disposition of the large silver medal so kindly placed at the disposal of the committee by Messrs. Saunders, the spirited proprietors of the Friars Walk Nurseries, Cork, for the best collection of Chrysanthemums in the show. As Mr. Phelan had already got 1st prizes in the principal classes (Incurved and Japanese), his right to this additional trophy was unquestioned.

The fruit section of the show was a credit to the locality. No less than five collections were staged, and these filled one side of the ball room completely. The 1st prize was well won by Mrs. Malcomson, Minella (gardener Mr. Crehan), who had Melons, two fine bunches of two varieties of Grapes, and a superb collection of Pears and Apples. The second prize for the most select and varied collection went to Captain Bagwell, D.L., Marlfield (head gardener Mr. Wm. Cleary). It included several dishes of Pears, Nuts, Medlars, kitchen and dessert Apples in variety—a rich and most creditable display. If there was a prize for Apples alone it would have been hard to beat Mr. Boyd's two dozen varieties, some of them of immense size and rich colour. Equally creditable were Mr. Phelan's twenty dishes of more than a dozen distinct varieties. Special mention must be made of the two large baskets, "not for competition," sent from her beautiful garden at Coolgreany, by Mrs. Crean. Many varieties were of immense size and of the most brilliant colours.

Nothing could exceed the attention and courtesy of the committee, who even went to the extent of furnishing sumptuously a refreshment room adjoining for ladies and those who came from a distance. The show too was educational: for all the proprietors around gave their gardeners a holiday, and the gentlemen of the Managing Committee took practical care to explain specially everything to them. Let us wish this venture many happy returns; and to give every opportunity

for preparation, we would suggest to the committee, to announce the holding of next year's show at the earliest period.

Bilston—The second annual exhibition of the Bilston society was held on the 24th and 25th November, in the Bilston Town Hall. As a young society, the exhibits far exceeded the most sanguine expectations of the committee. One of the most interesting features was a fine collection of cut blooms, Cyclamens, and four dishes of new Tomatos from Mr. Gough, Harefield Grove, Uxbridge, to which special prizes were awarded. For the open classes the premier prize, for nine specimen Chrysanthemums offered by the Bilston Horticultural Society, was won by Mr. Horton, gardener to Col. Gough, of Wolverhampton; Mr. Perry, gardener to Mr. J. E. Sparrow, Bilston, taking the 1st prize for nine plants offered by the society. Cut blooms were well staged, the twenty-four stands in the open classes being remarkably good; Col. Gough took 1st honours, and Mr. Williams, of Priestfield, a working ironworker, taking 2nd with blooms very little inferior. Mr. Deville, gardener to Mr. Lees, Wolverhampton, took the first prize for twelve very superior blooms. The amateur class was strongly represented, proving, beyond question, the adaptability of the Chrysanthemums for black, smoky districts. For this class Mr. J. P. Hilton, Mr. J. H. Jones, Mr. J. Bird, and Mr. R. Hyde were the principal prize takers. The attractions of the exhibition were enhanced by a good display of general autumn produce, for which special prizes were offered. Mr. J. Knight, Bilston, carried away the 1st prize for a collection of Potatos (thirty dishes), and Col. Gough 2nd. In the cottagers' and amateurs' classes the display of vegetables was very good, evoking the warm commendation of the judges. Some grand heads of Celery (Waterglade Red), and Coldlane's Leeks, both local varieties, fairly eclipsed anything staged against them.

HORTICULTURAL SOCIETIES.

Royal Caledonian.—The Apple and Pear Congress was decidedly the most important part of the exhibition held in the Waverley Market last week, the number of dishes of fruits staged being no less than about 12,000 were contributed from all parts of the country, besides a few from Switzerland, sent by Herr Strasse, Insbruck, Tyrol, and over one hundred sorts sent from Nova Scotia by Prof. Lawson, a former resident in Edinburgh. Of the home counties, Midlothian contributed the largest number, some 1,350 dishes, of which Mr. Dunn, of Dalkeith had 260 dishes of Apples. Other fine and interesting collections came from Messrs. Dickson & Co., Waterloo Place; Mr. Smith, Oxenford Castle Gardens; and Mr. Gray, gardener at Edmonston. East Lothian was also well represented by collections of varied extent from Mr. L. Dow, Newbyth; Mr. Garrett, Whittinghame; Mr. Brotherston, Tyninghame; Mr. Brunton, Gilmerton; Mr. Morrison, Archerfield; Mr. McKelvie, Broxmouth Park, and others. From Aberdeenshire, collections came from Messrs. W. Smith, & Sons, Messrs. J. Cocker & Sons, Mr. Forrest, Haddo House; Mr. Smith, Dunecht; Mr. Farquhar, Fyvie; Mr. Doualdson, Inverurie; Mr. Hardy, Aboyne, and several others. From Perthshire, Dr. Robertson, of Errol sent 100 dishes, and capital collections of lesser extent came from Mr. Browning, Dupplin; Sir R. Moncrieff, Bart., Bridge of Earn, and Mr. Brown, Abercairney; and Mr. G. Johnston, Glamis; Mr. Andersou, Greenbourne; and Messrs. Laird & Sinclair, Dundee, contributed 410 dishes from Forfar.

Mr. A. Bogie, Auchans House, Ayrshire, sent 170 dishes; Mr. McIntosh, Paxton House, Berwick, 110 dishes; Mr. Berry, Cullen House, Banff, 100 dishes; Messrs. J. Kennedy & Co., Dumfries, 100 dishes; Mr. Gowie, gardener, Mauldslie House, Lanarkshire, 285 dishes; Mr. McDouald, Balfour Castle, Orkney, 21 dishes; Messrs. Stuart & Mein, Kelso, 210 dishes; Messrs. Ormiston & Renwick, Melrose, 200 dishes; Messrs. Laing & Mather, Kelso, 210 dishes; and Mr. Dalyrymple-Elliston, St. Boswell's, a small collection of fine samples. From that far off corner of Ross-shire, Duncraig, Stroune Ferry, Mr. Munro, gardener to A. Mathesou, Esq., sent 100 dishes. Mr. Melville, Dunrobin, contributed some two dozen dishes; and Messrs. Drummoud & Sons, Stirling, 186 dishes, nearly half of which were Pears.

The English Nursery trade was unusually well represented. From Middlesex, The Royal Horticultural Society, Chiswick, sent 100 sorts of Apples and the same number of Pears; Messrs. James Veitch & Sous, 110 dishes of Apples and 74 of Pears. The honour of Kent was splendidly maintained by Messrs. G. Bunyard & Co., Maidstone, who staged 300 dishes, and smaller collections were sent by Mr. M'Leau, Vinters Park, Mr. Killick, Langley, and Mr. Thomas, Sittingbourne. Messrs. Little & Ballantyne, Carlisle, had a grand representation of the produce of Cumberland, no less than 560 dishes collected from all parts of the county. Other Exhibitors were Mr. Ingram, Belvoir; Mr. Smith, Mentmore; Mr. Miles, Wycombe Abbey; Mr. Hunter, Lambton; Mr. Watkins, Withington, Hereford; Mr. Inglis, Howick; Messrs. Harrison & Sons, Leicester; Mr. Harris, Alnwick Castle; Mr, Burnett, The Deepdene; Mr. Ritchie, Eardeston; Worcester; Mr. Rust, Eridge Castle; Mr. Berrie, Chillingham Castle, and Mr. McIndoe, Huttou Hall, Guisborough.

Ireland was well represented by some half-dozen collections, the exhibitors being Messrs. Rodger, M'Clellan & Co., Newry; Mr. Turner, Courtown, Gorey; Mr. Cobham, Garbally; Mr. Warwick, Shane's Castle; Mr. Farrell, Westport, &c. Mr. Loudon, The Quinta, Chirk, sent the best of three collections from Wales.

PLANTING AND PRUNING.

When planting auy kind of trees, it is always advisable to place next the roots a quantity of clean healthy soil, which has not been used for fruit trees before. Any broken roots by removal or transit should be cut off clean with a knife, and the whole be laid out flatly, slightly tapering downwards; no sharp bends on the roots should be allowed, as suckers break out and become very troublesome. All roots of trees, old and young, should be examined for suckers, and if any are found they should be cut clean out. If moss or vermin have infested the bark of trees, a coating of lime and soot mixed should be well rubbed in by means of a brush after every visible particle has been scraped off. American blight is an insect which takes up its quarters in cracks and wounds in the bark, and spreads over the whole trees. Applications of lime and Fir tree oil are potent destroyers of this pest, but there beiug ofteu so many crevices (not visible to the naked eye) where they can escape to, the work of eradication may be repeated again and again while the trees have no leaves on them. Large trees can be helped by syringing them with lime water and Fir tree oil; a clean healthy bark does much for health in trees.

The pruuing of trees may be completed as soon as the work can be performed. Open out the centres of old trees, thiuuing out any cross branches and reducing those which are unduly taking the lead is the chief work requiring attention at present. A general clearance of dead wood is necessary where such exists. We are now clearing out a very ancient orchard of gigantic Pear and Apple Trees, aud the old dead wood is as plentiful as the live growth; such is too ofteu the case with the "let alone system." Training, if only with the knife, has its advantages in forming trees which are required to be handsome, and though I have formed more bushes and pyramids than neat compact beads on clean stems, say 3½ ft. high, I see the propriety of favouring the latter form for Apples, Pears, Quinces, Medlars, and standard Cherries. In orchards where sheep and cattle are to graze uuder the trees, stems uuch higher are provided by the great fruit tree raisers. Dwarf trees 5 or 6 ft. high require some care and frequent attention to keep the permaneut shoots upright and equi-distant, opeu in the hearts and circular in form, and in course of time little cutting—except taking out exhausted or crossing shoots—is necessary. The formation of natural spurs should always be encouraged, and by keeping the roots in compact masses, as formerly advised, there will be numerous growths from 2 ins. to 3 ins. long, which are always fruitful; the brown firm wood being the ripest is always the best.

When trees are planted with the view of covering fences, walls, or buildings, special training is necessary, and good clean trees at the beginning, either as maidens or trained are of greatmoment; stunted barkbound trees are worthless. Much might be said in favour of the various forms of training, but these forms are so numerous, all answering the same purpose, in view, and all do well when in charge of skilful hands.

QUESTIONS AND ANSWERS.

A Chrysanthemum House.—I have been wondering whether Chrysanthemums could be grown to good purpose, planted out in the open ground, but surrounded by hoarding to a sufficient height to allow of movable lights being put on the top on the approach of frost, or say about the 1st of November. I should be glad if you would submit the matter to the judgment of your readers, as doubtless a good practical answer would be useful to many more besides *A Florist*.

Pear Congress.—*J. T. F.*: If you have not already received the names, you no doubt will do so in a day or two. It should be remembered that the congress caused a very heavy amount of clerical labour be to thrown on Mr. Barron and his staff, and it could not be done all at once.

Names of Plants.—*J. H.*: 1, Blechnum brasiliense; 2, Nephrolepis tuberosa; 3, Asplenium flaccidum: 4, Blechnum triangulare; 5, Sellaginella cæsia; 6, Polemonium cœruleum variegatum; 7, Ophiopogan spicatus.

Names of Fruits.—*Clergyman*: 1, King of the Pippins; 3, Round Winter Nonsuch; 4, King of the Pippins; 5, not recognised; 6, Beachamwell; 7, Ringer; 9, Lord Derby, a small fruit.

Communications Received.—Mrs. P.—J. K.—D. P. L.—J. P.—E. D.—G. S. A. (many thanks).—R. O.—J. J. T.—J. W.—S. L. & Co.—W. P. R.—D. B. K.—G. H.—B. C. (why a Pear!).—P. B.—R. M.

TRADE CATALOGUES RECEIVED.

W. Drummond & Sons, Stirling, N.B.—Forest, Ornamental and Fruit Trees, Roses, Shrubs, and Coniferous Plants.

Thomas Laxton, Seed and Novelty Grower, Bedford. Specialities in Flower and Vegetable Seeds, Fruits, &c.

LONDON SEED TRADE.

December 2nd, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report trade in agricultural seeds still very dull and values uuchanged. White Clover is a little more enquired for and fine samples appear to be scarce, but the wet weather having been so uuch against thrashiug, it is perhaps too soon yet to come to a definite couclusion as to the exteut of the crop. Red Clover is offered freely from the Coutinent, and prices are firm. A few samples of new Euglish seed have been on offer, but the quality is generally inferior. Trefoil maintains the late advance and a considerable quantity has changed hauds duriug the week. Canary firm. Hemp and Rape are both cheap, bnt values are hardeniug with an upward tendency. Perennial Rye Grass, of all weights, in plentiful supply at last quotatious.

COVENT GARDEN MARKET.

December 3rd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 3	1 6
Grapes, per lb.	1 0	2 0	Pine-apples, St. Michaels, each	3 0	5 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ....per doz.	1 6	2 0	Onions, per bushel	5 0	7 6
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Anemone, 12 bunches			Mignonette, 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	6 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	0 6	3 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses, Tea, French	0 6	1 0
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	1 6	2 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays	5 0	6 0
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	8 0	Tulips, 12 blooms	1 0	1 3
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	5 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, Roman, per dozen	12 0	15 0
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	8 0	12 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

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,, TEAS	18s. ,,	£6 10s. ,,
DWARFS H.P.'s	8s. ,,	£2 10s. ,,
,, TEAS	12s. ,,	£4 10s. ,,

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Plants of the 86 New Varieties for £4; Cuttings, £2. 30 of the above for £1; Cuttings, 10s.

H. CANNELL & SONS,

THE HOME FOR FLOWERS,

SWANLEY, KENT.

National Chrysanthemum Society.

THE GRAND EXHIBITION FOR 1886, will be held at the Royal Aquarium, Westminster, on Wednesday and Thursday, November 10th and 11th.

Particulars and applications to WILLIAM HOLMES, *Hon. Sec.*, Frampton Park Nursery, Hackney.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 12, 1885.

THE COMING WINTER.—We are nearly half way through the winter months, for the shortest day is close upon us, but the winter, whatever form it may take, has yet to come. Very soon we shall be into the year 1886, and we are just now much concerned with the nature of the weather which is to usher that year in, for to those engaged in gardening weather is of the first moment, and upon it hang our hopes and fears, our successes or our failures. Judging from what has passed, it would seem easy to prognosticate a soft wet winter, but that the data upon which such an assumption is based upon may prove the reverse of reliable. Yet remembering the features that have marked some previous winters of a specially soft moist nature, one can aver that the past months, so far, have been in complete accordance with those which have introduced preceding soft winters, and reasoning from analogy, similar results may be looked for in the winter now upon us, the frost of the last few days notwithstanding.

Most certainly a heavy and prolonged rainfall was due, for we have had two years of comparative drought—perhaps we may say of unusual drought—and only a long spell of wet weather could be expected to counterbalance or make up the void in the soil this long drought has created. The late autumn certainly has shown a tendency to fill up that void, for we have had some remarkable rainfalls during the past few weeks, and planters and farmers are now finding the soil too moist, and in some places flooded, to render it workable. There is yet ample time for the weather to take a severe turn, and it may be not unnaturally suggested that the heavy rainfall, so far, has but filled the lakes, ponds, and rivers, that intense frost may provide skaters and other pleasure seekers with ample ice for their enjoyment. We are apt to assert that a severe winter, with plenty of frost, is good for the land, premonitory to an abundant season. It is easy enough for the well-to-do to look upon a severe spell of frost with complacency, but such a visitation brings with it intense suffering to the weak and aged, and great poverty and privation to the poor.

In countries where the seasons have such an element of constancy that summer follows winter, and both of a *bonâ fide* type, with assured certainty, the heat of the one, or the severity of the other tells with but moderate effect upon humanity, not only because the bodies of human beings are better inured to these regular changes of temperature, but their assured coming enables provision to be made to meet their rigour or intensity with some suitable alleviatives. Here we jump from comparative summer to comparative winter with sudden ease and frequency; hence, not only humanity, but vegetation finds ours to be a peculiarly trying climate, and in such a season as the present, we could not but regard the sudden change to intense frost now with fear, because following after so much rainfall, very disastrous results to vegetation might follow.

If the order of nature dictates considerable moisture, it will, without doubt, show more of wisdom than do those who wish so fervantly for a season of dry hard frost. With another dry winter we should have experienced great suffering, especially for vegetation; with an ample rainfall we shall be able to face a hot dry summer with equanimity Happily for our prospects for a fair fruit season next year, the autumn rains came too late to effect the ripening of the fruiting wood on all kinds of trees, and the formation of fruit buds; whilst the thorough soaking the roots have now received will certainly tend to make the crop next year finer, and probably more holding than was the past season's crop, should the spring prove merciful, and allow the bloom to set and produce an ample crop.

It is a common observation that cold springs always follow mild winters, but the assumption is not always borne out by facts. Really we seldom escape cold springs, let the winters be what they may, and if we could exchange the few degrees of frost with cold biting east winds in April for much sharper weather in March we should be wise, because the latter would do no harm whilst the former does a great deal. The effects of wet and severe winters upon labour are almost identical, because both materially hinder work; still farther, both materially affect human health, as in this country damp cold of moderate quality is quite as hard to endure, perhaps more so than is severe dry cold. The latter, however, if very severe, and especially if following upon a cool and damp summer or autumn, may be productive of far more harm to vegetation. Dry seasons render us indifferent to drainage but anxious for irrigation. Wet seasons make us value drainage and indifferent to needs for water in the summer. If a season like the present would cause considerable expansion of drainage, so much the better for large tracts of land, and if to that drainage were associated some extensive system of storing water how much the country would gain by it.

In carrying out any system of water storage, however, we must not expect that it could be made remunerative if applied only to common crops. A nurseryman, for instance, might find an ample store of water in a dry summer to be invaluable, and to a farmer it might be profitable to be able to irrigate pastures and root crops; but beyond these a costly scheme of irrigation could hardly be expected to pay. In conjunction with the winter aspects there are those who look for frost because we have such a wealth of Holly and other berries. The association of these with weather is rather of a past than of a future nature. It is certain that preceding seasons have favoured wood-ripening and bloom-setting; but there is not the least connection with such fruitfulness and the weather which is to come.

GARDENING MISCELLANY.

The Orchid Growers' Manual.—We note with pleasure the appearance of a new edition, remodelled, revised, and greatly enlarged, of this very useful publication, which we shall notice more fully in an early number. In the meantime we may add for the benefit of those who do not know the work, that Mr. B. S. Williams, of Holloway, is the author and publisher.

Manchester Horticultural Improvement Society.—It will be seen from a report of the last meeting of this society, published in another column, that Mr. William Swan, of Fallowfield, having obtained a situation in another part of Lancashire, has resigned the secretaryship, which he has so ably held since the formation of the society, and is succeeded by Mr. W. B. Upjohn, the able gardener at Worsley Hall, Manchester.

Potato Culture in Jersey.—The report presented to the last annual meeting of the Royal Jersey Agricultural Society stated that upwards of 300 acres of additional land in the island had been devoted to Potato cultivation this year. With a rental of £11 per acre, and heavy expenses for securing early crops, this might suddenly prove an extremely disastrous speculation.

Mr. George Lane, senior partner of the firm of Messrs. G. & J. Lane, Nurserymen of St. Mary's Cray, Kent, died on November 30th, aged 75 years.

Scottish Horticultural Association.—At the meeting held on December 1st, Mr. F. W. Burbidge, F.L.S., Trinity College Botanic Garden, Dublin, was elected an Honorary Life Member of the Association, and it was further agreed that his paper on "Orchids Abroad and at Home," a portion of which appears in another column, be printed *in extenso* in the Transactions of the Association.

Produce of Large Palmate Potato.—A Potato much resembling a hand in form was sent to the scientific committee in November, 1884. It weighed 15 ozs. On being planted the produce in 1885 was 8 lbs., or more than 800 per cent. Such a result would seem to corroborate those at Chiswick—namely, that whole sets usually give a much greater produce than those which have been cut, the former presumably supplying more nourishment, and, therefore, greater vigour on commencement of growth.

Lambeth Amateur Chrysanthemum Society.—This flourishing society of amateurs held their eleventh annual dinner at the Bridge House Hotel, London Bridge, on the 4th inst., when no less than seventy-four members and friends sat down. The chair was occupied by Mr. Alfred Pocock, one of the patrons of the society, who was supported by Mr. Seymour Keay, Mr. Wm. Holmes, and Mr. Ballantine of the National Chrysanthemum Society, and numerous other lovers of the autumn queen. The vice-chairs were occupied by Mr. Harman Payne and Mr. Ivison. The toast of The Society was proposed in a few well chosen words by Mr. Wm. Earley, and was responded to by the enthusiastic Hon. Secretary, Mr. Geo. S. Addison, who reported upon the progress of the society. Other toasts were The Officers and Committee, responded to by Mr. Fill, "The Honorary Members," "The Visitors," and "The Judges." A very pleasant evening was spent.

The Potato experiments at Chiswick.—At the meeting of the scientific committee on Tuesday, Dr. Masters observed that through the absence of Peronospora, as in 1884, the object of the experiment failed; but the general results of produce under the different methods of treatment corroborated those of last year. He summarised them as follows:—1, earthing up produces a crop of more uniform size and superior quality, even if less quantity; 2, that bending the haulms occasions a diminished yield; 3, that a larger aggregate produce is derived from planting whole tubers than from the employment of cut sets. It was suggested that the subcommittee should continue the experiment next year, but with fewer rows, and confine the observations to testing the Jensenian method of moulding should the disease occur.

The Traditional Origin of the Walnut Tree as given by Folkard is interesting: it is in substance as follows:—Carya, the youngest of the three daughters of Dion, King of Laconia, received, in common with her sisters, the gift of prophecy from Apollo as a reward for the hospitality the god had received from her father. The god stipulated that they should never abuse the gift, nor by its power endeavour to penetrate mysteries which it was improper for their sex to fathom. This stipulation was violated when Bacchus declared his love for the youngest daughter Carya. The elder sisters being jealous, endeavoured to prevent Bacchus from meeting Carya, and he in revenge turned them into stones and transformed the object of his love into the Walnut tree, the fruit of which was considered by the ancients to promote the powers of love.

IRISES.

One can pick up a good many wrinkles at times from the correspondence which comes in ones way; and questions are sometimes asked which lead to useful and instructive information, which it is desirable may be given for the benefit of others. Thus, a gentlemen who had been making a new long bed of Narcissus, was desirous of varying it with clumps of Irises. Something like twenty clumps were wanted, and we were asked to recommend a selection such as would be likely to flower well, and would be handsome, but to contain an interesting variety of sorts.

In reply he was recommended a few good varieties of I. Germanica, and the same of I. Sibirica, especially the pure white form alba, and also Orientalis, a lovely plant allied to the Siberica group, the flowers larger than any of the forms of I. Siberica, and of a rich velvety blue; it is one of the most beautiful of the group, thoroughly hardy, will grow freely in any soil, and produces an abundance of flowers. Perhaps if any Iris may be said to be useful for cutting purposes, it is this one. I. Siberica forms a very distinct group of

The German Iris.

Iris, distinguishable at a glance by their long grassy foliage, 2 ft. or 3 ft. in length, forming dense erect tufts, and numerous slender hollow stems, bearing an abundance of flowers of various shades. They are quite hardy, and very free growing in any ordinary soil, and also useful for cutting. I. Germanica includes all the broad-leaved Irises, which generally pass under the above name, but which in reality belong to several other groups. Here in the group we get varieties of pallida, neglecta, squalleus, amœna, variegata, aphylla, and Germanica, all resembling each other in foliage and habit, but totally distinct in flower; but when taken as a whole, they form a group unparalleled in beauty; nothing in the way of hardy flowers can compete with them; indeed they may be said to almost rival the Orchids from the tropics. Every shade of colour may be found among them, and as they will thrive in almost any soil or situation without any care whatever, they must be considered necessary in every garden. The golden-yellow aurea, which is comprised in this group, should be singled out for special praise.

Then there are certain species and varieties that are likewise deserving a place in a select collection, viz.:—Aurea, a robust growing form, deep golden-yellow, with fringed flowers; Cuprea, with curious copper-coloured flowers on stems 2 ft. high, one that does best in a damp situation; Ensata var. Oxpetala is an ornamental species from Turkestan, resembling I. Siberica in growth, pale blue and lilac; Fieberi is a very rare species, growing about a foot high, and having deep brownish purple flowers; Graminea latifolia is of dwarf growing form also; the flowers blue, white, and purple; Humilis has purple flowers handsomely reticulated with white; Longipetala is a very handsome Californian species, the falls of great length, white reticulated with blue, the other parts lavender—one of the most distinct; and there is a dwarf variety of this, pale blue in colour, very fine flowering and pretty. Missouriensis, a fine species bearing pale blue flowers on slender stems; a very early flowering form. Ochroleuca, a noble species, growing from 3 ft. to 4 ft. in height, bearing large white and yellow flowers. Ruthenica, a very pretty and distinct species, with narrow deep green foliage, and of a very close and compact habit, bearing handsome purplish blue flowers. Stylosa, a lovely winter-flowering species, bearing beautiful light blue flowers with yellow blotches. Versicolor, reddish lilac and bright rosy purple, very distinct; and Virginica, purple, distinct, and very pretty.

The bed to be planted is under a wall facing to the west, and the soil a deep loam, rather heavy, but deeply drained. It is just possible this position may prove too dry in summer for some of them, therefore the moisture-loving species should be placed in a position most favourable to their well-being.—*E. W.*

THE INFLUENCE OF LIGHT ON PLANTS.

At the meeting of the Linnean Society, on Thursday, December 3rd, the Rev. G. Henslow read a paper upon the transpiration of plants as affected by the different coloured rays of the solar spectrum, in which the results of some interesting experiments were detailed. Mr. Henslow has for some time been engaged in the investigation of this matter, and as he intends continuing his experiments, a further communication, giving fuller particulars, will be anxiously looked for by many persons. It appears that the principal object was to ascertain if Wiesner's conclusions that the rays absorbed by the chlorophyll had the greatest effect upon transpiration, and not the brightest rays of the spectrum, as other authors had believed. It should be premised that the moisture lost by growing plants is partly due to evaporation and partly to transpiration, the latter being considered a vital function not merely dependent upon heat and a dry atmosphere as the former does The view which Wiesner adopted was that when the chlorophyll in a plant absorbs light this is transformed into heat, and by increasing the temperature of the plant tissues causes the formation of vapour, that may even be given off when the surrounding atmosphere is charged with moisture. Mr. Henslow's experiments generally corroborated this opinion; plants under red, blue, violet, and white glass transferred the greatest quantity of moisture in a given time, those under green and yellow glass giving off the least in the same time.

The whole subject is a very interesting one, and it is important also to the practical cultivator, for the causes which influence transpiration also greatly affect the general well-being of the plant. Few fully recognise the fact that the life of a plant is mainly dependant upon light at some period, for though growth may take place in its absence, this is simply the result of previous assimilation or elaboration under the influence of light. It is only in light that the green colouring matter—the Chlorophyll—of leaves or stems can decompose the carbonic acid in the atmosphere, and by appropriating the carbon, store up starch and other compounds to assist in the future development. We have many instances of growth in darkness, as in such forced vegetables as Sea Kale, Rhubarb, &c. and in the germination of seeds; but in all these cases it is evident that the growth is simply the result of an operation in the stores of food previously provided, and then utilisation in the development of stems and leaves, and sometimes even of flowers, fruits, and seeds. All gardeners recognise the importance of a good season of growth for all fruit trees, plants, or vegetables that are to be submitted to the operation of forcing, but few, perhaps, are aware of the simple facts upon which it depends. It also shows how greatly plants must be exhausted in this process, which is conducted at a time when not only is the period during which they are exposed to light each day greatly diminished, but the intensity of the light is also considerably weakened, and in consequence the plants have little opportunity of assimilating fresh food supplies to sustain the rapid growth they are compelled to make. Thus, both before

and after a season of hard-forcing, a period of vigorous well-matured growth is necessary in the first to prepare for it, and in the second case, as a means of recuperation.—*F. L. S.*

POINSETTIA PULCHERRIMA.

The appearance of the scarlet-vermilion of the Poinsettia, reminds one of approaching Christmastide; for during this most festive season, and on into the new year, these form highly attractive objects when judiciously arranged among other foliage and flowering plants. A few plants suffice to brighten the rather predominant foliage of the many occupants of the stove, unless, indeed, well-coloured plants such as Crotons, Dracænas, and the like abound, and if so, the effect will be brighter and more enjoyable, owing to the greater variety. It may not be out of place here to remark on the peculiarity of the Poinsettia; the peculiar characteristic to which I refer is the whorl of coloured leaves, or bracts as they are called, which encircle the head of the plant, and to which the plant owes its universal use. Generally speaking, it is the flowering of the plant which is looked forward to, but in the present instance few people ever think of the flower of the Poinsettia, and many, probably, have never noticed it at all. The true flowers are inconspicuous, and of no value from a decorative stand point, and so it is, in lieu of flowers we have large handsome heads of brilliantly coloured leaves, which, I believe, renders this genus unique. There are other genera possessed of the same characteristics, though not in the same degree, and those occurring to the writer at the moment are Dondia epipactis, and one of the Salvias, in this case the bracts are purple-blue, and furnish the stems for several inches, and lasting for weeks in perfection; then we have the Gnaphaliums, to which belongs the renowned Edelweiss; in each case the bracts, or whorls of bracts taking precedence over the true flowers. But to the point at issue.

The Poinsettias will now require attention in order to get the best possible colour. Cuttings which were rooted in May and June will, according to the attention they have received, and the position which they have occupied, be from 1½ ft. to 2½ ft. high, they should be stout, firm, short-jointed, and well-hardened and ripened before having been brought indoors. Frame culture is the best for them where grown in small quantities during the summer months; here they are well under control, and with good management may be made to answer well. At the present time they will be best suited in a temperature ranging from 65° to 75°, and placed in a light position as near the glass as possible. When the bracts begin to show signs of colouring, they will require assistance in the shape of artificial manure, and of all that I have tried I am inclined to the belief that Standen's manure is the best; by the use of this I have always had good ordinary sized heads of bracts and well coloured. During the growing season I prefer feeding them with weak liquid manure and soot water, the latter always providing for them large healthy dark green leaves. It should be the aim of all having a warm house—in which to place them in winter-time—to grow a few of these attractive plants, for it may be remarked that it is the worst of all plants to travel mostly, if not always losing the majority of its leaves, leaving the bare stems anything but attractive and interesting.

Poinsettias are grown in great numbers in the neighbourhood of London for decorative purposes, and generally find a ready sale. The best known kind is the one above named and the variety plenissima, which latter, when well grown, is furnished with a greater number of bracts, hence the varietal name. The other varieties are pulcherrima alba with whitish bracts, the white is not good and it is not likely to get into general use; Rosea carminata is a pleasing variety, colour carmine-rose as the name implies; other kinds worthy of mention, are pulcherrima major, somewhat larger than the type, and similar in colour; Ignescens, a slightly stronger grower, probably is in colour a rich vermilion-lake, surpassing all else in richness of colour, it will be sought after when better known; in P. mirabilis the colour is similar to the type, bracts larger, well-formed, and of a rose-vermilion; the prevailing colour in this variety is very pleasing. The only departure in the culture of the Poinsettia known to the writer, is that followed by Messrs. Heath, of Cheltenham, who adopt the planting out system with good results, and thereby secure an abundance of moderate sized heads of bracts with ample foliage, which for general use are equally valuable, and all are obtained at a minimum cost for growing, and very much below the cost for growing pot plants.—*J.*

Carter's French Gold Striped Marigolds.

FLOWERS AND PHILANTHROPY.

Notwithstanding the fact that the annual horticultural exhibitions in connection with Wolverhampton, the metropolis of the black country, as a general rule for years have proved to be wanting in success, this cannot be said to have been the case in reference to an act of philanthropy, which was the result of a call made by Miss Manders, a well known local philanthropist, on the 3rd and 4th inst., on behalf of the Ladies' Fund for providing cheap dinners for poor children during the coming winter. In reply to the call so made, a most gratifying response was made by all the leading plant growers in the district, the result being that the large agricultural hall was filled with the choicest productions that the district could afford, and a floral exhibition produced unrivalled by anything that has taken place in the midlands for years. Groups of magnificent plants were contributed that had never before been brought to public view, showing that their owners were more willing to yield to the cry of charity than the attractions of prizes and awards. The example so set is one worthy the emulation of other great centres of industry. The exhibits were most tastefully arranged and presented a charming effect. The Right Hon. the Earl of Dartmouth, Sir Rupert Kettle, Colonel Foster Gough, Mr. A. Briscoe, Mr. C. H. Crane, Mr. E. T. Cresswell, Mr. Job Evans, Mr. A. Hickman, M.P., Mr. P. Horsman, Mr. T. Ironmonger, Mr. J. Jones, Mr. B. Jones, Mr. S. Loveridge, Mr. W. Tees, Mr. S. S. Mander, Mr. H. Lovatt, Mrs. Pearson, Mr. J. E. Perry, Mr. J. E. Underhill, Mr. J. Walker, and Mrs. Stokes, made up a formidable list of exhibitors, the gardeners from each establishment evidently doing their best to vie with each other on the occasion. From the Right Hon. the Earl of Dartmouth, came a splendid collection of Apples and fruit; and from Sir Rupert Kettle, Mrs. Lovatt, and Col. Gough, were grand collections of plants, including fine Orchids, Palms, tricoloured Pelargoniums, Primulas, Ferns, Dracænas, and other stove and greenhouse plants. As a matter of course Chrysanthemums proved the back-bone of the show, fine groups well grown and splendidly bloomed were ranged on each side of the large room. Four magnificent Crotons from Mr. J. Evans, Hammerwich Hall, 6 ft. through and splendidly coloured, were presented by that gentleman for sale for the benefit of the fund. From the local nurseries of Messrs. Low, and J. E. Knight, two fine groups of plants were also staged. The musical arrangements were all that could be desired; a promenade concert by eminent local artistes who gave their services, being arranged on the afternoon and evenings of both days. The promoters and exhibitors must have had every cause to be well satisfied with the result, seeing the high character of the exhibition, and the crowds of interested spectators that crowded to the hall both days.

GOLD STRIPED MARIGOLDS.

We had few more showy things in flower during the autumn, and well into October, than the dwarf French Marigolds, which are very easy of cultivation, and wondrously free of bloom. The most compact growing and brightest coloured variety that has yet come under our notice, is the variety which Messrs. Carter call their Compact French Gold-striped, of which we give an illustration, to show its low prostrate habit, and desirable character on that account, as a bedding plant. It really grows only about 6 ins. high on ordinary soil, and the flowers are most regular in form and marking, the ground colour being golden yellow, and the stripes chestnut brown.

THE WOODS IN AUTUMN.

Freed from the toil, the turmoil, and the conventionalties of a thoroughly artificial existence, there can be nothing more soothing to the properly organized mind than to recline half-buried in the Ferns and tangled grasses that clothe the banks of this laughing sunlit stream. Here in truth is rest for both mind and body, and here we may drink to the fill the cup of enjoyment we promised ourselves; for is not this the very essence of that relaxation which, when parched and weary, we have looked forward to, as soon as ever the leafy forests have become touched with a glamour of gold and crimson and brown, as soon as ever the month of October had been ushered in with all the glory of its autumnal colouring?

And the variety of tint is as interminable as the number of combinations possible to be produced upon the musical scale, nay, rather, as countless as the sands upon the sea-swept shore.

See there across the stream how each individual tree is clothed in its own garment, and even upon each leaf of each of these trees may be noticed a fresh shade or a novel arrangement of colour; and see too how this endless combination of minute particles blends into one

gloriously harmonious picture, soothing alike to the eye and through this medium to the senses. How the mass of foliage glows again, for a great fleecy cloud has passed across old Sol's face, who, smiling genially once more, sends forth a flood of light, bringing with it fresh touches, and splendid and ever-changing effects of light and shade. And see upon the hill forming the background how rich is the foliage of the Scotch pine. Their warm red stems call for special admiration, and here produce a pleasing contrast to the surrounding clumps of birch in their soft russet brown suit, which so strangely corresponds to the garment they wear in early spring before the enveloping sheaths drop away from the bursting buds. Following the slope of the hill a few fine beeches attract attention. They actually seem possessed of a power of giving forth light, for even now rays of gold and copper flash from the upper sprays swaying in the freshening breeze, as if to enliven the still sombre green of the middle and lower branches. These in their turn are succeeded by the almost geometrical columns of a clump of spruce fir, which give place farther down to a round-headed sycamore with its pure delicate yellow foliage, while a great Spanish Chestnut, only now acquiring its first touches of golden brown, overhangs the stream where it bends away to the left and is lost to view.

But what about the animal and insect life, without which the most favoured locality becomes a dreary solitude? For life and motion we have not far to seek; for in and out among the curved roots of the alder which springs from the opposite alluvial bank, a weasel—the very emblem of stealth and activity—has been twining his lithe body and hurrying to and fro as if imbued with a demon of perpetual motion.

Doubtless he is fully aware of the presence of that fat, round, and innocent rabbit, whose ears have been visible above yon tuft of coarse grass for the last few minutes, and whose four brothers presently make their appearance from some invisible burrow and join in an exciting game. See how one springs high into the air with a ridiculous affectation of mingled surprise and fear as his fellow charges at him, and see too how a little later they all circle in merry chase round that sheep-trimmed furze-bush—evidently the last figure of the game, for now two or three have settled down in a business-like fashion to their evening meal, while the remainder, throwing themselves at full length upon their sides, seem to revel in the full warmth of the declining sun.

Nor is bird life wanting, for two plump blackbirds are deeply engaged amid the boughs of the mountain ash to the right, now decked out in the full pride of its crimson fruit, of all berries the choicest and most eagerly sought after by most of our British birds. A solitary crow appears to take a serious view of things in general, as he solemnly stalks about in the shade; a sprightly water-ousel has been darting to and fro across the stream, now alighting and taking a plunge from one half-submerged stone, now from another; a solemn heron, still as death itself, stands knee-deep where the glistening gravel forms a shelving strand near the bend to the left, and here and there through the surrounding foliage a short note or two, or a gentle rustle, denotes the presence of other inhabitants—invisible no doubt, but the knowledge of whose presence seems to dispel any sense of loneliness, and even to produce a feeling of gratification and contentment.

But what comes dropping down through the leafy beechen canopy overhead, and pattering upon the hard surface at the base of the great grey stem, or falling noiselessly among the tangled grasses and tall bracken? A squirrel, or probably two, are busy up aloft, severing the stalks of the husks containing the oily beech-nuts. By and by they will no doubt descend, and ranging round will collect the valuable spoil (for they have already been careful while above to pass over each blank or "blind" husk that may have come in their way), and will then carry it away to some place of security as a reserve for the coming winter.

An old-fashioned writer has said: "The first meditation of a solitary is the behaviour of men in active life." But rather, in the depths of this seclusion, the behaviour of the varied forms of animal life may well be considered an instructive, if not a more diverting subject of meditation; for here, not only in the immediate neighbourhood, but among the surrounding trees and upon the undulating sward, much may be seen to give food for interesting speculation, not only as regards the passions, sensations, and desires, but also upon the inscrutable instinct possessed by that section of creation which we—the lords of it, no less—designate as the lower animals.

But the time has come when this "Lord of Creation," lying prone amid the tangled underwood, must unwillingly draw his wandering fancies to an abrupt conclusion, for an insidious draught which comes creeping over the surface of the ground calls his attention to the fact that the sun has set in a crimson glow, and reminds him that this October day with all its glorious beauty cannot last for ever.—*R. E. H., in Forestry.*

Scottish Gardening.

Orchids Abroad.—The following is the first portion of the paper on "Orchids Abroad and at Home," by Mr. F. W. Burbidge, Curator, Trinity College Botanic Garden, Dublin, which was read at the last meeting of the Scottish Horticultural Association, and taken by us from *The Garden*:—The remarks made by the ordinary rank and file visitors to the public gardens or floral exhibitions are sometimes very amusing. When I was employed in the Royal Gardens at Kew, years ago, a lady and little boy entered the large Fern house, and stopped to admire a group of Gymnogrammas on one of the side stages. The Gold Ferns of course took the little one's fancy. "Oh! mamma," cried he, "look! Look at the gold dust on the leaves." "Yes, my child," answered his mamma, "that is sulphur. The gardeners shake it over the plants to kill the insects that eat the foliage!" But if one remark is heard oftener than another when cultured beauty stands before the most beautiful of cultivated flowers, it is this: "Yes! they are indeed most lovely; but what a sight it must be to see them in the Tropics!" This desire to see tropical lands is the most seductive, and it has overpowered some of the most distinguished men of our age. As an example, one need only mention Livingstone. We all know how earnestly the Rev. Charles Kingsley yearned for the sight of a winterless land; and in a book which all gardeners should read, called "At Last; or, a Christmas in the West Indies" Kingsley tells us how his lifelong wish was gratified. Then we have Banks, Darwin, and Hooker, who laid the foundation of their great knowledge by travel—men who were urged on through difficulties and dangers alike by the spirit of discovery, and an earnest desire to see under what conditions vegetation existed abroad. Let me therefore, as briefly as I can, state the condition under which Orchids luxuriate in warmer lands than ours.

Orchids may first be broadly divided into earth-loving or terrestrial, and tree-loving or epiphytal kinds. Again, speaking broadly, one may say that all the most beautiful of epiphytal Orchids inhabit the region which lies between the two parallels of 30° on either side of the equator, this region being practically bounded by the isothermal lines of 70° Fahrenheit. In a word, the epiphytal Orchids form a narrow belt or zone around the world; the most beautiful of the truly terrestrial Orchids lie outside this zone. By the truly terrestrial kinds I mean Disa grandiflora from the Cape of Good Hope, Cypripedium spectabile and its allies from N. America, and Orchis foliosa from Madeira. Nature, however, is not fond of hard lines, and so she fills in her vacuum of extremes by species of a semi-epiphytal, or, if you like to put the same facts another way, we can say semi-terrestrial kinds, such as the Sobralias and Cypripedia of the west, and the Spathoglotti or Arundinas of the east. An Orchid map is simply a chart of the world's greatest heat and rainfall under another name, or in other words, Orchids are focussed as it were, near the equator, from which they radiate in a decreasing ratio to temperate and colder regions. One curious fact comes out when we follow up this radiating idea of Orchid distribution, which is this—when Orchids radiate from the line at or near the sea level in a horizontal direction, they, broadly speakingd, ecrease in beauty as they recede from the equator. But some secure a cooler temperature on the mountains by vertical rather than by lateral distribution, and these mountain Orchids of the Tropics, as you know, are often quite as beautiful as those of the plains. Thus, the eastern lowland Orchids, such as Phalænopsis, Vanda, Aërides, and Dendrobium, are but little more beautiful than the higher growing Pleiones, Cœlogynes, or than the Vandas and Dendrobes of the mountains. So also in the west, the Cattleyas and Lælias, and Odontoglots of the lowlands of South America, are not much, if anything, more beautiful than the Odontoglots, Masdevallias, Cattleyas, &c. of the mountain chains. Even in Europe, we find the alpine flowers often gain rather than lose in beauty by elevation, a fact which I have never seen clearly accounted for or explained.

It is by no means easy to give a clear idea of how Orchids exist naturally in the tropics; but I will clear the way by pointing out the facts that all things are very much the same as here at home, if we except, first, the climate; and secondly, the vegetation. The climate is as hot as that of our warmest glasshouses; but there is, in addition, an airy freshness not easy of attainment in hothouses. The sun heats the earth far more than with us; hence, after rain, the whole country absolutely reeks like one large hotbed. In the forest, leaf-mould and other *débris* decay so rapidly that plant food, in the shape of aërial gases is liberated in large quantities; hence vegetation is rampant on all sides. Even in what is called the dry season, though rain may be, and often is, absent for weeks together, the nightly dews are so heavy, that in the early morning every leaf is drenched with dew. By the dry road-ways the Cocoa-nut Palm, or the Betel Nut-yielding Areca rear their slender stems. There are Pitcher Plants and Gleichenias in the wet ditches, and around every little Palm-thatched hut grows fruits and vegetables and what we call hot-house flowers apparently wild. Here, at home, we cultivate some of these, such as Bananas and Pine Apples, by a large expenditure in labour and artificial appliances; but in the Tropics, both east and west alike, these things are grown by the humblest natives around their houses in the open air, with far less trouble and care than we must often expend on half a dozen Apple trees, or a plot of Potatos or Onions. The magic tropical growth is simply great sun-heat and excessive rainfall. What we do here at home under a few thousand square feet of glass roofing, Nature does over a hundred lands larger than our own, and in a much more complete manner.

A Tropical Forest is rather puzzling to an explorer who sees it for the first time. Familiar as he may be with hot-house botany, he will scarcely recognise the few old friends he meets in their native wilds. Tree trunks tower around one like the pillars of a cathedral. Some of these trees will be 200 ft. in height, or even more, some perhaps less, but their tops meet far overhead, and their branches interlace and form a sort of a leafy roof screen high above. In many places not even the light penetrates through the thickly woven tree tops, and in these virgin forests you may walk for miles without once seeing the sun overhead, so that in travelling a compass is used, just as if one were in a boat at sea. The rocks and earth at one's feet are carpeted with steel-blue Ferns and mossy growths, with leafy Begonias, and in wet places there will be colonies of Alocasia or other Aroids in profusion. These woods are filled with life of all kinds, bird and beast, gaudy insects, and gliding snakes, and, what to the explorer is still more annoying, with blood-sucking jungle leeches, and with those greatest of all pests in hot climates, mosquitoes. A native guide will tell you that such a locality in these forests is full of Orchids, and yet, until you know their habits and their peculiar conditions of growth, you might walk past them and not know they were there. I was surprised when I first got to Borneo because I saw no snakes; indeed, it was only with some difficulty that I could at first see them when quick-eyed guides pointed the creatures out to me. The fact is, one's eyes seem useless among so much of teeming variety until one has become accustomed to the colours and forms of things as seen under altered conditions and under sunshine, which possesses even under partial shade somewhat of the brilliancy of limelight. Nothing surprises one more than the bright colours of some leaves and the general dullness or lack of floral effect as seen in a tropical forest. Of course, when your guides and carriers have brought you the Orchids down from the tree-tops, to which they must scramble like monkeys to get them, then, of course, if they chance to be in bloom, many are strikingly lovely. But what I wish to convey to you is that, speaking generally, epiphytal Orchids make no effect, so to speak, in a tropical landscape. That they often bloom far more profusely abroad than at home is shown by the quantity of flowers produced by even small newly-introduced plants. But abroad the wind, the rain, and the fertilising insects soon make short work of their beauty. Of

course, one reason why Orchid flowers remain in freshness and beauty so long in our hothouses is owing to the above elements of injury being absent. Everybody knows that if by accident an Orchid flower is fertilised by a bee or a fly or by artificial aid, then the blossom soon shrivels and fades, while the same would have endured fresh for weeks if this fertilisation had not occurred. I have observed that in the morning after heavy dews, and at all times after showers, that the ground reeks with heat and moisture, and in the forests this uprising of moisture is always taking place from decaying leaves and other *débris*, and I believe the roots of epiphytal Orchids are especially fitted to absorb atmospheric plant food of this kind, and the safest plan of supplying manurial stimulants or plant food to Orchids is by watering the floors or stages with volatile manures, and on no account do I advise the application of solid or liquid manures to the compost or roots of these plants. Nature is not an infallible guide, but she places a thin bed of rapidly decaying leaf mould under the trees on which Orchids grow, and the finest Dendrobiums I ever saw of their respective kinds were growing in a Pine pit, and I have no doubt, whatever, that their vigorous growth was in a great measure due to the exhalations of the rotten leaves and tanners' bark in which the Pine plants were plunged.

The Apprentice System.—I have read the remarks of "A. M.," at p. 111, on apprentice premiums, and may say that I have more than once made an onslaught in the gardening papers on this iniquitous practice, and had thought that such extortions had become extinct; I hope it is not now general. At one time the practice was much in vogue, and lads seemed to be put with much ease into positions which, in most cases, ended with bitter regret and disappointment. I am, however, in touch with "A. M." as regards the paying of premiums to highly qualified men in positions where gardening in its various branches is well represented, and who take pains in teaching the youths who enter their employment and aspire to shine in their profession. This is quite a different thing to the mean practice of extorting from youths a portion of their hard-wrought earnings, and giving nothing in return.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Chrysanthemums.—A short time ago the varieties of these were comparatively limited, but now it is hardly too much to expect that we shall soon have them the whole year round; but be this as it may, the late kinds coming in now, and that will last long after this are the most valuable, and should be taken every care of, as there will be little else to make the greenhouse gay for some weeks yet to come. The way to keep them fresh and prolong their beauty to the latest period possible, is to maintain a dry cool atmosphere, by having very gentle fires and the ventilators slightly open, which will cause a free circulation of air, and this will not only be favourable to the Chrysanthemums but to every plant in bloom in the house.

Vallotas.—Few bulbous subjects are more showy than these or more easy to cultivate, and they should be grown by every amateur. The mode of treatment requisite now they have done flowering, is to keep the soil just moist, so as to preserve the roots alive and the foliage fresh and healthy, when the plants will start strong again in the spring. Although Vallotas do best in a general way when left undisturbed, they require dividing now and then and repotting, and the present is a good time to do this work, the most suitable mixture for them being peat and loam, or leaf-mould and the latter in about equal parts, and if a fair sprinkling of sand be added the plants are sure to do well.

Calla æthiopica—Plants of this that were planted out and taken up and potted as advised, ought now to be getting forward, and if placed in a light warm position will soon send up their fine stately blooms, which will be an ornament at this season when there is so little to make a show.

Hyacinths, Tulips, and Narcissi.—It is time now that these were removed from under the ashes, cocoa-nut-fibre, or other material they have been covered with, but after this is done they must not be exposed to light suddenly, or the tender blanched leaves will become discoloured and injured at the tips, and to prevent this a mat should be run down by day, till they get a little hardened and inured to the change. As soon as they are in this condition, the most forward may be placed on a shelf near the glass in some warm pit or house to bring them into flower, and thus lengthen the display, as the others will come on in succession.

Roses.—Tea Roses are excellent plants for greenhouse decoration, especially such plants of them as have been in pots a year and have become well established, and those who have not any of that kind may buy them cheap and start them at once.

THE FLOWER GARDEN.

Chrysanthemums.—Although we have had a mild autumn, Chrysanthemums have not been at all good out in the open, and the only way to make sure of producing fine flowers, and obtaining them in a satisfactory condition, is to plant and grow the plants under the shelter of some wall or fence where they can have a sunny aspect, and be protected should the weather prove cold and severe. As Chrysanthemums like rich soil, and generally exhaust the ground after they have been standing a year, it is advisable at this season, as soon as they have done blooming, to take the whole of the stock up, and lay the plants in in some sheltered spot till the spring, when they may be lifted, pulled apart, and divided, and the strongest and best suckers replanted again.

Christmas Roses.—These are so late blooming, and so valuable during winter, that no garden should be without them; and those who are so fortunate as to have established clumps, will find it a good plan to place hand-lights or bell-glasses over them, or improvise some shelter by turning a bottomless box over them, and laying a sheet of glass on the top. This protection will not only render them safe against hard frost, but will cause the flowers to expand freely, and come with great purity of colour, and thus add to their beauty when cut. The most suitable situation to plant the Christmas Rose in is a shady border, or where the sun is partly kept off during the heat of the day by shrubs; the soil in which the plants do best being a mixture of peat and loam, or leaf mould and loam, and if so favoured they are sure to do well.

Increasing and Planting the Stock.—The way to increase the stock is to divide the plants, which may be done by carefully cutting through the crowns, or pulling them apart, so as to secure roots with each piece, and these, if planted with the hearts just level with the top of the ground, and kept watered while making their growth, will form strong clumps in a year.

Shrubbery and Herbaceous Borders.—The custom with many is to dig among these, but is a bad practice to do more than just prick over the soil to bury any small weeds and give a fresh appearance to the surface, as the going deeper must of necessity cut and destroy many roots, which does great harm to the plants.

Top Dressing.—Instead of digging and disturbing herbaceous plants, it is far better to top dress with short rotten manure or leaf mould, and allow whichever is used to lie on for the winter, and work it in in the spring, when any plants that are too large, or require re-arranging, may be divided or re-planted in positions to suit them.

Bulbs.—Hyacinths and Tulips, if not planted deep, will soon be showing through the ground, and to prevent injury by sharp frosts it is a good plan to scatter over the beds, or parts of the border where they are planted, a little leaf soil, cocoa-nut fibre, or anything of that kind to protect the young tender crowns; and it will be necessary to keep a very close watch on Crocuses, as mice and rats are particularly fond of them, and once they find them out, will soon eat them up.

Walks.—The soaking rains we have had has brought forcibly under notice any defects in these, and shown how requisite it is to have them sound if a garden is to be enjoyed; and where they are not in a satisfactory condition, no time should be lost in remaking or repairing them, one of the chief things being to get rid of surface water, which may be done by means of well-arranged gratings and drains to carry off the rain as fast as it falls. This done, the next important matter is to get some good hard material for a foundation, and to make this firm and solid, fine chalk should be scattered amongst it, and if then some adhesive gravel with sufficient fine stone in it is placed about 2 ins. or 3 ins. thick on the top, it will bind as hard as a rock. To force it to do this it will need frequent rolling, the proper time to do this being when it is a little wet, as then the roll tells.

THE FRUIT GARDEN.

Pruning.—Little or nothing can be done in this department of the garden till the pruning is completed, and this operation should therefore be pushed on with all speed, as not only must the necessary digging or pointing over the ground remain in abeyance till that particular work is carried out, but it can be done with much greater speed and comfort while the weather continues mild and open, as it is now. The trees that demand attention first are the Pears and Apples, the first named of which, if trained on walls or frames as pyramids, cordons, or espalliers, should be kept closely pruned, as not only does it give them a better appearance, but when the spurs are short and near home the trees bear much finer fruit.

Thinning the Branches and Spurs.—Another important matter in the culture and management of Pears is to have the branches and spurs thin, without which sun and light cannot have full play, the proper distance apart for the branches being about a foot, and three inches or so, quite close enough for the spurs, which will bear shortening back or thinning out to almost any degree, the only thing to be particular about, when doing this, being to leave sufficient flower buds to afford a good crop, and these buds may easily be distinguished by their short plump condition.

Apples.—These, if grown and trained in a similar way or as dwarf bushes, require much the same treatment; but if in orchards, where they have plenty of room to spread and develope, they are much better left pretty much to themselves, as then all the attention they need is judicious thinning, so as to prevent branches crossing and crowding each other. This may be done by going carefully over the trees and removing any of the shoots that can be spared from the inner part; but in taking them out, the cuts should be made clean and smooth that the parts may quickly heal over again.

American Blight.—This is the greatest of all pests, with which Apple Trees are affected, and there are few gardens really clear of the parasite, which shows itself in white patches, and cause swellings to take place in the bark. The best remedy against this troublesome insect is paraffin, and if this is mixed, in the proportion of a pint to a gallon of water, stirred up with clay, and made of the consistence of paint, and then worked into the parts with a brush, it will destroy the whole lot that are there. Moss and Lichen.—The way to get rid of these is to syringe the trees with fresh lime wash, which will kill every particle of moss it touches and leave the trees, after it falls in the spring, clean and bright in the rind.

The Gum Trees in the Isle of Arran.—The annual report of the continuous growth of such exotics as Eucalyptus, Tree-ferns, and Acacias, in this well-known health resort of the Firth of Clyde given by the Rev. D. Landsborough, of Kilmarnock, to the Edinburgh Botanical Society, has come to be looked for with interest by arboriculturists. This year three Australian Gums have been successfully introduced, which from their native mountain habitats appear to promise a long vitality even in the severer frosts and gales incident to other parts of Great Britain than the lovely isle where they now luxuriate. The white gum (E. pauciflora syncoriacea) from the Blue Mountains, New South Wales, planted in 1880 at Craigyard, Lamlash, had not a leaf browned in the severe winter of 1880-81, and is now 18½ ft. in height, and 7½ ins. in girth. Its leaves, which approach in size those of the Blue Gum, are covered with a whitish bloom. The leaf of the Alpine Gum is large, thick, and remarkably broad, being 9 ins. by 4½ ins. It was planted last year at Corrie Hotel within 35 yds. of high water mark, and is now 3½ ft. in height. It is a native of the Alpine regions of Australia, and, like some Alpine plants, grows well in the vicinity of the sea. The Cider Gum or Mountain White Gum (E. Gunnii), has two representatives in Arran; one 6 ft. 5 ins. high at Craigyard, Lamlash, and a a smaller specimen at the Free Church Manse, Whiting Bay. It grows freely in the open air at Kew.—*Forestry.*

HERBACEOUS PHLOXES.

I HAVE just sown seeds of these under glass, and hope to have results not less favourable than those which followed from a similar sowing last year. That sowing gave me some 300 plants, all of which bloomed finely during the past autumn, and produced many very distinct and beautiful forms. Certainly the weather was none too favourable for the production of fine heads of bloom, as at the flowering season the soil was exceedingly dry, but none the less the results were excellent, and far better than I could have anticipated. In spite of what others may write on the subject, the production of a fine batch of seedlings which bloomed well in less than ten months from the time of sowing, is a matter which does not occur frequently. Without doubt, there is a decided tendency on the part of the seedlings to produce more light than rich coloured flowers; but in my special case, that may have arisen from want of care in selecting seed parents. This year I have been more careful, and marked some of the finest and most striking kinds only for sowing, hence I hope another year to show even more varieties, and get finer trusses and pips.

The drought made the ripening of seed more difficult, because the blooming was later. Still hardly a pod has failed to ripen its seed now, and as last year I found immediate sowings to be so effective and successful, I have the same things now, in the hope of equal good fortune. Happily the seedling plants transplant well in the spring; they simply need dibbling out in rows 12 ins. apart in the first year, and all will produce one stem, and many even more. In the second year the majority will produce some half dozen stems, and the best may the following spring be increased by propagation if found desirable. In garden borders few who have regard for neatness care to let the stems remain after the bloom is over, hence few gardeners save seed. Where it is saved, however, there need be no limit to the stock of these hardy Phloxes, which may thus easily be raised. They merit far wider cultivation than they usually receive, especially that they bloom so late in the season.—*D.*

LILIUM AURATUM.

THIS has been called "the most magnificent flowering bulb in cultivation," and if further proof of its magnificence and noble port were needed, then would I draw attention to the fact that annually hundreds of thousands of its bulbs reach this country, and are distributed hither and thither. But it was not of its splendour that I wished to say a few words, though even that may not be out of place, but rather on the treatment of imported bulbs after they are received. Previous to doing this I would ask the reader momentarily to accompany me in thought and imagination to the native habitat of this truly noble lily; to be an eye-witness of the immense area covered by one plant—farms as it were—upon which they are cultivated to a great extent to supply the wants of this and other countries. The rage for this favourite Lily seems ever on the increase, despite the annual losses which nine out of every ten experience who cultivate it. Happily, however, the losses individually are not great, and it is a question whether or not this Lily, like Hyacinths, Tulips, and similar things is worth the trouble of retaining a second year; they are to be obtained so cheaply in good sized flowering bulbs that the cost of obtaining a fresh supply annually is considerably less than the labour which must of necessity be bestowed upon old bulbs. This, however, is a question of individual choice, and must remain so.

The question of the best means of starting fresh imported bulbs into growth is one which has entailed a great deal of time, and been accompanied by considerable loss. It is a subject upon which a variety of opinions still exist, so that it is difficult to lay down any hard and fast rule; and, indeed, it would not be prudent so to do, seeing that the *modus operandi* may differ in certain respects, according to the condition of separate importations, and after a somewhat varied experience with thousands of bulbs, I prefer to start them in the following manner:—Immediately on the bulbs coming to hand, the first thing to be done is to examine them, and remove any damaged or bruised portions which may be detected on the outer scales, especially is it necessary to examine the base of the bulbs, and if the slightest fear or doubt be entertained as to its being perfectly sound, it should be dusted with powdered charcoal or sulphur, or a mixture of both. The bulbs having been carefully examined throughout, next procure some shallow boxes or pans in which to place the bulbs, then place them closely together and cover them up with Cocoanut-fibre refuse, put them in any shed or similar place where they will be secure from frost and were they will not suffer from drip. Under no consideration should water be given them, as there will be sufficient moisture in the fibre; they should be examined once a fortnight, and any decayed portions removed, and again dusted with charcoal to prevent its further spread.

By placing them in the Cocoanut-fibre a two-fold benefit is secured—viz., a gradual plumping-up of the bulbs, which will have become, in some cases, shrivelled probably; and secondly, it will at the same time accelerate the growth of fungus in the decayed parts of the scales. It is a common practice to pot the bulbs as soon as received, and in many cases they are never examined, the consequence of which is that the greater moisture in the soil hastens the decay of the already injured portions of the bulb, and this remaining about the bulb frequently ends in its absolute decay. This is not a great matter where they are grown by thousands, for they are not missed, but it is another matter with the amateur with his half-dozen bulbs, and from which he is anxious to secure as many good spikes. The experienced grower will ascertain at a glance whether the bulbs are quite sound, and at his discretion they may be potted at once, for let it be borne in mind that

LILIUM AURATUM.

no bulb of any description is benefited by exposure to the continued changes of temperature, atmosphere, and so forth, and thus it is that the annual losses are so great in the Lily now under notice. Consider for a moment that these bulbs are lifted, in many instances, in an immature state, deprived of root and branch unmercifully and without thought, sorted and packed, and shipped to this country to be disposed of in a variety of ways. In transit they suffer much from fermentation, and when they are ultimately unpacked they invariably suffer the other extreme. Is it, then, to be wondered at that they suffer to a very great extent, and lose an amount of vitality which ought to have been retained? The answer is obvious to all.

The bulbs having been in the fibre for a month or so, and examined twice or thrice, will be comparatively safe, the surest guarantee of which will be the increased weight of the bulbs themselves, a certain amount of freshness restored, and lastly, though primarily, perhaps, the sturdy young roots bristling from the base of the bulbs; these are the signs of returning energy and activity, and potting may safely be proceeded with when roots are apparent. A good compost for potting them in may consist of equal parts of good fibrous loam and peat, with abundance of sharp sandy grit; manure is unnecessary for imported bulbs of L. auratum, and should be avoided; the pots should be well drained and when potting place a little sand under each bulb. After potting place them in a cool frame or pit, but give them no water till the flower stems are at least 6 ins. above the soil, water may then be given by degrees, and more frequently as the plant increases in strength. Thus I have briefly given one method of starting these bulbs into growth, but many other ways are practised. Some prefer sphagnum moss and silver sand, simply placing the bulbs upon it; others to cover them with leaves; and others to place them in pots of soil and leave the bulb uncovered till signs of renewed life appear; the system I have followed, and as herein stated is, however, very simple and effectual, and within the reach of all.

In conclusion, I may remark that no time should be lost in securing good sound bulbs; and with the increased facilities of the Parcels Post, it is possible to obtain small quantities in this way, delivered at your own door. When started early they may be introduced into heat early in the year, and may be had in flower for the Easter or Whitsuntide festivities. This grand lily is perfectly hardy, and when well established out of doors, forms a grand picture; it is specially adapted for massing in Rhododendron beds, or under the partial shade of trees in peaty soil; it belongs to the group of Lilies, with horizontal or drooping flowers; the body colour of the petals are pure white, more or less thickly studded with crimson spots, and having a golden band in the centre of each petal, which has gained for it the now popular name of the Golden-rayed Lily of Japan, the flowers in this respect, however, and also in the intensity of its crimson spots, differ considerably; all are good, and in its overpowering fragrance it is almost unique.—*J.*

THE GROS GUILLAUME GRAPE.

IN our issue for November 28th, we recorded the fact of Mr. R. M'Kenna, gardener at the Chief Secretary's Lodge, Phœnix Park, Dublin, having exhibited at the late exhibition of the Royal Horticultural Society of Ireland, three remarkable bunches of this useful late Grape, cut from vines only two years old. The largest of the bunches—of which we give an illustration prepared from a photograph kindly sent us by Mr. M'Kenna—weighed 20 lbs., or 3 lbs. 5 ozs. less only than the heaviest bunch which his former mentor, Mr. Roberts, of Charleville, exhibited in 1877, and which still stands as the heaviest bunch of Black Grapes on record. This last named example, we may also note, was produced by a vine which in the previous season (1866) produced three bunches of the aggregate weight of 45 lbs. 6 ozs.

The cane which Mr. M'Kenna has had under his charge from its infancy, and from which the bunch now under notice was cut, also bore two other examples, of the respective weights of 14 lbs. and 11 lbs., a total of 45 lbs., or 6 ozs. only behind Mr. Robert's achievement. Mr. M'Kenna last week had the honour of presenting the bunch now illustrated to H.R.H. the Prince of Wales at Marlborough House; and we congratulate him on the proud position he has attained as a Grape grower. Our Irish readers will be pleased to know that Mr. M'Kenna was bred and trained in the Emerald Isle, and will wish him still further success in his career as gardener to the Chief Secretary.

HISTORICAL REMINISCENCES OF THE DAHLIA.

HAVING last week dwelt upon the points of perfection in the Dahlia, we now proceed, before touching upon the culture of the flower and giving selections of the best varieties, to give some details of an interesting and instructive character, bearing upon the development of the flower during the past half century.

Our earliest recollection of the flower takes us back to the year 1836, a few years previous to which a very marked improvement had been made; the flowers in greatest repute at that time were Beauty of Sheffield, Picta Perfection, Royal Adelaide, Acme of Perfection, and a variety sent out it is believed in 1835, called Springfield Rival, a flower which maintained its popularity longer than any other flower at that period, as it appeared in almost every winning stand for years. In 1837 a few new flowers were introduced, and those most preferred for exhibition were Quilled Perfection, Sir H. Fletcher, Dodd's Mary, and Sulphurea elegans; Springfield Rival still holding its own. In 1839 the following were the most popular flowers, Springfield Rival, Dodd's Mary, Eva, Virgin Queen, Sussex Rival, Glory of Plymouth, Grace Darling, and Marquis of Lothian; the last named was a favourite for many years,

Among the best sorts which appeared in 1840 were Argo, Beauty of the Plain, Countess of Pembroke, Defiance, Maresfield Rival, Nicholas Nickleby, Pickwick, and last, but not least, Bloomsbury, a bright scarlet, capable of being grown to a great size. In 1843 the best new sorts were Lady Antrobus, Lady St. Maur, Nonpareil, Rembrandt, Meteor, Champion of Essex, and the first really good white, Antagonist. The year 1845 was productive of many fine flowers, among them was Beeswing, Antler, Fulwood Hero, Dazzle, Gloria Mundi, and Empress of Whites. Beeswing was a flower that attained to great popularity, and held its ground for many years, being at length beaten by Sir F. Bathurst, and again in the same class by Lord Palmerston and Bob Ridley. The leading sorts of 1846 were Princess Radzivile, Essex Triumph, Standard of Perfection, Marquis of Aylesbury, Marchioness of Cornwallis, Beauty of Sussex, Berryer, Springfield Rival, Admiral Stopford, and Beeswing. About that time the fancy varieties were beginning to attract some attention; they were soon formed into a division of themselves, and this has continued until this day; but of these, more anon.

A great many new varieties were sent out in 1849, three of them maintained their character for a length of time—one especially, viz., Mr. Silden, the other two were Duke of Wellington and Fearless. That same year was sent out Empereur de Maroc, a fancy of great merit, maroon-tipped with white, a singularly attractive flower that was grown for many years; though like other fancies of similar character, many of the flowers came self yellow. In 1852, going on a few years, the leading Dahlias were Sir R. Whittington, Annie Salter, Dr. Frampton, Triumphant, Morning Star, Sir F. Thesiger, and Alice. The leading fancies were Gloire de Kaiu, Laura Lavington, Flora McIver, Nancy, and Kossuth. The leading flowers of 1853 were Sir J. Franklin, Plantaganet, Amazon, Bob, Lilac King, Robert Bruce, and Beauty of the Grove. Then going into 1856 there were added Fanny Keynes, Pre-eminent, Rachel Rawlings, Annie, Sir C. Napier, Beauty of Slough, Admiral Dundas, and a few others of less note. From that time up to 1865—ten years later—a great many new varieties were introduced, but the best—that is those which maintained a position for any length of time were Lord Derby, Miss Henshaw, Criterion, Bob Ridley, Baron Taunton, Delicata, Andrew Dodds, Lord Elcho, Donald Beaton, Princess of Prussia, and since then the progress made with the Dahlia may be said to be contemporary history, and it is not necessary to carry lists farther.

How did the cultivated Dahlia originate? The third volume of the *Transactions of the Royal Horticultural Society* gives some interesting information. It is therein stated by Mr. W. Sabine that the merit of first carefully attending to and cultivating the Dahlia belong exclusively to the continental gardeners; for although we received them as soon as the French and Germans, yet, if not lost, they had nearly gone out of notice with us, whilst in France and Germany they had increased as much in numbers as in beauty; and persons fond of gardening who visited the continent on the return of peace in 1814, were surprised with the splendour and varieties of the Dahlias in the foreign collections. In the winter of that year several roots were imported into this country, and since that period we have made up for former neglect. Such was the state of our collections in 1818, when Sabine contributed this information. The first to scientifically define the genus was Cavanilles, who named it in honour of Dahl, a Swedish botanist. Some objections were first made to this name, which has, however, become established.

The *Florist* of 1849 contains the following information:—The Dahlias are natives of Mexico, where they were found by Baron Humboldt in sandy meadows in the province of Mecboacau, between Areo and Patzcuaro, at 4,800 ft. or 5,600 ft. above the level of the sea. From their native habitats they had been transferred to the Botanical Gardens at Mexico, and thence to the Royal Gardens at Madrid, in which the then existing species, pinnata, rosea, and coccinea flowered between the years 1789 and 1794. In 1802 plants of each of these were transferred from Madrid to the Jardin des Plantes at Paris. In May, 1804, seeds of the three kinds were sent from Madrid by Lady Holland to M. Buonaint, then the librarian at Holland House. From these seeds pinnata was raised, and flowered in the following September, and was figured in the *Botanists' Repository*. It proved to be a deep purple, stellated, single-flowered sort. In the succeeding year plants of rosea and coccinea also flowered at Holland House, from which nearly all the plants then in our gardens were obtained. The original introduction of the Dahlia, however, is ascribed to the Marchioness of Bute, who bought the first species from Spain in 1789, but it is stated that this plant was soon afterwards lost. Mr. Fraser, of Chelsea, flowered coccinea in 1803, when it was figured in the *Botanical Magazine*. This plant was also lost. Mr. Fraser is said to have obtained it from France in 1802 the same year in which it was introduced from Spain to the French gardens. In 1803, Mr. Woodford, of Vauxhall, flowered Cavanille's rosea, which he had obtained from Paris, so that independently of the Marchioness of Bute's plant in 1789, it seems that both species had flowered in this country before the seeds were transmitted to Lady Holland. From the above it will be seen that Madrid supplied both the French and English Gardens.

The first three species were named by Cavanille, pinnata, rosea, and coccinea, but these being objectionable names they were afterwards changed; pinnata has been called superflua, purpurea, Sambucifolia, and variabilis; Rosea: sphondylifolia and lilacina; and Coccinea: frustanea, crocata, and bidcratifolia. Some confusion, however, appears to exist with regard to these names.

How did the fancy Dahlias originate? So far as we can learn, the earliest forms may be said to have commenced with Count Lelicur. He began to direct his attention to Dahlias in 1808. He successfully hybridized the few varieties he possessed, until he obtained purples, dark reds, cherry reds, buffs, and pale yellows, and by continued attention, the seedlings raised under his care at St. Cloud made rapid advances in perfection. He also succeeded in raising some stripes and shaded single varieties, the parents of our "fancies." In 1818, our own English collections contained several double varieties, and these, from their superior beauty, form, and size, soon banished the single sorts from our gardens, and during the next thirty years our Dahlias made the progress which brought us up to the time at which this paper commences with.

Bunch of Gros Guillaume Grape, Grown by Mr. M'Kinnon; weight, 20 lbs.

DRYING FERN FRONDS.

The difference which exists between the drying of Ferns for purely botanical purposes, and the same operation performed with a view to forming a collection, is very great indeed. In the first instance, specimens collected and preserved for comparison must possess all the characters which are essential to distinguish one from another. It is therefore indispensable that, large or small, they should be of full size, on which account they often require to be doubled up in the herbarium, without the least regard to happy arrangement; and provided their spores are present, it matters little if the frond which bears them be green, brown, or even black; colour, in the eye of a botanist, is of little value. Entirely different, however, is the work of the ordinary collector who, in his leisure hours, treasures up the most beautiful forms, and in most cases limits himself to them exclusively, judiciously leaving out specimens only possessed of botanical interest. As such collections are, as a rule, made by persons who can gather their specimens at any time, they can afford to wait until the fronds are in the best condition for cutting and pressing, and by so doing, and using a little judgment, they may insure the retention of their colours when dry. It is well known that, placed under exactly similar conditions, some Fern fronds will retain their natural colour much better than others. Trichomanes, Todeas, and Hymenophyllums, for instance, seldom become discoloured in drying; in fact it may be said that generally all thin textured fronds keep better than those that possess more substance, such as some of the Aspleniums, Lomarias, Acrostichums, &c. The reason for such a result is obvious. In the first place, scarcely any moisture is exhaled during the drying, compared with the amount of it given off by fronds of a more

fleshy nature. The latter, on account of their thickness, are also a great deal more liable to injury, should the weight applied to them happen to be in any way excessive. It is also remarkable, that while the young and tender fronds of some Adiantums, such as macrophyllum, rubellum, tinctum, rhodophyllum, &c., endowed with the most tender colours, retain them for years without any trouble, others belonging to the same genus are a source of constant anxiety to the operator, and require, besides most careful manipulation, an endless amount of attention to keep a comparatively small portion of colour. In those cases, which, however, are fortunately the exception and not the rule, it is only by repeated efforts and good fortune that one is able to obtain perfect specimens.

In drying Ferns the following rules should be strictly adhered to, in order to insure perfect success. The first and most important point is gathering the fronds at the proper time, and in a perfectly dry state. They may, when quite matured, be taken at any time of the year, irrespective of seasons, but always in such a state that neither the least condensed moisture, nor in fact wet of any kind should be on them when cut for pressing. The second point, the importance of which is nearly equal to that just adverted to, is the selection of a dry and warm place in which the paper appropriated to drying purposes should be kept between two even boards. Contrary to many people's ideas, blotting-paper, although certainly the best, is not at all indispensable, and need not be used exclusively, as excellent results may also be obtained by the use of newspapers, or, indeed of any paper which is not glazed, and will therefore freely absorb moisture, which newly cut fronds are sure to give off in more or less quantity. In such material, we, fourteen years ago, dried with complete success fronds of the delicately tinted Adiantum rubellum, Veitchii, and macrophyllum, Pteris tricolor, Athyrium goringianum tricolor, young and partially developed fronds of Davallia polyantha, and above all, a magnificently tinged frond of Adiantum farleyense, all of which have to this day retained their colours in such perfection as to appear now quite fresh.

Fronds when once gathered must not be allowed to shrivel in the least. We find from long experience the following plan to produce the best results. Let a frond, if of large size, or several smaller ones, be put in the paper so as not to touch each other; place between each lot a thickness of two or three sheets of paper, and when several layers have been thus disposed of, alternately press them gently with an ordinary press, or with a weight not to heavy, so as not to bruise them, and thus cause a predisposition to discolour. Care must be taken in laying the fronds in position, to put every pinna and pinnule in their proper places, as the aspect required by the frond at that period will be afterwards maintained. It is also most important for the purpose of identification that, according to size, either one or several fertile pinnules should, in preparing them, be turned upwards, so as to show the mode of fructification. This will in no wise affect or spoil the appearance of the specimen, and will be found to be of very great assistance when the latter is required for reference. For the same reason it is also necessary, when dealing with species producing barren and fertile fronds of different characters to dry one of each, representing the development of the plants; if of large size, such as those of certain Acrostichums, Davallias, Lomarias, &c., they may effectually be replaced by portions, varying in size, of these same organs. In the case of Gymnogrammas, Nothoclænas, Cheilanthes, or any other Ferns whose underside is covered with a farinose powder, additional strips of paper, which must be removed when the subjects are dry, put between the pinnæ, will be found very useful in preventing them from sticking together, which they otherwise are apt to do.

The paper should, until the fronds are perfectly dry, be changed every two or three days, replacing the damp sheets by others either new or previously well dried and aired; care must, however, be taken to see that they occupy exactly the same position after each successive shifting. When the fronds are perfectly dry, but not until then, they should be mounted on cardboard, into which their points, as well as the extremities of the pinnæ, should be fastened by means of a little gum, which is unnoticed, and gives the Ferns a more natural appearance than can be obtained by any of the other means generally in practice, such as narrow strips of paper, cotton, &c., all of which destroy the natural effect of the specimens thus operated on. Each of these should, moreover, be provided with a label, on which not only the generic and specific names should appear, but also the synonyms, if any, the habitat or country of which it is a native, and the medium height of the plant under cultivation; all these details may be considered as so much valuable information, upon which one can safely rely in cases of identification, besides being to such a collection the very essence of interest and attraction.

After the specimens have been fixed on the cardboard, it is well that they should be protected by a sheet of tissue paper of the same dimensions as the cardboard itself, on which it should be fastened on one side with a little gum. This prevents the fronds, which when dry are particularly brittle, from being injured in any way by the constant friction to which they are exposed through the various uses to which a herbarium may be subjected. We scarcely need add that the specimens must occupy a thoroughly dry place, in which they will remain in perfection for years. It is as well to put a little camphor in the box or drawer in which they are kept, as a preventative against a very minute insect which sometimes attacks the dried specimens, causing great ravages by perforation.—*The Field.*

ON FORCING RHUBARB.

It is not a difficult matter to have forced Rhubarb at Christmas, or even earlier, where there are Cucumber or Melon pits heated by hot-water, though I must confess that I never admired its presence in such structures, and consider it a waste of useful accommodation to devote them to such a purpose. For my part, I prefer to utilize them for scarlet, pink, and white Pelargoniums, Bouvardias, tree Carnations, Tea Roses, Primulas, Cyclamen, and other small winter-flowering plants. Some writers regularly advise their readers to introduce the Rhubarb roots under the greenhouse stage or beneath the potting bench. The first is a very dirty proceeding, and both are doubtful in their results—that of producing the Rhubarb at the desired time. The cellar is also frequently recommended as a suitable place to force it in, but what little I have seen of the attempts of others in this direction does not justify me in advising anyone to adopt it. The last lot I saw treated in this way, had been put in a few weeks before Christmas in a cellar above the average for warmth, and in March it had not made any progress, and was taken out, as the out-of-door lot was in advance of it. I have had frequently pointed out to me roots that had been under the greenhouse stage for a couple of months in the early part of the season, and had not made the least progress, and I have had them as long in a Mushroom-house where the temperature has been low.

The fact is that Rhubarb requires heat underneath to start it from December to February. The clumsy method of forcing the roots in the open ground has still its advocates, but I fail to see what it has to recommend it beyond its antiquity, and those who so tenaciously cling to it must have a considerable amount of reverance for the actions of their forefathers, or they would have discontinued the practice long ago. I am well aware that covering the crowns with a few inches of litter just as they are about to burst will hasten the growth a week or a fortnight in advance of the others; but this is a different thing to heaping sundry cart loads of fermenting material over earthenware pots or boxes that may cover the crowns.

Some maintain that Rhubarb is much better flavoured when grown exposed to the light; those who wish it so cultivated must provide a glass covering for the purpose, and the ordinary Cucumber frames will do this, if instead of planting on the surface of the bed, and so bring the crowns up to the glass at once; the beds are made concave and the roots so sunk that the crowns are on a level with the bottom of the frame, or even lower, so as to give ample space for the stalks to extend. The material of which the bed is composed should be such as is not likely to enter into a violent fermentation, and to guard against the result of such a contingency, it will be as well to allow the bed to remain unplanted for a week after it is made, before planting the roots in; the roots should be surrounded and covered with soil or decayed manure. Those who are compelled to force in the dark should form a bed in the manure yard, about 3 ft. high and the same in width, and when its temperature is scarcely luke-warm, the roots may be sunk in and covered as advised for the frame, but before this is done boxes or tubs should be fitted over them, and the roots may require a little arranging, which is best done before any material is placed round them. For covering I have frequently used flower casks sawn in two, with a few boards nailed together for a lid for a second one.

Forcing is best done by lining and increasing the thickness of the covering over the boxes. Rhubarb, Sea Kale, and Asparagus are subject to such anomalous treatment during the forcing period as is not admitted in the career of any other plant. In nine cases out of ten, the greatest heat is applied during the first week or two, or till the heat of the bed diminishes and the plants are prematurely excited, and the produce must be impaired thereby.

I am perfectly satisfied with beds for any of these vegetables if I can feel the slightest warmth in the trial stick at the time of starting, which is equivalent to from 10° to 20° higher than the soil they came from. It may be alleged by those who adhere to the open ground system of forcing, that this method is a wasteful way of dealing with the roots. Now my experience is, that roots the first two or three years after planting yield much finer stalks than those which have been in the ground longer, I therefore contend that the practice is more advantageous than otherwise, and we have only to break up one good stool to make half a dozen crowns suitable for a fresh plantation.—*North.*

Another Grower's Experience.

As a rule this subject is written of and treated very lightly, but as far as my experience goes (and it has been very considerable) to obtain even sufficient for a good tart at Christmas has often been difficult; and I even admit that I have not always succeeded in supplying it, sometimes to the great annoyance of the cook. Of course these little failures lead one to experiment, and I will give the results of my experience; probably they may be appreciated by some reader of The Gardening World.

In the first place I purchase a packet of Johnson's St. Martin's Rhubarb seed, and sow in a box early in February in heat; when the seedlings are large enough to handle, we prick them out singly in large 60-sized pots, using a good, sound, rich soil. After the plants have established themselves, we put them in a cold frame or pit, but keep them growing; by the middle of May they will have made good growth, and then must be planted out in some good open situation which has been prepared for them, by being well enriched with good farm-yard manure. By the plants having been in pots, much time will be gained, as they do not suffer as though lifted, and time is everything, even in this young state, with the plants.

All that will be necessary during the summer will be to keep the ground well stirred with a Dutch hoe; by the end of the season they have become well established, and have made roots like large Parsnips, only of a different colour. Early in the following spring, after the crowns have started, dig over the ground, placing a slight covering of coal-ashes over each crown as digging proceeds, and during the summer hoe and keep the ground clean; but be sure do not attempt to pull any of the stalks for summer use, or the plants will be considerably weakened, and will not successfully bear the strain of forcing.

Of course, being all seedlings, the plants will vary considerably in earliness and growth; but by simply marking with a peg those which start earliest out of doors, a pretty sure guide is obtained as to which will force best—the earlier the better out of doors. By following the above plan, I have no difficulty in obtaining a supply without the anxiety usually attending its production. This season we lifted roots so treated six weeks before Christmas, and placed them in the mushroom house, which is kept about 60° (taking time by the forelock some may say); and now, December 2nd, I am able to pull stalks for use from 1 ft. to 1 ft. 6 in. in length, and for the future do not apprehend the slightest difficulty in obtaining a good supply.

To those who have experienced any difficulty I commend my mode, and assure them of success. The variety named Paragon is said to be very early and an excellent forcer, but, as I have not tried it, do not recommend it, remembering the old adage, that "a bird in the hand is worth two in the bush."—*W. C., Croome.*

HIBISCUS LAMBERTIANA.

This popular Hibiscus is still yielding quantities of its bright coloured blossoms, which, although so short-lived, are nevertheless very useful at this season of the year. Its irregular-shaped semi-double flowers at once cause it to be admired by almost all who see it. Considering its adaptability to almost any system of training, it is a wonder it does not become more universally grown than it is. Cuttings of half-ripened wood put in now root freely, and so long as a little bottom heat can be afforded them, it is immaterial whether they have the benefit of a propagating case or not. Some cultivators prefer to take their cuttings off young growths with a heel in the spring, but with this system I have never yet had such good results as by striking the half-ripened shoots at this season.

For cuttings I use a compost of loam and peat in equal parts, with sand added to keep it free and open. After they are rooted they require potting off singly into 3-inch pots, using for this potting rather more loam than is recommended for cutting pots, and after the pots are fairly well filled with roots, shift them on into 6-in. pots, which will be as large as they will require under ordinary circumstances for the first season, using for this and all subsequent potting a compost of three-parts fibry loam to one of peat, unless the loam is of a light description, and then the ratio may be beneficially increased. For small plants no better place can be found than the side stage of the stove, for although they will grow in an intermediate house their progress is not so rapid. If required to be grown in the shrubby form, frequent stopping, when in a young state, will be necessary to make well furnished plants.

I have sometimes met with them trained to baloons, in which case they did not require so much pinching, but an occasional stopping will then be found beneficial. They make very nice plants for covering walls, and even on the roof of a stove they look very well, and so treated, are nearly always in flower. When grown as shrubs (which system I adopt), and also on baloon trellises, water will require to be withheld for a while towards the close of the year, and for the former system prune them to four or six eyes according to size of wood, or even closer should the plants be getting too large; but for the latter style of training they will not require to be cut back so hard. Hibiscus is rarely troubled with any other insect than green fly, unless grown in a dry atmosphere, when it may become a prey to thrips or red spider.—*E. D.*

NOTES ON POTATOS AT BINGLEY HALL.

However great may be considered the success of the great national exhibitions of Potatos this year, elsewhere, the exhibits in connection with the Birmingham Cattle Show held last week must be set down as disappointing. Only about one-third of the space annually allotted to the display was this year taken up, and very many of the dishes staged showed either that they had done duty at other exhibitions, or had for a long time been subject to exposure, having become quite green and otherwise unfitted for the exhibition table. Although the number of entries and dishes staged were a long way behind that of former years, nevertheless, the examples exhibited must be set down as well grown specimens of the varieties represented, being large and fairly handsome tubers on the whole. Mr. Joseph Hughes, Eydon Hall Gardens, Byfield, took the premier prize for twelve dishes (distinct), £5 and a five-guinea cup presented by Messrs. Sutton & Sons, Reading, with the following:—London Hero, Reading Russet, Beauty of Hebron, Snowdrop, Fidler's Prolific, Queen of the Valley, Mr. Breezee, Chancellor, Vicar of Laleham, The Doctor, Adirondack, and Schoolmaster. The 2nd premier prize was won by Mr. Thomas Morgan, Acton Burnell, Condover, Salop, with the following:—Schoolmaster, Sutton's Magnum Bonum, Crimson Beauty, Adirondack, Vicar of Laleham, Matchless, Edgecote Purple, Radstock Beauty, Prizetaker, and International. The 3rd honours in this class fell to Sir Frederick Smythe, Bart., Acton Burnell, near Shrewsbury.

Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Edgecote Park, Banbury, took the 1st prize for eight varieties (£3, and Messrs. Webb's prize, £2), with the following sorts:—Magnum Bonum, Mr. Breezee, Edgecote Purple, Snowdrop, Reading Russett, Pride of Edgecote, Adirondack, and Schoolmaster; Mr. Hughes came off 2nd best in this class, but in the class for six dishes he again came in 1st with The Queen, The Colonel, Chancellor, Rufus, American Purple, and Vicar of Laleham. The same exhibitor took 1st honours with four dishes. The 1st prize for four dishes of farm or field culture was awarded to Mr. E. S. Wiles for The Dean, Magnum Bonum, Queen of the Valley, and Reading Hero. Mr. Hughes was also successful with two dishes of long or Kidney-shaped Edgecote Purple and Fidler's Prolific. Mr. E. S. Wiles took 1st for single dish of Kidney with Queen of the Valley and Mrs. Morgan 2nd, with Prizetaker. Mr. Hughes took the 1st prizes for a single dish, round, and for a single dish of any new variety not in commerce, with two dishes of Purple Perfection, a very large dark round purple—two fine dishes, giving a fair idea of future usefulness.

Leaving the prize lists and taking a general survey of the whole minutely, the following were some of my impressions as to the varieties staged:—Cosmopolitan, which was exhibited so extensively last year, was represented by one dish; the old American Rose, by one; White Elephant, one; showing that these varieties were giving way to improved and more useful sorts. The pertinacity with which exhibitors still cling to Schoolmaster, as a white round, was evidenced by the number of dishes staged; the newer, so called, white rounds being still wanting in rotundity, and too flat and oval to be regarded in the light of true white rounds. The Doctor, among modern varieties, appeared to come up more to that ideal. The Vicar of Laleham, the Dean, Reading Russett, and Edgecote Purple were largely shown; the large fine shaped dishes of the latter, showing that it is capable of being grown to a great weight; the five evenly-sized dishes of Snowdrop showed that this fine variety is growing in favour, and the same may be said of Lady Truscott; several dishes of Chancellor, Prime Minister, and M.P. showed that these fine varieties were not being overlooked by growers. Probably the two heaviest dishes in the show were those of Queen of the Valley and Purple Perfection, shown by Mr. Hughes. The 1st prize for the handsomest dish in the show was awarded to the Captain, a white oval; and among other dishes that arrested my attention were the Belle, a coloured variety after Queen of the Valley, but handsomer in shape; The Shah, a very large oval white, and Mr. Burnell, a red round described as a seedling.—*J. Knight, Bilston.*

FRUITS, FLOWERS & VEGETABLES.

Chrysanthemums in the Open Air.—I read Mr. W. J. Murphy's notes on the garden cultivation of the Chrysanthemum, at p. 196, with much interest, and should esteem it a favour if he would give the names of a few early-flowering Japanese varieties, which bloom well with him. I get good blooms of Elaine and James Salter out of doors, but want a bright yellow, an amber, a rose, a bright red, a brick red, and a good white to succeed Elaine. Those which I have tried as yet have not done well; the fog and rains this autumn La Frisure to a dirty white, Tokio, yellow, and W. Deville and Helvetie, dirty white, &c. The Japanese are my favourites, but I can only bloom a few plants under glass; and having a south wall, I am anxious to devote it to Chrysanthemums. My garden is rather exposed, and some kinds will grow so very tall, although I stop them till the middle of June. What can I do to obviate this?—*Cerilla, Hammersmith.*

Stephanotis floribunda, Fruiting.—In reference to "A. M.'s" enquiry respecting the fruiting of the Stephanotis in the south of England, I can inform him that it is by no means an uncommon occurrence with us. During the three years of my service here one and the same plant has set nine fruits. In the summer of 1883 it set four fruits, two of which were taken off when quite green, the remaining ones eventually ripening, their colour at that time being very pale yellow. The seed-pods were taken from the plant and kept on a dry shelf in the stove till the spring of 1884. When the seeds were taken out and sown in the propagating house they soon germinated, some dozens of plants being obtained from one fruit. We kept four of them on trial. The others were distributed among our gardening friends for the same purpose, but without any favourable results up to the present; in fact, only in two instances has flower been produced at all, and that very meagrely. We have one fruit hanging now, but raising seedlings will not be attempted again, as cuttings from the same plant, inserted in spring, can be flowered freely the same season.—*J. F., Dorset.*

The International Kidney Potato.—Having seen some unfavourable comments on the eating qualities of this Potato in the gardening press, about the same time one of the men employed on this estate had sent me some for next year's planting, I decided to cook a few of them, and was surprised with its excellent flavour and good appearance. Knowing that my fellow servant possessed many varieties, I thought he might possibly have made some mistake, and to test the matter I solicited a further gift, and tried them with the same satisfactory results. I send you a few, which I hope you will be good enough to try and give us your opinion of them. The sample sent were grown on sandy loam that seldom suffers from extremes of drought or wet. The handsome appearance and great size of this Potato tempts me to ask those of your readers who have grown it on light soils to record their experience as to its edible qualities. On such soils Kidneys, and, indeed, the round ones, are undersized in most seasons, and notably so in dry ones, so that if a Potato is naturally of extra large size we may reasonably expect satisfactory results in all seasons instead of as during the past, when one-third of the crops did not grow to an edible size.—*W. P. R.* [Nothing better could be desired.—Ed.]

A Chrysanthemum House.—Chrysanthemums can be very well grown planted out in the ground, but "A Florist" (p. 222) should not "surround them by a hoarding" in the summer, as the more air the plants receive during their growth the more sturdy will they grow. A hoarding such as "A Florist" suggests can be put up about the first week in October, and the moveable lights placed on the top, thereby making a temporary house to bloom the plants in. If lights are not at hand, calico lights will be found useful; these are made by stretching calico on a framework and waterproofing it with linseed oil.—*W. E. Boyce, Holloway.*

Judging Chrysanthemums.—I beg to tender my best thanks to Mr. Molyneaux for his kindness in giving his candid and impartial opinion concerning my inquiries. I hope that the judges in the cut bloom classes at the recent Bristol show are now convinced of the error of their awards, after so decided an opinion from one whose judgment in all matters connected with Chrysanthemums is beyond all question.—*Exhibitor.*

Boilers: "The Horseshoe" and "The Leicester."—I note Mr. Rundell's remarks in your last respecting "The Horseshoe Boiler," which I can fully endorse. At the same time allow me to add a word of commendation for the "Leicester Boiler"; I am not acquainted with the maker, but having seen the boiler at work, I consider it a great improvement upon similar forms of apparatus. With a little extra care, this very cheap boiler will, I think, prove very effective.—*W. C. Burden, Bond Street, Leicester.*

GIGANTIC FLOWERS.

Certain localities seem particularly adapted for the development of both animals and plants, and in the region including India, the islands of the Indian Archipelago, and outlying Australia, certain forms of the latter are found, that in the size of their fruit and flowers excite the greatest wonder in those who have beheld them, and not a little credulity in those who have not been so fortunate. In the Southern Continent of our own hemisphere is found the great lily Victoria regia, that created the sensation of the time when discovered, and a picture recently shown in these columns, representing a boy and girl standing upon one of the leaves, gives a forcible idea of the strength of structure of this plant. The Victoria regia, however, is dwarfed by several flowers that have since been discovered, and, indeed, in South America there are one or two that equal, if not exceed it.

A gigantic Arum, the most wonderful discovery in plant life in recent times, was found by Beccari in Sumatra, and the plant, which has been named Amorphophallus titanum, has an ally in northern countries in the little "wake robin" common in

English hedgerows. The latter is a most attractive little plant, presenting a tuft of rich glossy leaves, out of the centre of which rises the flower, or more properly aggregation of flowers, for it is a family or group of them, collected about the base of an erect and club-shaped pillar or column, known as the spadix, that in turn is protected by an envelope or sheath, all growing from an extremely small tuber. Curiously enough, in the olden times, it was not the flower that was appreciated, but the starch that was obtained from the tuber, being used in the time of Queen Elizabeth for starching the ruffles that characterised the apparel of the Court gallants.

The Sumatra Arum is a wake robin of mammoth proportions, and it is said that the first European that observed it at first refused to believe that it was a flower. This was before the time of Beccari, who brought the plant before the scientific world. A party was travelling through Sumatra with native guides, when one of the latter brought into camp a huge object of evidently vegetable structure, at least 6 ft. in length, and endeavoured to make the white men believe that it was a flower, or part of one. The story, however, was not credited, and was forgotten until the real discovery was made by the Italian botanist mentioned. He found the plant growing in secluded parts of the country, and considered it to be a most remarkable example of vegetable growth. Imagine, if you can, a tuber 5 ft., and sometimes more, in circumference; from this, growing leaves on foot stalks 10 ft. in length, divided and torn by the wind, yet covering an area of 45 ft. or 50 ft. in circumference. Above this towered the gigantic flower, impressing the beholder not only with its size, but by its peculiar colouring. The central column or spadix, that in the wake robin is used as a button-hole bouquet, is in this tropical cousin 6 ft. in height, and proportionately stout. The spadix from which this rose was about 3 ft. in diameter, of a bell shape, the edges richly crumpled and toothed in a fantastic manner, and coloured a pale greenish tint upon the inside, and a rich black metallic purple without.

A group of these plants would present a remarkable sight, their enormous leaves, the large masses of colour, and the huge waving central column resembling more the creatures of some vivid imagination than the reality. If we consider diameter, the discovery of Sir Stamford Raffles in the same country is indeed a greater marvel. The plant now known as the Rafflesia Arnoldi is an enormous parasite, uncouth and fleshy, seemingly attaining its huge dimensions by literally absorbing the juices of its neighbours. It is invariably found growing upon the roots of other plants, leafless, rootless itself, represented only by the gigantic flower, from which rises an odour sickening and fœtid in the extreme. The plant first observed was considered an enormous fungus or agaric, but it was soon shown to be flower. Imagine a Rose blasted and swollen, weighing 15 lbs. or 20 lbs., its petals reduced to five in number, the thickness of each being over 1 in., each one measuring 1 ft. from the base to the apex, and some idea can be gained of this monstrosity of plants. It measured over 3 ft. across the surface, and the nectary, a vessel capable of holding six quarts, was filled with a reeking fluid that gave out an odour like tainted beef, and was a trap, containing the bodies of myriads of insects.

The flower was first discovered on the Manna River, Sumatra, where it is known as the "Devil's Siri Box," and is calculated to create a decided impression on the mind of the observer. Dr. Arnold, after whom it is also named, says of the effect it had upon him when coming upon it, "To tell the truth, had I been alone, and had there been no witnesses, I should, I think, have been fearful of mentioning the dimensions of this flower, so much does it exceed every flower that I have ever seen or heard of."

In the Island of Java another of these giants has been found, differing but little specifically, and being nearly as large as its Sumatra ally. In the South American jungles are found many flowers remarkable for their extreme size. On the Magdalena River there grows a climbing Aristolochia that attracts the voyager to the shore by the wonderful size and structure of its blossoms, each one of which measures 4 ft. in circumference. The specific name is Grandiflora, and it is probably similar to what is known as the "pelican plant" in the West Indies, where the blossoms so resemble a pelican's head. The great flowers are often used by the native children as caps, being quite large and stout enough for the purpose. Miers, who observed them in Brazil, says that as they appeared hanging upon the vine, he was reminded of coloured handkerchiefs spread out to dry.

None but a native would think of approaching near them, much less utilizing them as a headgear, as the odour is so fœtid as to drive away large animals from their near proximity. Not only this, but they are poisonous when eaten. Tussac is authority for the statement that a whole herd of swine that had eaten the roots and leaves were destroyed. A species of this plant A. Goldieana, found on the old Calabar River and Sierra Leone, is quite as remarkable. The flower is over 2 ft. in length, and 11 ins. in diameter at the mouth. It has all the richness of colouring and disagreeable qualities of odour that characterise its ally of the South American Continent.

Our familiar night-blooming Cereus may well be grouped with the phenomenal plants, having a flower that, when fully expanded, measures 1 ft. in diameter. Exceeding this in beauty and size is the Lilium giganteum that constitutes one of the most gorgeous displays in the floral kingdom. This is represented at the museum at Kew by a stem that was over 1 ft. in circumference at the base, and that rose to twice the height of the tallest man, or nearly 14 ft., and was covered with blossoms each as large as a large goblet.

The delicate ferns that are the types of grace and beauty in our woods, have gigantic representatives in other countries. That known as the "Silver King" (Cyathea dealbata) has leaves 7 ft. in length. This may be considered its normal size, but in the silent forests of New Zealand the delicate Fern assumes at once the proportions of a tree, and is met with leaves 42 ft. in length. Yet these were probably insignificant when compared to their ancestors in the past ages of the world's history.—*Scientific American.*

ORCHID NOTES AND GLEANINGS.

Orchids at Misarden Park.—There is now in bloom in the select collection of Orchids formed by E. A. Leatham, Esq., M.P., a grand plant of Vanda Sanderiana, bearing two large handsome spikes, one with twelve and the other with ten blooms; it is one of the finest specimens in the kingdom. The strongest growth is 2 ft. 8 ins. high from the pot, and there are four smaller growths. In the same house there is also a good specimen of Angræcum sesquipedale bearing two handsome spikes of three blooms each, some good spikes of Calanthe Veitchii, Odontoglossum Roezlii with very large flowers, and a splendid variety of Cattleya superba with a spike of three large blooms. Amongst other good plants not in bloom I noticed Cattleya Wallisii (true), a plant with over twenty bulbs with leaves; good specimens of Vanda tricolor and V. suavis, several Dendrobium Wardianum with well ripened bulbs, and some good plants of Dendrobium thyrsiflorum.—*J. Cypher, Cheltenham.*

Ærides Sanderianum.—Several fine specimens of this are now in flower at Messrs. F. Sander & Co.'s Orchid nursery at St. Albans, and the best character that can be given to it is to say that it is a worthy companion to the superb A. Lawrenciæ, which the same firm first imported. A. Sanderianum has the same stout flower spikes, first ascending and then arching over as in A. Lawrenciæ, and the size and form of the flowers are also similar, but the ground colour in A. Sanderianum is light yellow, and the heavy blotches on the tips of the segments dark crimson. It is a noble plant and still very rare.

Calanthe porphyrea.—This pretty new hybrid exhibited by Sir Trevor Lawrence at the last meeting of the Royal Horticultural Society, marks the beginning of a new race of Calanthes, to which the rich collection of hybrids at Burford Lodge will, no doubt, add many still finer things. C. porphyrea is the result of crossing Limatodes labrosa with C. vestita rubro oculata, and the offspring has taken a new form with curiously involved lip and flowers of a charming bright purplish rose. The base of the lip is yellow dotted with crimson. The plant was awarded a First Class Certificate on account of its pleasing colour and pretty form.

Lælia autumnalis atrorubens.—A superb form of this is now in flower at Mr. Sander's nursery at St. Albans, and by comparison with the many weedy and pale forms we have seen about, it seems a treasure to be coveted. Its flowers are very large, and of the most intense violet-crimson. Locality has all to do with the quality of imported Orchids, and Mr. Sander says that the whole of this small importation which have flowered, were equally good. In the same house (the long Mexican house) are some very fine forms of Odontoglossum Insleayi Leopardinum, Oncidium tigrinum, and various other Mexican Orchids in bloom.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Winter Treatment of Ferns.—In the stove any sorts that are liable to damp will be better on a dry stage during the winter, or they may be stood up on inverted pots if on a moist bottom; any young plants that are in a growing state may be potted on as they require it, or where it is desirable to restrict them to a certain size pot, they should have a little liquid manure from time to time, or a slight sprinkle of Clay's Fertilizer will be found very beneficial, especially to Adiantum cuneatum, or any kindred sorts; it is not advisable, however, to use artificial manures at this season of the year, unless a good temperature can be maintained. It is very important that the plants should have plenty of room; anything like crowding is sure to produce weakly growth, besides which they are more liable to damp. Over watering must be carefully avoided, at the same time Ferns should never be allowed to become dust dry. Many of the greenhouse sorts will grow freely throughout the winter if kept in rather a higher temperature than is usually prescribed, but any sorts that are liable to thrips, should have a position where there is more atmospheric moisture; Pteris hastata, Doryopteris palmata, and Cyrtomium falcatum, are particularly liable to get overrun with thrips if grown in a dry position; Lomarias are also subject to the same pest if kept too dry. To have Ferns in a serviceable condition throughout the year, it is necessary to grow on young stock to take the place of those that have outgrown the space allotted to them, and many sorts are far more beautiful in a young state, besides being far more servicable for decoration.

Hard-wooded Greenhouse Plants.—The present is a good time to go through this class of plants, and get all those that require it, tied out into shape; in tying out such plants as Aphelexis, Dracophyllums, Ericas of the tricolor type, &c., it is necessary to use a number of sticks, but the number should be limited to as few as is absolutely necessary, as sticks are not only unsightly, but much damage is often done to valuable plants through the roots being broken in putting the sticks in the pots. In tying out plants we like to see them kept as near to their natural form as possible; where plants are twisted and distorted to make a perfectly symmetrical outline, they may show off their flowers to better advantage, but at any other time, except when they are in full flower, they are unsightly objects.

THE FRUIT HOUSES.

Pines.—The minimum temperature in the fruiting house should be kept as near 70° as possible, so as to prevent the plants from experiencing a check whilst swelling off their fruits, a circumstance which would tend to cause discolouration in the centre of the fruit in connection with a rather low and humid atmosphere, consequent upon inadequate heating power to maintain the temperature indicated. Great care should at all times be exercised in the application of tepid diluted liquid manure at the roots, but more particularly so during the dull weather generally experienced during the interval from the end of October to the end of February, for if the soil at the roots of plants swelling their fruits is allowed to get too dry, the fruits will not attain to their proper size, but worse still are the inevitable consequences of the soil being kept in a sloppy state at the roots, in which case the latter not only perish, but the fruits cease to swell, and, ultimately, become black in the centre from base to summit.

Successional plants, which have been treated during the interval as recommended in a former calendar, should still be kept on the dry side, but not dust dry at the roots, and a night temperature of from 50° to 55° be aimed at until the beginning of the new year; then, until the beginning of February it should range from 5° to 70° at night, 75° by day, without sun, and 80°

by sun heat, putting a little air on when the temperature rises above this point, and maintain a bottom heat of from 85° to 90° with a view to induce the plants to send up their fruits, and with this object in view, sufficient tepid water (80°) should be given at the roots to thoroughly moisten the soil.

Suckers should have a night temperature of from 50° to 55° and from 5° to 10° higher by day, keeping them a little more moist at the roots than the successional plants.—*H. W. Ward, Longford Castle*

THE KITCHEN GARDEN.

Forcing Department: Cucumbers.—The recent and somewhat sudden change in the weather has rendered brisk firing necessary at uigbt, in order to maintain the moderately low temperature of 65°. Tbis in its turn renders necessary an increase of atmospheric moisture in the Cucumber-house, as a means of counteracting the somewhat parching influence of the highly-heated hot water pipes. The plants, too, where the bottom-heat is obtained through the same source (hot water pipes) will require water oftener at the roots, and this, when necessary, should be given in the morning, but not before the temperature of the house has reached 70°, so that the superabundance of moisture that might arise therefrom would have time to evaporate before nightfall.

The application of water (at a temperature of 80°) to the roots must be in accordance with the special circumstances of each individual plant and house, bearing iu mind that a superabundance at one time cannot compensate for a deficiency at another; hence the uecessity of knowing when to apply aud to withhold at the roots, a knowledge that can only be acquired by possessing a practical knowledge of the wants and condition of the plants, and even then the wants (application or non-application of water to their roots) must be determined by a variety of circumstances, foremost amongst which is the mode by which the bottom-heat is obtained and the scope of root action possessed by the plants, as also by their coudition and appearance generally. Let the fires be stopped—banked-up—by half-past eight or nine o'clock on bright mornings, by which time solar will have taken the place of artificial heat.

This should be done on bright mornings, even though the thermometer does not register the minimum degree of day temperature at the time indicated above, for the obvious reason that if the fires had beeu driven on until a medium day temperature had been attained, the suu, meanwhile, as well as the fire-heat would have increased in force, thereby rendering almost immediate ventilation necessary, thus letting out the very thing (heat) that labour aud fuel had been wasted in getting up in the house, and admitting, to a great extent, the very thing (cold) that a short time before had been sought to be kept out.

Tbe fires should be again started in the afternoon, as soon as the sun is goiug off the houses and decreasing in force, so that by the time the heat husbanded by entrapping the sun's rays, by shutting up early (with a slight distribution of atmospheric moisture in the house at the same time), has declined to 65°, the heat radiated from the hot-water pipes may be sufficient to maintain that temperature in the house during the night, but in the event of severe frost at night, a temperature of 60° will be ample for the time being, but 65° should be aimed at, and to obtain and maintain even this low temperature, in a moderately large sized house, the supply of piping must be liberal. Under these circumstances, it will be advisable, not only for the sake of economising fuel—which is a consideration not to be overlooked—but of securiug and maintaining a more general heat, to cover the Cucumber house or pit at night with mats or other protecting material, when couveuieut to do so, aud place the thermometer iu such a position iu the house, that it can be seen by the assistance of the bull's-eye at night, without having to enter it, and so obviate the necessity of opeuing the door, thereby preventing the escape of heat and the letting into the house, at the same time, a volume of cold air. The above remarks are applicable to all forcing houses.

Should Green or Black Fly attack the plants, fumigate a couple of evenings in succession, when the weather is mild and the leaves of the plants are dry; and should Mildew put in an appearance, dust the affected leaves, while damp, with Flour of Sulphur, and aim at a drier atmosphere. Crop the plant light rather than otherwise, cutting the fruit as soon as they have attained to table size, and stand them on their ends in saucers containing a little water iu a warm room. Keep all male flowers picked off the plants, as the necessary complement of fruit for a crop has been secured; and encourage a free though consolidated growth of the plants.—*H. W. Ward, Longford Castle.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Dec. 8th.*—Though a great improvement on the previous meeting, as regards weather, there was a very thin attendance of Members on tbis occasion, and an equal paucity of subjects for them to sit in judgment upon. Only two First Class Certificates were awarded, the first going to Mr. R. Owen, Floral Nurseries, Maidenhead, for a new white Chrysanthemum, named Boule de Neige, which promises to take high rank as a late decorative variety. The flowers are reflexed, pure white, aud freely produced by plants which, with two stoppings in the summer, grow only to the height of 18 inches to 2 feet, and requires no stakes. It is naturally a late bloomer, coming in at the end of November, and continuing well into January. Either for cut flowers or conservatory decoration, it is well worth looking after. The second Certificate was awarded to Sir Trevor Lawrence, Bart., M.P., for Calanthe porphyrea, one of a large batch of seedlings raised at Burford Lodge. It is the result of a cross between Limatodes labrosa and Calanthe vestita rubra oculata, and was much admired for its distinct bright purplish red blossoms. C. Burfordiensis is a larger flower than the last named, but paler in colour, aud not so distinct; C. casta is a good white; C. amabilis, pale rose with a white centre; and C. aurantiaca is a bold showy flower, white with a bright orange blotch in the centre. Mr. White, gardener to C. Dorman, Esq., The Firs, Laurie Park, Sydenham, sent a flowering plant of the rare Odontoglossum Humeanum, an interesting hybrid, presumably between O. cordatum and O. Rossii; the lip is white, the petals white, with a few brown blotches at their base, and the sepals dull yellow with cinnamon bars. From W. Vanner, Esq., Camden Wood, Chislehurst, came a pretty rosy violet coloured variety of Barkeria Skinneri, named Vauuenaiana. Messrs. H. Page & Sons, Grove nursery, Teddington, staged an exceedingly well flowered group of Cyclamens, for which they were awarded a Silver Gilt Banksiau medal. The plants were in 48's, aud of the best market type; and besides the usual coloured varieties of C. persicum iucluded, a very fine pure white strain with broad well rounded petals, to which they gave the name of Albion. Messrs. H. Cannell & Sons contributed a very showy collection of cut blooms, of Chrysanthemums, mainly useful decorative varieties; a stand of cut blooms of the double rich rose coloured Ivy-leaved Pelargoniums, Madame Thibaut—an unique display for the season; and cut blooms of several varieties, of Zonal Pelargonium, all as bright and attractive as the Swanley flowers usually are, and including a very fine new scarlet, named Crocus. Messrs. Jaues Veitch & Sons staged Chrysanthemum Domiuation, a late white flowering Japanese with spoon-shaped petals. Mr. Rullins, Hampstead Heath, showed a very good sport from the Japanese Chrysanthemum Duchess of Albany, a much more compact and better built flower, of a rich orange colour with chestnut red centre. Mr. J. James, Woodside, Farnham Royal, had two very good Chinese Primulas, Argus, a very rich magenta purple, and Purity, a very fine fern-leaved white. Messrs. James Carter & Co., High Holborn, sent some cut stems of the climbing Boussingaultia basellioides, bearing numerous tuber-shaped excresences.

At the meeting of the fruit committee, the only object of interest, besides a few Apples from Mr. Miller, Road Ashton; Mr. J. Woodford, nurseryman, Atherstone; and Mr. J. C. Barker, Broxbourubury, was a good sample of the Winter King Grape, a variety somewhat resembling Gros Maroc in shape, but with a very thick skin, and in flavour, sweeter than Alicante, but not better than Lady Downes. It is a very late keeper, aud is said to have been obtained by grafting Gros Colmar on the white Raisin de Calabre. The action of tbe stock on the scion, however, in this case, appears to have been so extraordinary, that we venture to suspect that some error has been made. Be that as it may, it is a grape that will make its way, and Mr. B. S. Williams was the exhibitor.

Manchester Horticultural Improvement.—*Dec. 3rd.*—At the ordinary meeting of this society, held in the Memorial Hall, Albert Square, Mr. Bruce Findlay presiding, Mr. Henry Hyde delivered an address on the classification of plants. He said the vegetable kingdom comprises at least 200,000 species, which may be divided into two great divisions, one being the flowering plants, and the other non-flowering plants. These are sub-divided into two classes, the dicotyledons and the monocotyledons, or in other words, the exogens and the endogens. The exogens are distinguished by their mode of growth, the stem being formed by successive additions to the outside of the wood. Nearly all the woody trees of this country are exogens, as also are the herbaceous plants, or nearly all. The Palm is a specimen of the endogens, and these contaiu no pith nor bark. These are the two great divisions of flowering plants, the remaining plants being termed cryptogramic, meaning that the organs of growth are hidden. Of this division are the Ferns, mosses, fungi, and sea-weeds. One of the great characteristics of these plants, is that they are produced by means of spores, whilst those in the other two divisions are produced from seeds. The difference between spores and seeds is that in seeds there are little embryo plants, which on being sown, develop into full grown trees and plants; whilst a spore is a cellular substance, which will grow from any part of its surface. He had intended sayiug something about the generic and specific names of plants, but his time being limited he was obliged to abandon that intention. He should be glad to answer any questions connected with tbe subject of the lecture.

The Chairman said that as Mr. Hyde would have to leave them in a few minutes to attend his class at tbe Technical School, he would call for a vote of thanks to him at once. Mr. E. Griffiths Hughes said he had much pleasure in moving that the best thanks of the society be given to Mr. Hyde. He regretted that the lecturer had not more time at his disposal, because the subject was so comprehensive, that it could not be satisfactorily dealt with in so short a time. Mr. Upjohn, Worsley Hall, seconded the motion. He was sure they had all enjoyed the lecture, and would derive instruction from it. The motion was adopted.

Mr. Hughes said he had always been puzzled by the rapid growth of the Mushroom, aud he would like Mr. Hyde to explain, if he could, the cause of the rapid development. Mr. Hyde said no satisfactory explanation of that fact ever had been given, aud he could not explain it unless it was owing to the multiplication of the cellular system, the plaut beiug entirely cellular, having no fibrous structure. Throughout the entire vegetable kingdom it was found tbat plants which are composed entirely of cells always grow rapidly. If time had permitted he would have said a great deal more about the minor classification of plants. He would just like to say that the great aim of Linnæus was to give plants two names, a generic and a specific one. Some modern botanists would like to upset that classification and give them three names, but he (Mr. Hyde) thought they had quite sufficient.

It was then announced that the honorary secretary, Mr. Swan, having obtained a situation near Preston. was leaving this neighbourhood, and tberefore had given up the secretaryship. Mr. Tait said be was sure they were all sorry to lose Mr. Swau's services, but pleased to hear that he had obtained a new situation. They had now to find a successor to him. They had at tbe top of the tree an excellent president, but if the society was to prosper they must have at the bottom of the tree as good a secretary. Auyone who took the post would have to give a considerable amount of time to it, the work being greater thau some of them would imagine. It had beeu suggested to him that they could not have a better successor to Mr. Swan tban Mr. Upjohn, of Worsley, and he had much pleasure iu moving that he be appointed, believing that they would have no reason to regret the selection. Mr. W. Plant seconded the motion, which was at once carried uuanimously. Mr. Upjohn said it was uot because he had too little work that he accepted this appointment, but because he felt it was the duty of some one to come forward in the emergency which had arisen and take up the duties which Mr. Swan had so well discharged. Without making any great promises, he would endeavour to do his duty during the remainder of the society's official year.

On the motion of Mr. Robinson, seconded by Mr. Thomas Rogers, the secretary was instructed to convey to Mr. Swan the thanks of the society for his services, and their regret at his resignation.

In the course of some desultory conversation which followed, as to the work of the society during the present session, a hope was expressed by Mr. Plant that they would have some short papers on the cultivation of plants and flowers. He was sure there were several gardeners present who could contribute such papers if they only set about it. Mr. B. S. Williams, of Holloway, at the conclusion of the proceedings, said he was much pleased with the way in which the society was working, and he felt sure that both old and young gardeners would derive much useful information from such an interchange of thought as the reading of papers and the discussion on them created.

National Chrysanthemum.—*Dec. 9th.*—The last meeting of the floral committee of this society to be held this year took place at the Royal Aquarium on Wednesday last, when a grand show of blooms was placed before the Committee, and no less than eleven First Class Certificates were awarded. The chair was occupied by Mr. E. Sanderson, and amongst the gentlemen present were Mr. Ballantine, Mr. R. Dean, Mr. H. Cannell, Mr. Geo. Gordon, Mr. N. Davis, Mr. Swift, Mr. Butcher, and others. Some discussion took place as to whether the steps taken at the last meeting, of placing Chrysanthemum Cullingfordi among the reflexed varieties, was the correct course to adopt with this excellent flower, which has been shown in both Japanese and reflexed classes. It was ultimately resolved that the resolution passed at the last floral committee meeting should be reported to the general committee of the society, for them to take such course as they may deem necessary with a view of arriving at a definite decision as to whether this variety should be classed as a Japanese or reflexed.

Messrs. Gordon, Dean, and Holmes were elected to officiate as judges at the show of late Chrysanthemums to be held in January next.

First Class Certificates were awarded to Messrs. Drover for the following varieties:—White Dragon (Japanese), similar to Golden Dragon, but pure white; Bicolor (Japanese), a very fine bronze and yellow; and Gloriosum (Japanese), bright orange.

Messrs. James Veitch & Sons were also awarded a First Class Certificate for Pélican (Japanese), a good creamy white.

A number of very fine flowers were exhibited by Mr. N. Davis, and he was awarded First Class Certificates for each of the following varieties:—M. Burnet (Japanese), lilac-mauve, a very full flower; Duchess of Albany (Jackson's), orange-buff, the three flowers produced to the meeting were very large, and the colour was good. It is somewhat difficult to distinguish this flower from Brunette, a variety sent out by Délaux in 1883, and it is not unlikely they are synonymous; Ville de Toulouse (Japanese), violet-amaranth, reverse white; Cérés (Japanese), delicate flesh colour. This certificate was awarded as a late variety; unfortunately there are no less than three varieties of this name, two of them Japanese and one Pompon; and Japonais (Japanese), bronze-yellow, a fine bold flower. Messrs. Cannell & Sons were awarded a First Class Certificate for a very fine Japanese Anemone, named Catherine-wheel, pale sulphur, not a particularly large flower, but compact and attractive, and likely to become a great favourite.

Mr. Robert Owen, Maidenhead, exhibited a very fine basket of dwarf plants of Boule de Neige, which was awarded a First Class Certificate. This plant, which was stated by Mr. Owen to be a reflexed variety, had also received a certificate at South Kensington on the previous day. Here is another example of the inconvenience of having two varieties distributed under the same name, more especially as in this case where they are both white. In the Japanese section we have Boule de Neige somewhat of an incurved flower, and the variety exhibited by Mr. Owen is classed by the continental growers amongst the Pompons, although, the plants exhibited to the meeting would certainly be better placed under the hybrid section. Two very fine stages of blooms, the majority being single and Pompons, were exhibited by Messrs. Cannell & Sons, set up in bunches, in that neat style for which this firm is so noted. Votes of thanks were accorded to Messrs. Cannel, Mr. N. Davis, and Mr. Owen for their interesting contributions to the meeting.

THE SMITHFIELD CLUB.

Though of vastly greater importance and interest to agriculturists of all degrees, there is yet much in the great annual gathering at Islington that is of interest to the visitor of a purely gardening turn of mind. In the immense array of miscellaneous articles which, combined with the fat stock, make up a show second to none of its kind, there are many things which claim attention from the practical visitor on the look-out for good tools, labour-saving appliances, seeds, manures, and other articles likely to prove as useful in the garden as on the farm. First and foremost come the exhibits of theg reat seed firms, and these displays are always arranged with taste and effect on handsome stands constructed with a great amount of ingenuity, in order to display the greatest amount of produce in the smallest amount of space. Some of them, such as the stands of Messrs. Sutton, Messrs. Carter, and Messrs. Webb, are nothing less than museums of the highest value from an educational point of view, so great is the variety of subjects and so fine the quality displayed on them. This year again the special feature, on what we may call the local stand, that of Messrs. James Carter & Co., High Holborn, is the exceedingly fine display of grass seeds and grasses in growth, a subject of great importance to the agricultural interest just now, and which this firm has done much to encourage. To the gardeners, their Lawn Mixtures will of course prove of greater attraction than those designed for sowing wider areas. The seeds, roots, &c., are all admirable.

The Messrs. Sutton of Reading, also make a feature of grass seeds, a branch of their enormous business which has made the name of the firm famous all over the world. Swedes, Turnips, and Mangolds, are here in galore; but to me these were not of so much interest as the grand display of Potatos, which includes all the leading kinds, and of course the many good sorts which the firm have themselves put into commerce.

Messrs. Edward Webb & Sons of Wordsley, have also a singularly interesting display of all kinds of produce. The Swedes, Mangolds, and Potatos, are of a high order of merit, and for the former there is much of an interesting character in the beautiful lot of dried grasses, and the fine samples of various kinds of Wheat, Oats, Barley, &c.

Messrs. Hooper & Co., of Covent Garden, whose name is more familiar to me in connection with flower and vegetable seeds and American Potatos, make a bold bid for fame in connection with some new and improved cereals, such as the Dividend Wheat, Six-rowed Winter Barley, and various Oats, all remarkable for their great prolificacy; they, too, also have a good show of Potatos. Messrs. Harrison & Sons, of Leicester, and Mr. J. K. King, of Coggeshall, also have some garden produce, but the bulk of their exhibits belong to the farm rather than the garden.

Amongst the new manures, I noted the stand of Messrs. J. Jensen & Co., the importers of the Norwegian Fish Guano, an article, which, if my experience counts for anything, is destined to take a high position as a fertilizer in the garden, as well as on the farm. I have used it for some time mixed in potting composts for soft-wooded plants, and can speak highly of its quality as a stimulating manure. Another manure that was new to me, is the "organic manure" of Messrs. Hamilton & Co., 118, High Street, Wandsworth, which I shall certainly try next season on Potatos and the Cabbage tribe, which I should think it is just the thing for, and it is certainly cheap.—*A Country Visitor.*

Sciatica.—I do not know whether it is within the scope of a gardening paper to treat on any of the bodily ailments to which gardeners as a class are specially susceptible, but I venture to ask you to insert this note, in the hope that the recipe may prove a benefit to some suffering brother. I am prompted to do so by having received a letter from a friend whose wife had been laid up with this painful complaint for five weeks, and to whom I sent the prescription, stating that it had done more good in four days than all the medicine she had previously taken, and that she was then quite well. To 1 qt. of rum add three nitre pills (pounded), and 2 ozs. of sulphur, and take half a wine-glassful three times daily. If this quantity should prove too relaxing, take it twice a day only; and it will be much more efficacious if no other alcoholic stimulant is taken. I may add that the person who gave me this valuable prescription has never known it to fail.—*E. Dumper.*

QUESTIONS AND ANSWERS.

Cucumber Culture.—I have a span-roofed house 15 ft. long, 10 ft. wide, heated with hot-water pipes. I wish to grow Cucumbers, so as to be able to cut in June; will some of your readers kindly give me instructions how to grow the plants?—*J. F.*

Insects on Pear Trees.—*A Gardener:* The Mussel Scale, Aspidiatus conchiformis. You will find it a difficult matter to get rid of it, but the best plan is to scrape the bark now with a thin piece of hard wood, and then wash the stems with a paraffine emulsion.

Transplanting Hollies.—*Amateur:* These are very difficult things to move with safety when they get any size, and you should certainly not attempt it now. Leave them till April or beginning of May, when in showery weather they will move without much risk.

Chrysanthemums.—*New Subscriber:* Read the instructions given by Mr. Molyneux and Mr. Boyce in our last. You had better not begin propagating while the present cold weather lasts unless you have a little heat.

Names of Plants.—*A. B.:* Colletia cruciata. *Scotia:* The common Buckthorn, Rhamnus catharticus. *W. C.:* 1, Sparmannia Africana; 2, the Spindle-tree, Euonymus europæus.

Names of Fruits.—*J.A.C.:* We do not recognise your Apple, It is very pretty, but that is all that can be said in its favour, except that it may be useful for Cider making.

Communications Received.—G. S. A.—J. R.—J. H. Lowry.—E. J.—J. W.—F. G. D.—J. A.—F. W. B.—H. W. W.—G. S.—T. C.—W. B. A.—Iberis.—W. C. B.—B. S. W.

TRADE CATALOGUES RECEIVED.

Alex. E. Campbell, Cove Gardens, Gourock, N.B.—Descriptive Catalogue of Choice Hybrid Gladioli.

LONDON SEED TRADE.

December 9th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a larger attendance than usual at to day's market, but no business doing. Red Clover and Trefoil continue in moderate demand, and supplies are still larger and values unchanged. White Clover and Alsike are offering more freely, and the latter has receded somewhat in prices as buyers still hold off. Feeding Linseed and Canary steady. Hemp firmer. Blue Peas and Haricot Beans sell slowly.

COVENT GARDEN MARKET.

December 10th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	0 6	2 0	Pine-apples, St. Michaels, each	1 6	5 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Musbrooms, p. basket	1 0	1 6
Cabbages ....per doz.	1 6	2 0	Onions, per bushel	5 0	7 6
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Anemone, 12 bunches			Mignonette, 12 bun.	1 6	3 0
Arum Lilies, 12 blms.	6 0	9 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	0 6	3 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	4 0	12 0	Roses, Tea, French,,	0 6	1 0
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	1 6	2 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays	9 0	12 0
Eucharis, per dozen	5 0	9 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	8 0	Tulips, 12 blooms	1 0	1 3
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	5 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, Roman, per dozen	12 0	15 0
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21 0
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	8 0	12 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

FRUIT TREES,
GRAPE VINES, & ROSES.

HUGH LOW & Co. offer of fine quality and best varieties, trained and untrained, APPLES, APRICOTS, CHERRIES, DAMSONS, NECTARINES, PEACHES, PEARS, PLUMS, ROSES, a fine collection, dwarf on Manetti; ROSES, half-standards and standards; ROSE GLOIRE DE DIJON, open ground, very strong, also in pots; ROSE NIPHETOS, strong, in pots. VINES, BLACK ALICANTE, BLACK HAMBURGH, GROS COLMAN, and other fine sorts, planting canes and forcing canes. Low prices on application.

CLAPTON NURSERY, LONDON, E.

THE
VILLAGE BLACKSMITH POTATO.

2s. per lb.; 7s. 6d. per 4 lb.; 10s. 6d. per 7lb.

Awarded 1st Prize and Silver Cup at Falkirk on Dec. 15th, for the best bushel of any new Potato.

The following are only a few of the many letters received from thoroughly practical men who have grown "The Blacksmith" for me this year:—

Margam Park Gardens, Taibach, South Wales, *Sept.* 21, 1885.

My Dear Sir,—"Your 'Village Blacksmith' Potato did exceedingly well. Strong compact grower, very prolific, and no disease; the most distinct Potato known. It is first-rate in quality cooked and uncooked, and it is sure to take its place as a standard main crop sort as soon as it is generally known."

Yours truly, JAMES MUIR.

Warwick Castle Gardens, Warwick, *October 2nd*, 1885.

Dear Sir,—"'The Village Blacksmith' Potato we have cooked in several ways, and found it simply grand. The heavy thick-netted skin is very peculiar, never saw anything like it before. The crop was heavy, and free from disease when all the other sorts were touched a little."

Yours very sincerely, ALEXANDER CHRISTIE.

Hendre Park Gardens, Monmouth, *October 11th*, 1885.

My Dear Sir,—"Your Potato, 'Village Blacksmith,' sent for trial, proved to be of excellent quality when cooked; it is a very free cropper, has a sturdy disease-resisting habit of growth, and will undoubtedly become popular for general purposes. Its closely netted skin stamps it with a remarkably distinct appearance." Yours very truly, THOS. COOMBER.

JAMES DON,
SEEDSMAN,
20, CHAPEL BAR, NOTTINGHAM.

BARR'S
GREAT CLEARANCE SALE
OF
Spring & Summer-flowering Bulbs,
AT GREATLY REDUCED PRICES.
INCLUDING
Barr's Daffodils, Hyacinths, Tulips, Crocus, Narcissi, Snowdrops, Scillas, Iris, Snowflakes, Ixias, Anemones, Lilies, Tuberoses, etc., etc.

ALL FINE SOUND BULBS.
Clearance List free on application.

BARR & SONS,
KING STREET, COVENT GARDEN, LONDON, W.C.

KEYNES, WILLIAMS & Co.,
NURSERYMEN, FLORISTS, AND SEEDSMEN,
SALISBURY.
SPECIALITIES:—
ROSES, VINES, DAHLIAS, & VERBENAS.
Catalogues free. *The Trade supplied.*

CLAPTON NURSERY, LONDON, E.
BUSH HILL PARK NURSERY, ENFIELD, N.

At the above named Nurseries are cultivated, in unusually large quantities, Azaleas, Bouvardias, Camellias, Climbing Plants, Cyclamen, Epacris, Ericas, Ferns, Ficus, Flowering and Decorative Plants in variety; Fruit Trees, Gardenias, Genistas, Grape Vines, Greenhouse Plants in variety; Palms, Pelargoniums, Rhododendrons, Roses, Shrubs, Stove Plants in variety, &c.

ORCHIDS A SPECIALITY.—The Stock at the Clapton Nursery is of such magnitude that without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

The Glass Structures cover an area of 246,000 ft. superficial.

HUGH LOW & CO.
Cordially invite Gentlemen interested in Horticulture to inspect the Nurseries.

ROSES FOR THE GARDENING WORLD.

WM. RUMSEY is now offering TWELVE MOST BEAUTIFUL PERPETUAL DWARF OR BUSH ROSES, in 12 leading sorts, strong well-rooted plants, package and postage free for 8s. TWENTY-FIVE, in 15 sorts, for 15s. 6d. FIFTY, in 25 sorts, for 30s. ONE HUNDRED, in 50 sorts, for 50s. STANDARDS, a splendid selection, extra fine plants, 18s. per doz.; £6 5s. per 100. HALF-STANDARDS, a splendid selection, extra fine plants, 12s. and 15s. per doz.; £5 per 100. ROSES IN POTS FOR FORCING, 24s., 30s., 36s., and 42s. per doz.

All packing free (except pot Roses). Cash accompanying order, and plants added to compensate for distant carriage.

DESCRIPTIVE CATALOGUE NOW READY, GRATIS, AND POST FREE.

JOYNING'S NURSERIES, WALTHAM CROSS, N.

NEW CHRYSANTHEMUMS.

G. STEVENS, F.R.H.S, ST. JOHN'S NURSERY, PUTNEY, is now booking orders for his new Chrysanthemums, which will be sent out in FEBRUARY next, good strong plants:—

MAIDEN'S BLUSH.—Fine Japanese, with broad flat florets, forming a full, large, handsome bloom; fine for exhibition. First Class Certificate Royal Horticultural Society, November 10th, and National Chrysanthemum Society, November 11th, 1885. Price 2s. 6d. each, cash with order from unknown correspondents. See report in this paper November 21st.

MARTHA HARDING, a fine Japanese variety. Golden yellow, shaded reddish brown; large, full, handsome flower; fine for exhibition. First Class Certificate National Chrysanthemum Society, 1884. Price 2s. 6d. each.

Chrysanthemum Catalogues of all the best exhibition varieties on application.

CHRYSANTHEMUMS, Japanese, Incurved, Pompon, Anemone, Early-flowering, and Singles. Strong cuttings, 1s. 6d. per dozen; 10s. per 100. Rooted cuttings ready in January, 2s. 6d. per dozen; 15s. 6d. per 100. Only the best and most distinct grown. Send for list (post free), containing full instruction for growing the Chrysanthemum to perfection. This will be of great assistance to amateurs.

TUBEROUS BEGONIAS from the very best strains, dry tubers, specially selected to colour, 4s. 6d., 6s., and 7s. 6d. per dozen; extra good mixed, all colours, 3s., 4s. 6d., and 6s. per dozen. Tuberous Begonia seed saved from flowers 5 and 6 ins. across, 1s. 6d. per packet. Double, certain to produce 75 per cent. of double flowers, 2s. per packet. Gloxinia seed from the finest collection in England, 1s. 6d. per packet.

H. J. JONES, Hope Nursery, Lewisham.

NOTICE TO SUBSCRIBERS AND ADVERTISERS.

THE GARDENING WORLD will next week be published on Thursday instead of Friday, in consequence of the Christmas Holidays.

ADVERTISEMENTS for that number must reach the Office not later than Wednesday morning.

The Editor will be greatly obliged to contributors if they will kindly favour him with their communications a day earlier than usual.

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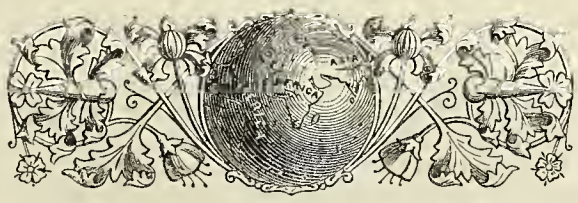


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 19, 1885.

FOREIGN SEEDS.—The flood of seed, plant, tree and bulb lists from all parts of the continent, which flow in upon us during the autumn months, tell with marked force of the exceeding dependance which gardening in Great Britain has upon foreign countries. Could these supplies but be stopped for a year or two, the effect upon both horticulture and agriculture would be both remarkable and paralysing, and would soon teach those who decry such dependance, that we can no more do without such foreign aid than we can without the sun in the heavens, or the air we breathe. The fact is, our climate is far too ungenial for the production of vast quantities of the seeds which serve the requirements of both farmers and gardeners. We cannot grow them if we would, because our climate lacks the needful warmth, dryness, or constancy of behaviour, without which seed production profitably is not possible.

Both from Germany and France we obtain vast quantities of flower and vegetable seeds, which enables myriads to have flowers in their gardens that would otherwise be bare and devoid of beauty. Not a few of our chief seed houses get all their best flower seeds from Germany, and we know all the kingdom is dependant upon Holland for bulbs of the kinds familiar in our spring gardens, whilst Japan furnishes us with Lilies in enormous quantities, and Orchids come to us from all the tropical countries of the earth. Fruit trees, Roses, shrubs, and trees of all kinds; indeed, it is hard to say what there is in association with gardening for which we are not more or less indebted to other climes.

It is easy to say, "Let us raise our own of these things"; it is not so easy to do it. Then those who send to us so largely of their products are customers for other things, the production of which affords employment to thousands here and profit to employers. We dare not interfere with our foreign trade as it affects either farming or gardening, for should we feel aggrieved myriads find benefit, and the myriads must outweigh the interests of the few.

WINTER'S DEARTH.—The Israelites of old found it was difficult to make bricks without straw. Metaphorically, gardening writers find it to be just now as difficult. Unlike most other vocations, gardening seems to sink quietly to rest during the winter, or if the actual work of the garden is not suspended, at least there is a decided period of rest for nature, and with that rest comes lack of matter and deficiency of ideas. It is true that in modern gardening of the highest order there is neither rest nor sleep. In Orchid-houses, in plant-stoves, in foreing fruit, and vegetable departments, there is still life and activity, because it is the very soul of gardening that it shall overcome natural obstacles, and surmount climatic difficulties. Still, these forms of life and activity are limited in operation. They can exist only under artificial conditions, and within buildings constructed solely for their maintenance. Outside conditions are absolutely diverse, and the operations of natural life are quiescent.

It is hard, therefore, to make living thoughts from dead life, and, perchance, much which comes to the eyes of our readers, as well as to the eyes of readers of other gardening papers, seems heavy and perhaps common-place at this dull and aspectless period of the year. Happy are those who during periods of natural activity have noted down that which would keep and might be brought forth when nature is restful, for our instruction and edification.

But if contributions seem now and then to be very heavy, or too scientific or practical, let us not forget that we, too, may well fall in with nature's plan, and solidly digest that which seems cold and chill but really may be for our good. Very soon the spring, with all its life and vigour, will come; and much of that life and vigour will be imparted to the thoughts and pens of those who labour for our readers' enjoyment.

CHRISTMAS AND NEW YEAR'S CARDS.—We have received from Messrs. Charles Lee & Co., 78, Milton Street, London, E.C., a set of Christmas and New Year's Cards, of the most pleasing character. Instead of the floral designs in colour now so abundantly seen in the shop windows—and exceedingly beautiful many of them are—the decorations on the cards before us are composed of dried specimens of small-growing Alpine plants, elegantly arranged and gummed down, with the usual expression of good will in gold letters. The "Alpine Series" deserves high commendation.

GARDENING MISCELLANY.

Royal Botanical and Horticultural Society of Manchester.—It has been decided to hold next year's exhibitions on the following dates:—Floral meetings, 16th and 17th March, and 27th April; National Horticultural Exhibition to be opened on the 11th of June; Rose Show, 17th of July; Chrysanthemum Show, 23rd and 24th November. The Annual Meeting of the Society will be held on the 25th of January.

The Paterson Testimonial—We are requested to state that the testimonial to Dr. Paterson is to be closed on Christmas day, and that intending subscribers would greatly assist the movement by remitting at once to Mr. R. P. McCagie, Bridge of Allan, N.B.

The Carnation and Picotee.—Mr. E. S. Dodwell, Stanley Road, Oxford, is doing good service to floriculture by publishing, in four monthly numbers, the first of which has already appeared, a reprint of the Essays and Papers he has from time to time contributed to various periodicals; but revising them and bringing up the information to the present time. Some of the papers were written thirty years ago, others at a much more recent date, and all that can be said about the flower by an expert in its culture, as well as by the most successful raiser of modern times will, no doubt, be found in the work when completed. The introductory paper is in the form of the lecture delivered by Mr. Shirley Hibberd to the Carnation and Picotee Society in July 1881, which Mr. Dodwell regards as the most trustworthy sketch which has ever appeared. The essays are printed on excellent paper, and the numbers are well adapted for binding.

Portsmouth Chrysanthemum Society.—The late show held by this society was in every way a great success judging from the balance sheet presented by the hon. secretary, Mr. F. Power, to the Committee on December 8th. It shows a balance in hand of £42 4*s.* 4*d.*, thus proving what an interest is taken in the exhibition by the residents of the town. The visitors to the show numbered upwards of 10,000, and £22 was taken in pennies after five o'clock on the second day. With such successful results the Committee are stimulated to go still farther in 1886, when it is their intention to offer at their show which has been fixed for November 11th and 12th next, a silver cup, valued at £25, for thirty-six cut blooms; such a handsome prize as this ought to tempt some of the most noted growers of the day. Great credit is due to the Committee, who are so ably led by the hon. secretary and their chairman, Mr. G. Ellis.

Carter's Illustrated Vade Mecum for 1886, the first of the new season's catalogues to reach us, contains amongst a mass of other interesting information an announcement of a novel character with regard to a new series of prizes offered for competition during the ensuing year. Five prizes consisting of silver plate or cash, and ranging in value from the highest of ten guineas to the lowest of one guinea, are offered for the best record of the season—that is to say, to the exhibitors who carry off the greatest number of prizes with produce from their seeds, and exhibited at any show or shows in any district between January 1st and September 30th, 1886. For the first time in the history of the seed trade, we believe, we note that the firm offers for sale Potato seeds saved from several hundreds of carefully-raised seedlings of their own, and which should prove a subject of much interest to amateurs and others. Amongst floral novelties probably the most novel are the St. Brigid Anemones, to which special reference was made in these columns on September 12th last. This strain can be sown in March and flowered the same season, an advantage in its favour that all lovers of these charming and most useful flowers will doubtless duly appreciate. We note, also, that a prominent position is given to the Holborn Blue Primula, and among other good annuals are included a pretty double pink variety of Silene compacta, and a new dwarf white everlasting, Rhodanthe Manglesi alba nana, both raised by the firm, and novelties of sterling merit.

The Barnet Recreation Ground.—The Barnet Local Board have recently decided to extend the Recreation Ground on the eastern side, on the site of what is known as the Black Horse Pond. This entails the necessity of stopping up a public road running between the two sites, which has been unanimously agreed to as a public improvement and a boon to the inhabitants. We are pleased to hear that the work has been entrusted to Mr. Thomas Bevan, Landscape Gardener, of 31, York Rise, Dartmouth Park, N.W., and is to be carried out from plans prepared by him, which include, in addition to the planting and turfing, an ornamental piece of water with fountains, rockwork, fernery, &c. This will very much enhance the present ground, which has already become a much frequented and pleasant health resort, and reflects much credit upon Mr. Bevan, who designed and carried out the work of laying-out the present Recreation Ground to the satisfaction of all concerned.

St. Neots Horticultural Society.—The Annual General Meeting of this Society was held on the 10th inst., when a most satisfactory report and balance sheet was presented. The annual show takes place on Bank Holiday in August, and, as the weather was very fine on that day and an attractive exhibition was arranged, a large company assembled, and the balance, which at the end of 1884 was £18 3*s.* 4*d.*, is now increased to £44 3*s.* 5*d.*; this is as it should be, and shows what a great advantage it is to have a society under good management. The acting secretary, Mr. W. Ratchelous, has the direction of the affairs of the society, and the fact that his work is crowned with so much success is the best proof of its great merit. The St. Neots show embraces in addition to plants, flowers, fruits, and vegetables, many things such as Bees, Song-birds, Pigeons, &c., and so it has a wide reaching interest which attracts to it large numbers of those resident in the district. The method adopted here is one worthy of being followed; the show practically closes at six o'clock, the grounds are then cleared, and there is re-admission at seven o'clock, when there is a special musical performance, dancing, &c., ending with a display of fireworks. It pays well here, and this is the best justification for its adoption. This year the society attained to its majority; the first schedule of prizes was issued in 1865, and the amount offered in prizes was £18 15*s.*, in the year that has just passed the amount of money was £65. This is substantial progress, and the society has our heartiest congratulations.

National Chrysanthemum Society.—The annual dinner of this society took place at the "Four Swans," Bishopsgate Street, on Monday last, and like all other undertakings of the enthusiastic executive, it proved a grand success. Enormous blooms of the autumn queen are prominent at almost every meeting of the society, and the annual dinner was no exception to the rule, for some of the button-holes and the blooms which decorated the tables would have done credit in the back-row of any exhibition board. The chair was occupied by Mr. E. Sanderson, the president, Mr. R. Ballantine being in the vice-chair, supported by Mr. Wm. Holmes, the hon. secretary, and many well-known lovers of the Chrysanthemum, in all about eighty members and friends being present. The proceedings commenced with the presentation of the prizes awarded at the late exhibition, the premier prize, a silver cup, going to Mr. E. Sanderson. Mr. Gibson received the Veitch Memorial medal and £5; silver medals were presented to Mr. N. Davis, of Camberwell, and Mr. J. Wright of the Middle Temple, and the total amount of prize-money paid was £213 16*s.* 6*d.*; this is far in excess of any previous record. Mr. G. Stevens, of Putney, headed the list of cash prize-winners. The toast of the evening "The National Chrysanthemum Society," was responded to by the hon. secretary, who, in a few well-chosen remarks, dilated upon the renown and prosperity of the society during the past year. The toasts of "The President" and "The Vice-President" followed in the order named, and Mr. Sanderson received quite an ovation when he stated that he had been a member of the society about forty years, during the whole of which time he had held office. The hon. secretary—whose name amongst our readers has now become a familiar household word—was received with rounds of applause on rising to respond to the toast of the "The Hon. Secretary." Mr. Geo. S. Addison followed with the toast of "The Committees," and amongst other things, drew attention to the admirable way in which the business of the society was conducted. Mr. G. Stevens responded on behalf of the General Committee, Mr. N. Davis on behalf of the Floral Committee, and Mr. Langden for the Exhibition Committee. The remaining toasts were "The Kindred Societies" and "The Visitors." Amongst the gentlemen who contributed to the musical part of the programme, which was highly entertaining, were Mr. Giles, Mr. Noel' Professor Roberts, Mr. Winterbottom, Mr. Geo. S. Addison, Mr. Wright, and Mr. Steward Robinson. During the evening a subscription list was opened to meet the requirements of the prize fund for 1886, and was well responded to by promises of sums varying from five shillings to five guineas.

Horticultural Ornaments.—One of the prettiest objects I have ever beheld, writes a correspondent, is a Spruce cone filled with sand and Grass seed which sprouted and grew out of the scales. It is now as large as a Cocoa-nut with the husk on, and of the most vivid green colour. The grass grows with a luxuriance that is remarkable. To produce this charming specimen, the cone was baked in a stove till the scales opened out equally; it was then carefully filled with equal parts of sand and Grass seed, a string tied to the top, and the whole suspended in the dark in a jar, with water enough to come half-way over the cone. In a week it was placed in the sunlight, when the seed sprouted rapidly, and in a month filled a gallon jar completely. It has been taken out and hung in the window; every morning it is thoroughly soaked in milk-warm water.—*Indian Gardener.*

Packing Cut Roses.—I use wooden boxes only, which are about 8 ins. deep. These I line in the usual way, place packing material in one end, so that the buds can be laid in with the heads raised at an angle of 30°; place cotton under the heads of the first layer, and cover with a sheet of light manilla paper to protect from the next layer; continue until box is full. If necessary ice can be put on the stems which will all be at one end of the box, and the drippings of the ice will not injure the flowers by soaking them, as would be the case if the flowers were placed flat in the box. Any vacant spaces should be filled with light packing material so snugly that the contents cannot move about; and the box should be tied with cord or *have some kind of a handle* to pick it up by, as a box so provided will receive much more careful handling from expressmen than one which is not.—*L. B. D. in American Florist.*

CARNATIONS AND PICOTEES.

It must not be supposed by the Carnation grower that because the winter months are times of what may be termed "plant rest," that but little attention is required by these plants during the dull season of the year. There are some sorts that are very subject to what is known as the spot—the breaking out on the leaves of small brown spots, which greatly damage the leaves and make their entire removal often necessary. Of late years there has been such improvements made in the constitutional vigour of the Carnation and Picotee, that varieties are less subject to it than were those of a quarter of a century ago, still plants are always liable to attacks of the spot, and especially so where a great deal of moisture is in the ground, and atmosphere during the short dark days of November, December, and January. This spot can be resisted only by keeping the plants clean, dry, and giving them plenty of air. In addition, the soil about the roots should be moderately dry, and where this is so the severest cold will not injure them, neither will the spot make much headway.

Varieties that are subject to spot should be first potted from the layering pots, so as to give them the advantage of shelter in a cold frame. Potting up in this way is generally done in October, as by that time the majority of the layers will be sufficiently rooted. As Carnations and Picotees are almost invariably catalogued in pairs, it is the practice to pot two plants of a variety in a 4-in. pot. They are then placed in a gold frame, kept a little close for a few days, and then hardened off.

One leading authority on the Carnation and Picotee has laid down this absolute rule—that the plant must be completely rested throughout the winter, therefore, the young plants should not be over potted, so that the roots should not be surrounded with a mass of dead soil outside the area which they occupy. Therefore it is that, as a rule, the plants should be placed for the winter in such a sized pot as it can comfortably occupy, with roots before the fogs of late autumn fall; such, indeed, as will admit of the roots feeling the sides freely, and the growth should be as far as possible matured, and the growth cannot be said to have become matured until the whole of the soil be permeated with roots.

I have had to go through the martyrdom of standing by the side (or in) a frame of Carnations and Picotees on a bitterly cold day, to take up the pots one by one, trimming away any dead leaves, and also others badly infested with spot. It was a case of slow freezing until the blood appeared to be stagnant in one's veins, and their nether extremities were like blocks of ice. Talk of the poetry of flowers! Under such conditions one thought of the poetry of the fireside and some heat-giving food and drink; and that went on for several days, and had to be borne patiently and uncomplainingly, too.

I remember that on one occasion Mr. Dodwell, in one of his contributions on the winter treatment of the Carnation and Picotee, alluding to the necessity of going over the plants in this way, and cleansing them from decaying foliage and dust, said:—"To do this in the open garden is a work which, in the case of any person not of the most robust health, would involve serious punishment from cold, and very considerable risk to health. To obviate this danger my practice is to remove the plants to the shelter of the house, and here in the evening in the warmth and comfort of the sitting-room, I give to my pets the little attentions needed, and which their subsequent development so well repays." This is all very well in the case of an amateur cultivator; but it cannot be done at a nursery where the plants are grown on an extensive scale.

Let this be noted—the Carnation and Picotee are thoroughly hardy plants, and no harm can come to them from the most severe weather, provided they have been thoroughly hardened-off, and so inured to wintry influences. But while what may be termed *calm* cold is not injurious, cutting icy winds are, and while it is necessary to give as much air as possible on all occasions, the lights should be so raised as that such dangerous winds cannot blow upon the plants.

Mr. Dodwell emphasises this, for he states:—"In my experience, no severity of cold has been injurious unless the plants have been previously tenderised by injudicious confinement; but guard sedulously against cutting icy winds. During long-continued severe frosts, one—or at most two—mats will be ample protection. These should be allowed to remain on during the day, to prevent excitement from the bright light usual at such seasons. Do not, however, exclude air; tilt the lights of the frames, and open the windows of the house on the leeward side."

One word more. Be very careful how the watering-pot is used in January. At that time of the year the atmosphere is quite full enough of moisture to maintain the plants in a healthy state. If water must be given, apply it sparingly, and on no account wet the foliage. —*R. D.*

Corypha australis.

Gladney Apple.—We do not need large apples for the dessert table. Small ones are far preferable. The Lady Apple is popular chiefly because it is small and pretty. It is not remarkable for superior flavour. We have often wondered why Gladney was not taken up for this purpose. About the same size, just as pretty, keeps well through the winter; and yet far more sprightly and agreeable to most tastes.—*American Gardeners' Monthly.*

PALMS FOR TABLE ORNAMENT.

In offering a few remarks on plants suitable for table decoration, I shall confine myself to such as may be grown on to a useful size in 48 pots. Although, for some occasions, plants in larger pots may be used; yet, for general purposes, anything larger than a 48 is not admisable. In growing plants for market purposes we find this a very essential point. Palms are perhaps the most useful of all the green foliaged plants; we will, therefore, give them the first place. In making a selection, as many of the hardier sorts should be included as possible, as these can be used without fear of being damaged, where many of the tender sorts would be destroyed.

Latania borbonica.

Kentia Fosteriana.—This is certainly one of the very best Palms for table decoration, it is of very graceful habit, and will succeed well in an intermediate temperature. K. Belmoreana and K. Wendlandiana, are also very useful.

Cocos Weddelliana.—This elegant Palm is a general favourite, being particularly adapted for the centre of an epergne; if plants of a suitable size are used for this purpose they show off to great advantage. It requires stove treatment, and is rather delicate; if over potted or given too much water it will soon get into a sickly condition.

Geonoma gracilis.—This is another slender-growing species, somewhat resembling the above, the leaves are more recurved, however, and it is particularly graceful in a small state.

Phœnix rupicola.—In habit this somewhat resembles the older and better known species P. reclinata, it is, however, of much more graceful appearance, the leaves being more elongated, and the pinnæ narrower.

Seaforthia elegans.

Seaforthia elegans.—This is especially valuable on account of its free-growing habit; it attains to a large size much quicker than most of the Palms, and for purposes where a large plant in a small pot is required it will be found very useful, and as the seed is inexpensive and germinates freely, it is brought within the reach of those who have not the convenience to grow the more delicate sorts.

Areca lutescens.—This is a very graceful Palm, the pale yellow leaf stalks giving it a very light appearance; plants that have been hardened off will stand well, but it is best to avoid using them while they are developing young leaves.

Areca Herbstii is a very handsome plant, the leaves which are of a pale glaucous green are beautifully recurved, and the leaf stalks are covered with long sharp spines.

Rhapis flabelliformis.—This is very distinct, and being of a hardy nature it will stand more exposure than most Palms.

Corypha australis.—This is very valuable on account of its hardy nature. In growing young plants on, however, they should have stove treatment, as under such treatment the leaf-stalks become more elongated, and the plant altogether assumes a lighter and more graceful habit. After they have attained sufficient size for use they may be hardened off, and will do much service either for table or other decoration in exposed positions without being damaged.

Chamærops humilis.—In a young state this somewhat resembles the above, except that it has no spines on the leaf-stalks; it is also equally hardy, and may be grown under the same treatment.

Latania borbonica.—This is another very serviceable Palm. Plants grown in a high temperature and kept well shaded during the summer, assume quite a different habit than when grown in a lower temperature and more exposed; it is very effective under either mode of treatment

Chamærops humilis.

Dæmonorops palembanicus is another beautiful Palm, the young leaves are of a bronzy brown, forming a nice contrast to the dark green of its older leaves; it is a stove species.

Many more Palms might be added to the list of useful table plants, but the above will be found sufficient for all ordinary purposes. In the general treatment of Palms it should be remembered that although they like plenty of atmospheric moisture, they should not be over watered at the roots. An occasional watering with liquid manure made from cow-dung and soot will give the foliage a dark green and healthy appearance; or where the pots are well filled with roots, a sprinkle of artificial manure may be given, in which case, either Clay's fertilizer or Standen's manure will be found very beneficial.—*A. Hemsley.*

(To be continued.)

PRUNING.

Whilst we may look forward with some curiosity to the realization or contradiction of the old proverb, "When the Ice bears a man before Christmas it will not bear a goose after." There is ample reason to be grateful for the week of dry frost we have just had, and which, if coming suddenly, almost as suddenly departed. Without doubt there are few large gardens in which the frost did not come as a sort of god-send to enable the houses to be filled, and thus created much

excitement and profitable labour. But in other departments it proved also useful, for the cold and the dry frost enabled much useful work in pruning to be got through. Some people manifest antipathy to pruning in hard weather, but there is no sound objection to the work being then performed unless the frost be unusually severe.

In the recent case there was no intensity, and only moderate frost, hence the opportunity to get amongst trees to give them that thinning which is so often needful could not be permitted to slip. Truly, to any active man fond of the saw and pruning knife, there is much that is invigorating and pleasant in clambering through and into the heads of big trees to thin out superflous branches, and properly to admit light and air, with the needful regard to form and density.

If trees be attended to rightly at least every other year, the need for cutting out big branches will be rarely presented, the neglect of thinning punishes the bad cultivator in the lacking of quality in his fruit crops, and the exceeding difficulty experienced in gathering them. In a score of ways the labour involved in pruning is amply repaid, not only in the pleasure always felt in the work by any good pruner, as also in the resulting benefit to crop and tree, and in the quantity of useful firewood which accrues.

DOUBLE CHINESE PRIMULAS.

At this dull season of the year one cannot do too much to endeavour to brighten the surrounding gloom by making as gay as possible the greenhouse or conservatory. To do this effectually variety will be requisite, and while Heaths, Epacris, Bouvardias, Poinsettias, Tulips, Roman Hyacinths, and single Primulas play their part, we must not omit from their midst a few pots of the double flowered varieties of the latter, which rank not only among the finest of our winter-flowering plants for greenhouse decoration, but also among the most exquisite and desirable. Not only are they winter-flowering, for they commence flowering in early autumn and continue through the winter, and last a long way into spring, in this respect quite surpassing the single flowered kinds; and what is more they do not shed their flowers from the calyx as is the case with the single varieties, indeed, they retain them in the majority of cases till the bloom withers on the plant; a decided advantage over the single flowers.

But let it be understood that while I now strongly advocate the double forms of this group, I have equally strong notions in favour of the single forms, which are so much more easily managed—so easy and simple is their culture, in fact, that it is a difficult matter to fail with them, provided they receive any attention at all. Again, from a packet of good seed various colours may be secured, which are sure to prove both interesting and acceptable. On the other hand the doubles can only be propagated by means of cuttings, which are not the simplest things to manage, nevertheless, good plants may be procured in quantity and at a moderate cost, for they are grown by thousands for the sake of their exquisite blossoms, and those who make their cultivation a speciality seem to have comparatively little trouble with them.

Their greatest enemy at this season of the year is the watering pot for they need very careful watering indeed, and care should be exercised that the water is given round the side of the pot and not against the heart or crown of the plant; this is a common error, and one far from being known by careless workmen, who, continuing daily their fatal practice, never dream of the results till either failure or death ensues; the watering is in reality the primary point in their cultivation just now and too much importance cannot be attached to it. If healthy, vigorous, and free-flowering plants are desired, a light airy position should be chosen for them out of the reach of drip, which will be more injurious than the watering, simply because the work is continuously and silently going on unnoticed. The double forms of these Primulas do not at a moment exhibit any signs of decay: the plants on the other hand invariably keep in good health so long as a root remains, and I have known plants to be almost rotted through at the collar, yet apparently in good health; in this they are rather deceptive, which is all the more reason why careful hands should deal with them. Given a fairly rich soil at potting time they do not require the assistance of artificial manures, a little weak soot-water may, however, be given to those that are strong and healthy every eight days or so, and if grown in a mean temperature of about 50° a good supply of flowers may be kept up.

Though the number of varieties are somewhat numerous, and in as many shades of colour, none have appeared to come into such prominence as the original double white kind, *i.e.*, Primula sinensis alba plena, which from its durability in a cut state, its general usefulness, and last, but not least, its floriferousness, is grown by the thousand for the supply of cut flowers, that find a ready sale in all the leading markets of the kingdom. The flowers are of such a useful size, that they are employed in most choice floral arrangements, either for personal ornamentation, as pot plants in groups, or the like. Where the flowers are used for button-hole purposes, and are required to give the greatest number of its flowers, they may be taken off singly and wired, continuing the picking as the flowers appear ready, and by the time a single spike has done flowering you will have secured about three whorls of its flowers.

There are some two or three other varieties very similar in general character, but the flowers are fringed at the edge, these are alba plena fimbriata and candidissima, all very free; atro-rosea plena has flowers of a rich crimson, very large; Blushing Beauty is white, suffused with rose; Fairy has large handsome flowers, double white and beautifully fringed; Peach Blossom, rosy peach, free and good; Miss Eva Fish is among the finest, splendid flowers of a rosy lilac, melting into blush, magnificent trusses; Rubra plena, very fine; Lilacina plena, a very abundant bloomer, flowers useful and lasting; Emperor and Empress are doubles with fern-leaved foliage, the former with rich crimson and the latter with double white flowers, both are large and handsome, having large trusses. These with Lilac Queen, King of Purples, and Magenta Queen which are descriptive of their own colour, constitute some of the most worthy of this charming and useful group of plants.—*J.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—II.

Having at p. 216 given instructions how to treat cuttings for striking, before I proceed further with my notes upon cultivation, it will not be out of place this week to give a few hints to those who have their plants out in the ground. I know from experience that there are a great number who do not grow any, or very few Chrysanthemums in pots, but plant and bloom them out in the open ground; and I imagine from several inquiries I have received within the last few days, that the frost caused anxiety to many who grow their plants in this way, so that the following hints may be useful.

When the plants have done blooming they should be cut down to within 6 ins. of the soil. On the approach of frost the roots should be well protected by having short litter placed around each root, or what will answer just as well and look neater, cocoa fibre refuse. When protected thus, the roots will be able to stand the cold, and after all danger of frost is over the protecting material may be removed, and the suckers throwing up around the roots will soon strengthen.

Now let me proceed with the culture required to produce specimen or exhibition blooms. Those amateurs who have visited any of the Chrysanthemum exhibitions lately held, will probably say that it is of no use for them to try to grow such large blooms as are seen there, but if one person can grow them, why cannot another? One great secret in the successful cultivation of the Chrysanthemum can be given in two words, viz., perseverance and attention. Cuttings inserted and treated as previously directed should about the second week in February be ready for potting off singly, and for this purpose the requisite quantity of 3 in. pots should be procured, and the soil mixed in readiness.

The soil for this potting should consist of two parts of good turfy loam and one part of well decayed manure, to which add enough silver sand—which should be coarse—to keep the whole porous. The cuttings should be shaken out of the cutting pots, taking care to shake out only one variety at a time, so that no mistake may occur in labelling them; then proceed as follows:—Place a piece of broken crock at the bottom of a 3-inch pot, on this put some smaller crocks, and over all put a few rough pieces of turf; then fill up the pot with soil, make a hole in the centre, into which put the rooted cutting. The soil should then be pressed firmly around the plant, and a gentle watering given to settle the soil around the roots; after so doing, return the plants to a cold frame, and keep them shut up close for a few days, after which air should be given on every favourable occasion.

Excellent and very frequently really good exhibition blooms can be had by inserting the cuttings early in February in a house where a nice comfortable temperature is kept up. They will readily strike, when they should be at once potted off singly and be placed on a shelf near the glass, and they will very soon make good plants. In fact, where the plants are grown for the purpose of only producing a few blooms on each plant, I think February quite early enough to put in the cuttings—that is, if they are put in and grown on quickly; but they must not be forced. The plants must not be stopped, and as at this stage they are liable to get infested with green fly, they should be slightly dusted with tobacco-powder. Attend carefully to watering them *only when needed*, and above all, do not keep them shut up more than is necessary, or the plants will become drawn and weak.

They will soon fill these pots with roots, when they will be ready for the further treatment which shall be given in my next.—*W. E. Boyce, Verbury Road, Holloway.*

SCOTTISH GARDENING.

The Apple Congress in Edinburgh.—While the display of Apples recently shown in Edinburgh was truly wonderful, it may be questioned if the amount of real practical good likely to result from such a gathering will be very great. The jurors had a most bewildering task, and seemed like men lost in a maze. It looked almost like cruelty to ask men to spend two days in a cold building, endeavouring to solve the mysteries attending some 12,000 dishes of Apples and Pears. The different climates and conditions in which the same varieties had been grown, had had such an effect on them that it was almost impossible to decide what they were. As a spectacle the Congress was exceedingly fine; a walk along the tables, and a glance at such a collection as that staged by Messrs. Bunyard & Co., from the favoured clime of Kent, was a great treat; but to begin and compare and discuss 12,000 dishes seemed a hopeless task. Financially the exhibition was not encouraging, and it is to be hoped if another such "Congress" be attempted in Edinburgh, that the public will patronise it much more largely than they did this one. They will be rewarded with a beautiful sight, there can be no doubt of that, and the really practical people who wish to gain knowledge, and confirm or refute certain theories and opinions, must rest content with the small amount of practical benefit derivable from such a display.—*X. Y. Z.*

Vine Roots are mostly found to push their way outwards though planted ever so well inside, and arches formed in front walls of structures may be blocked up with bricks, stone, or other material to force the roots to fill the inside border, but these only keep them back for a time. I have just found that Vines planted two years ago have forced their roots through firm barriers of stones, soil, and bricks rammed together, they have grown 6 ft. into the outside soil and are found firmly matted in the natural clay. Sometimes when the outside soil is unhealthy (perhaps poisoned by manure) the roots will turn back and find quarters by the front wall and may get away under the drainage and escape the putrid border altogether. I once removed a very old border which had been carefully tended for many years by the gardener in charge, who had grown many excellent Grapes; the roots had never found their way into the carefully manipulated border at all, but were away in the foundations of the structure; one vine started to grow from a piece of old stem inadvertantly left in the front wall, and was by far the strongest young rod in the house and reached the top of the rafter first. I have not much faith in placing barriers along vine borders to prevent the roots from rushing rapidly outwards where they find, very often, soil unsuited to their wants, and the labour and the expense of border making is to some extent lost. The

roots passing out into good vegetable ground may and often do well for many years: abundant evidence of this we find in market establishments where the ground has little more preparation than for a plot of Gooseberries, still it is generally more desirable to have roots under entire command and know where they are finding their food, so that supplies can be given to the feeders as necessity demands; firm borders in our opinion are most economical, and, so far as observation goes, we think are best for producing fine fruit.—*M. T.*

The White Plume Celery has, by some, been greatly recommended; but I think in few localities it will be of much value for late supplies. With us it grew fairly well, and seemed to be true to its characteristics; but its tender habit will prevent its being extensively grown for late work. For a first supply it would be useful, and be easily blanched; but after October we should be sorry to depend on the White Plume. For an early well-doing white, none have ever pleased us better than Turner's Incomparable, a kind which was well received about thirty years ago: but now it has many synonyms, and among them the Sandringham may be named as a good type. As a red, none have ever been more serviceable than Major Clarke's.—*M. T.*

Early Asparagus.—It is notable that when Asparagus has to be forced early it should be grown in a warm early position, rather thin, and where it will ripen its crowns early and have a rest. Ours has behaved extra well in this respect this season, coming in strong and good early in October. For first supplies we never trust to home-grown, but have a few hundreds which have been prepared for forcing in the south of England. The same applies to Sea Kale and Rhubarb. The latter has not done so well this year as formerly, not having gathered a dish before the first week of December; Sea Kale coming in at the same time offers better.—*M. T.*

Cut Flowers.—Habrothamnus of sorts, especially aubletia and elegans, are of immense value as cut flowers at this season. Plants well established in pots, and placed in an intermediate house where air can be admitted freely, will give in the winter months flowers by the basketful. Rhododendron Nobleanum, once so fine in Scotland, is now difficult to procure with plenty of buds; but when grown specially for present use is of great value.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Climbing Plants.—Excepting Tacsonias which are almost perpetual bloomers, the greater portion of climbing plants will now have done flowering, and should be severely thinned by cutting out all shoots that are not absolutely required for furnishing the roof, as now the days are so short it is necessary to let in as much light as possible, without a full share of which the plants below will suffer and soon show signs of ill health.

Chrysanthemums.—The beauty of these has been prolonged to a later period than usual this season, but the bulk of the sorts are now fast fading, and as soon as they become shabby, ought to be headed down and stood or turned out of their pots and plunged in light rich soil in a cold frame, where, if kept protected from sharp frosts, they will quickly break around the crowns and afford strong cuttings or suckers for propagating from, and starting again. Late Kinds: There are, fortunately, many varieties of these, and they are even more valuable than the early bloomers, as they are only just coming in, and with care in keeping the atmosphere of the house dry and cool, will last in condition for weeks yet to come.

Heaths.—Although Heaths are not generally grown by amateurs, there are several sorts that are very easy to manage and of most floriferous habit; the best and showiest among them being E. hyemalis and E. Willmoreana, the first named coming in at this season and lasting during the greater part of the winter, and the other following on in the spring, while both set well with buds, may be bought for a very small sum.

Epacris.—These, too, are remarkably cheap, and with a little care in watering may be maintained in health for a number of years, but to have them in this condition they must be kept cool, as artificial heat, especially of a drying nature, weakens them much.

Azaleas.—These like a little warmth, and by affording them this, with moisture, by syringing them overhead, they will begin to swell their buds at once and come early into flower. For bringing on in this way, the varieties of A. mollis and other hardy Ghent kinds are most valuable, as, besides being brilliant in colouring, many of them are deliciously fragrant.

Rhododendrons.—There are many kinds of Rhododendrons that flower too early to open their buds and stand the weather out-doors, that are admirable for pots to embellish the greenhouse, and if these are obtained now, they will make a grand display by and by, as they lift with good balls and feel little or no check in removal.

Cytissus and Coronilas.—These are both desirable plants that any one can manage, and are very showy, as they bloom with great freedom even in a small state, the first named sending out long racemes of clear yellow pea-shaped blooms from almost every joint, and the other, rich clusters of the same pleasing hue.

Cinerarias.—It is time now that young plants of Cinerarias, that are intended to come in in the spring, should have their last shift, as nothing interferes with them so much, and causes such a stunt, as allowing them to become pinched at the roots, which checks their growth and forces them to flower prematurely; to prevent which they should be potted at once. The soil most suitable for this purpose is a mixture of good fibry loam and leaf mould with a little rotten cow dung and sand, and if potted moderately firm in this they will send up fine heads of blooms. The best place for growing Cinerarias in is a brick pit or frame, having a coal ash bottom, as they like plenty of atmospheric moisture, but to prevent the foliage damping, it is as well to stand the plants on inverted pots, which will allow of a fuller play of air among the leaves, and bring the plants up near the glass were they will get good light and keep sturdy and strong.

Calceolarias.—The same remarks apply to these, and the two will do remarkably well together, but as both are very tender, great care must be exercised to protect them from frost, the slightest touch of which will spoil the whole lot.

Primulas.—Primulas require a rather drier and warmer position, the most suitable situation for them being a shelf in the greenhouse, and as they are apt to go off at the collar, it is necessary to water carefully and not to pour it into the hearts. Plants that are fully grown and have filled their pots with roots will be much benefited by liquid manure, which, if weak, may be given frequently, and will add to the strength and size of the blooms.

Perpetual Carnations.—To flower these successfully during the winter, they must have a temperature of about 50°, and a light airy place, or they become drawn and the buds open weakly; but when favoured in the way referred to, the plants are sure to do well.

THE FLOWER GARDEN.

Frost, cold and cruel in its effects, has laid its icy hand on vegetation, and made the flower garden look bare, and as plants are in a tender condition after so much wet, and such a mild autumn, it will be necessary to take more than usual care to prevent them receiving harm from the cold. Fortunately, the snow in some places has been a little protection, but all things of doubtful hardiness will need more shelter than that affords, and the best that can be given for Tritomas, Pampas Grass, and other low-growing subjects of that class is dry leaves, which may be kept in position by sticking evergreen branches closely around them, and the crowns of the plants, which are their vital parts, are rendered proof against frost.

Tea and Perpetual Roses.—These may be protected in the same way, but first of all it is a good plan to mulch the ground with stable manure, and if this is light and long, and comes well up the stems, it will take a very hard season to injure them much.

Herbaceous Plants and Bulbs.—The best materials for keeping frost from herbaceous plants and bulbs are leaf-soil and cocoa-nut fibre, both of which are capital non-conductors, and a thin layer of either laid over the crowns will prevent the ground freezing and maintain the plants snug for the winter

Magnolias, Roses, or other climbers on walls can easily be sheltered by tacking mats up in front, which should be taken down again as soon as the weather breaks to let in the light and air to the branches.

THE FRUIT GARDEN.

Operations here must in a great measure be suspended from now till the frost goes, the only thing that can be done with comfort being the thinning out of orchard trees, and the scraping off of moss from their trunks and main stems, which is a very important matter, as with a parasite of this kind on the bark the health of the trees soon goes wrong, and they cease to yield fine fruit, which comes spotted and bad in the skin.

Currants and Gooseberries.—Many people fail to get good crops of these through the depredations of birds, sparrows being the most troublesome, which get on the bushes and eat out the buds; and especially is this so during the severe weather, the only way of keeping them off being either to net or syringe the bushes with lime-wash, the latter being the cheapest and easiest, as it may be put on in very quick time, and if fresh will stick during the whole of the winter.

Mulching.—The value of this to newly transplanted trees cannot well be over-estimated, and any that are without this most necessary protection, should receive it at once before frost reaches and damages the roots so lately disturbed.

THE VEGETABLE GARDEN.

Trenching and Turning-up Ground.—It would appear, from the change of wet to dry and cold, that winter is setting in, and as frost in its action is so beneficial to land, all vacant plots should be at once trenched or turned up rough, and left in that state in order that as much of its surface as possible may be exposed to the weather; but before this is done it will be necessary to wheel on any rubbish-heap stuff or manure that can be spared to work in, as by giving a dressing now it will be in a more fit state for the plants to feed on after it becomes decomposed and well mixed up with the soil.

Broccoli.—Some of the early kinds of these will now be getting in a forward state, and any that are turning in will need protection, the best way of managing with them being to take the plants up and heel them together in a border or other sheltered spot where they can have litter or clean straw thrown over them to ward-off the frost.

Cauliflowers.—Young plants of these should either be pricked out in a cold frame or potted singly in small pots, the latter being the better plan, as then they may be transferred to the open quarters in spring with good balls without feeling a check, but in either case they should be kept well up to the glass and have plenty of air, that their growth may be sturdy and strong.

Celery.—Sharp frost is fatal to this, and to prevent injury it will be needful to earth-up closely, nearly as high as the tops, and to have in readiness to put on along the ridges some straw, which will lie light and make the plants safe.

Cabbages.—The best way of dealing with these at this season is to run the hoe by the side of the rows and draw a little earth up to the stems of the Cabbages, which will steady them against wind and protect them from severe weather, but if slugs are troublesome a sprinkling of soot and lime-dust should precede the work mentioned.

Parsley.—This is always in request, and a good plan of keeping a plentiful supply is to tack three boards together so as to form a long box-like cover that may be placed over a row of plants by night and lifted off again in the day, or if the Parsley is growing in a bed it may be sheltered by hand-lights or any old frame.

Rhubarb and Sea Kale.—The easiest way to get early Rhubarb and Sea Kale is to take the roots up and force them by placing them on fermenting material in a pit, where they can be covered and kept dark, as then both come well blanched and are sure to be of delicate flavour.

The American Exhibition.—It is announced that Governor T. M. Waller, the popular United States Consul-General in London, has been appointed one of the Vice-Presidents of the General Council of the forthcoming American exhibition to be held in London.

THE ORCHID-GROWERS' MANUAL.*

THOSE who are acquainted with the previous edition of *The Orchid-growers' Manual*—and who among Orchid-growers at home or abroad is not acquainted with it?—will find in Mr. Williams' sixth edition book they have long been anxiously waiting for. At last it has come, and in such a form as to call forth unbounded satisfaction, the new edition before us being so much larger, so much more ample in all its details, and so much better in all respects than the old one, that we have no doubt that all who have hitherto regarded the old edition as their greatest friend and counsellor in Orchid matters will respectfully lay it aside and immediately take to its successor, which, apart from the many improvements which its author has introduced, in the ordinary course of events naturally contains references to innumerable new and re-introduced plants which it were not possible to enumerate and describe before.

"Practice makes perfect," and Mr. Williams is an old practitioner, both as a cultivator of Orchids and as a writer about them, and the result is that in his new edition of *The Orchid-growers' Manual* he has succeeded in putting before the public a work which, regarded from any point of view, is as near perfection as it is possible to attain. In it the general principles of Orchid culture are clearly laid down, and instructions given on every conceivable subject connected with Orchid cultivation, viz., their management during the growing and resting seasons; the building, heating, and ventilation of the houses; the collecting and treatment of newly-imported Orchids; their management while in bloom; potting and basketing, with illustrations of baskets and rafts; watering Orchids; their propagation by severance and by seeds, the latter method being interestingly illustrated; the exhibiting of Orchids; the best means of keeping them clean and destroying their insect enemies, &c. Enough of this purely cultural matter is given to form a sufficiently good book if published separate, and the really handsome volume is made up to 660 pages by a careful enumeration and description of the best species and varieties of Orchids; the countries from which they come, and their synonyms; the whole being brought up to the end of the year by the introduction of all the novelties which have appeared up to the present time.

Another and more marked improvement is introduced into the present edition, and of it Mr. Williams in his preface says:—"One of the most marked features of the new edition, is the copious series of references we have given to figures of the plants, mostly coloured ones, and for the most part published in works which are generally available at the present day. These references will, we anticipate, be a source of great interest to many among those of our readers who may have access to a botanical library. The figures quoted are not of equal merit, but they will all serve to clothe the dry bones of a mere description with some indications of the beauty of the plants." In these remarks Mr. Williams speaks truly, for many of the figures of the Orchids are gross caricatures made from the first flowered plants and before the beauty of a well grown specimen was known; but for many reasons, general and scientific, Mr. Williams has done well in spending so much time and taking so much pains in hunting up and testing references for the plants he so ably describes.

The work is admirably got up and printed, profusely illustrated throughout, and handsomely bound, the lively green of the covers being impressed with the likenesses of an Oncidium varicosum, an Odontoglossum Alexandræ, an Anætochilus, and a Cypripedium caudatum in black and gold The volume as a Christmas present or new year's gift would gain the affections of any Orchid grower, and go far to make an Orchid cultivator of any one owning a garden. Perhaps the least needed of all his remarks in the preface, is that in which Mr. Williams says, "the matter having so greatly increased since the publication of the last edition, that having regard to our efforts to make it as perfect as possible, we have been compelled to raise the price." To this we can only say that we advise our readers to procure the book, and if they are not satisfied with the price in comparing it with the old editions of the same and with other works, we shall consider them very difficult to please.

* THE ORCHID-GROWERS' MANUAL, 6th edition, by B. S. Williams, F.L.S., F.R.H.S. London, 1885.

CHRYSANTHEMUMS IN THE WEST.

CHRYSANTHEMUMS are certainly increasing in public favour in the western counties, and I am glad to hear that there is little doubt about this in the north. Three shows have been started in Somerset during the last five years; namely, at Taunton, Yeovil, and Street, and each has been a decided success. The fair city of Bath still holds the palm in the county, but the two places first named run it very close. It would probably be within the limits of strict fact to say that three plants are now grown were one was grown five years ago. Nor is this all. Local growers note very carefully the reports in the horticultural press, and select new sorts in the most judicious fashion. So, while they stick religiously to certain old and well-tried favourites, there is a constant importation of new varieties, and a steady improvement in general quality.

Some of the most enthusiastic growers also find their way to the Crystal Palace, Kingston-on-Thames, and the Aquarium, and thus take home a host of hints, which gradually find their way amongst their friends and neighbours. The result is soon seen in improved size and quality of bloom, as well as in the general culture of the plants. While this is most gratifying, from a professional point of view, it is eminently satisfactory in another way. It pleases employers, and increases the number of Chrysanthemum growers. Several illustrations of this have come under notice during the last two years. Two will suffice—in one, an employer was so pleased with the improvements effected by his gardener, that he gave him every facility for growing, and became a liberal subscriber to local shows. In the other, the zeal of one lover of the "'mums," who has liberally distributed cuttings and old plants, has woke up a whole district—gardeners and cottagers alike.

It has well been said that "the Chrysanthemum is everybody's flower." Gardeners who have the genuine enthusiasm of a florist now grow them of such a size that the committee of the National Chrysanthemum Society will certainly have to increase the dimensions of show boxes, while for variety of colour and shape, and other interesting features, few flowers beat it. Then, again, how invaluable it is to those persons who have only a cold house for plants. I know a case in which there was scarcely a bloom of any kind to be had for three months during the year. Now the dull time is nearly tided over by Chrysanthemums, and the young ladies of the family rejoice in an abundance of flowers. It would be a grand thing for many a struggling and anxious country gardener if you would some day give an illustration of a Kingston prize group, and of the kind of individual plants that form such groups. The first, with accompanying letter-press, would be an object-lesson in the art of arrangement, showing how to produce the best possible effect in a limited space. The second would give an idea what splendid plants could be grown in 7 in. or 9 in. pots—strong sturdy stems, about 2½ ft. to 3 ft. high, feathered to the rim of the pot with grand green leaves, and bearing three splendid blooms worth three dozen of the tiny characterless things one so often sees. One great advantage about Chrysanthemums is that amateurs can get a start at a very cheap rate—cuttings of first-class sorts being sold at 2*s.* to 3*s.* a dozen.—*C. T.* [Our correspondent's hint shall not be forgotten.—ED.]

SUBURBAN GARDENS.

I have great pleasure in sending you the plan of a moderate sized suburban garden of about 1½ acres in extent, such an one as is often required by business men within easy reach of train, tram, or 'bus and in accordance with the size and style of houses that we see in course of erection in all directions. The plan, I may add, has been carried out in the north of London, within ten miles of the city, with the most happy results. It was commenced some six years since, and has been finished during the past season, although not yet quite to the exact detail shown.

The house is placed to the left, which is rather an unfortunate circumstance, but that was through the ground being cut up into building plots. and the house having been built before the adjoining plots, which reached to the right as far as the line of Austrian Pine and Chestnut trees, was purchased by the present owner and laid out six years ago. Last year the third plot was added and laid out in the manner shown. It often happens that these supposed drawbacks or obstacles tend to increase the beauty of a garden, in suggesting to the cultivated and practical landscape gardener many things which would not otherwise have come under his notice. This particular instance is no exception to that rule; when the garden was first laid out a definite plan was prepared, as we have before recommended, the same being well considered as to the probability of further building on adjacent plots, taking place at no distant date. The drainage was also well provided for, and in fact everything was done in the best possible manner to give the best and most pleasing results, which, as was anticipated, has turned out to be the case, the garden being now one of the prettiest and most enjoyable in the neighbourhood. The surface soil is a light loam on a gravelly clay sub-soil, admirably suiting all kinds of vegetation.

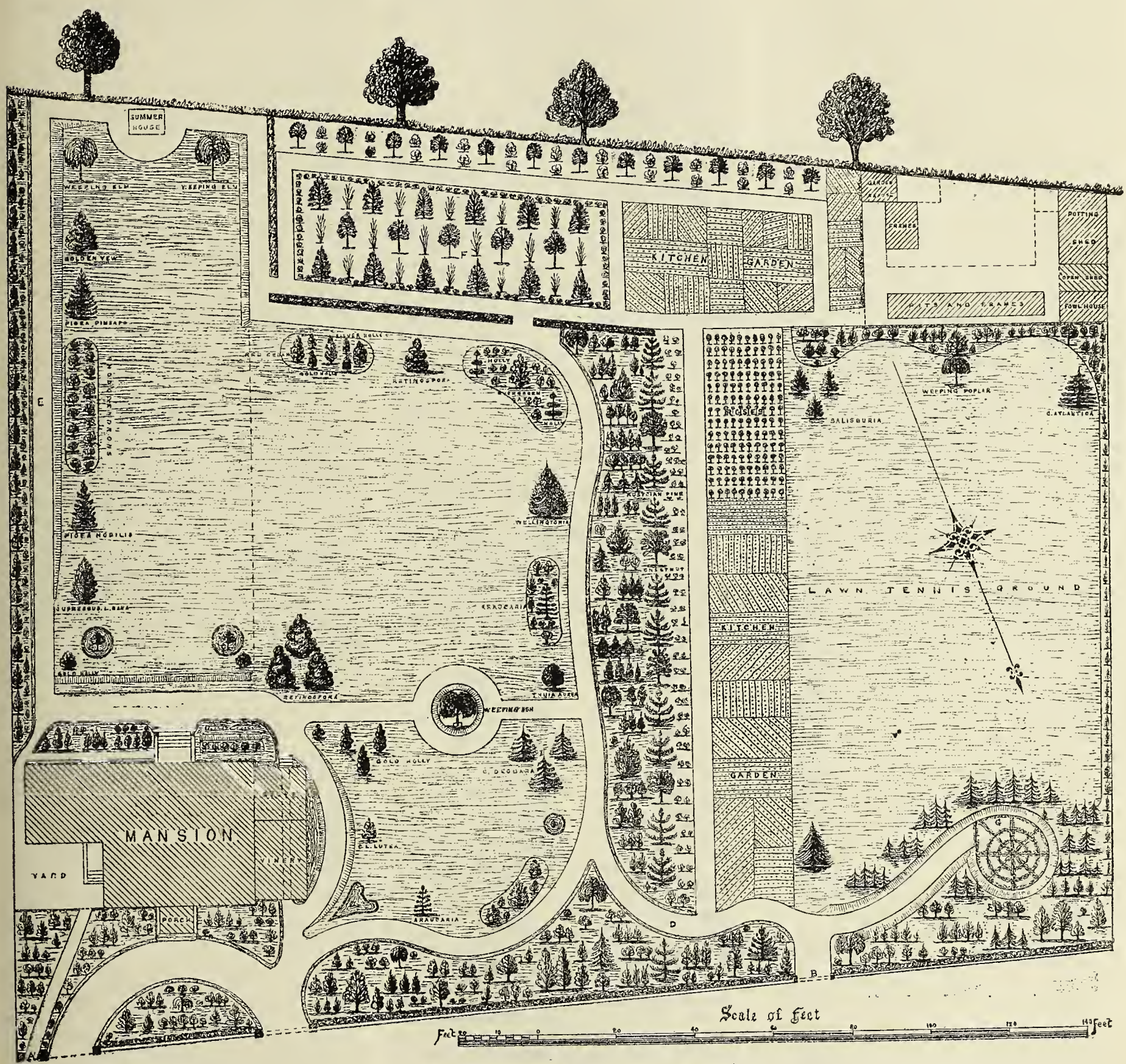
The house is approached from the road by a double carriage entrance, tradesmen's side entrance at A, and a garden entrance at B. A nine inch wall, 2 ft. high, of white brick to match the house, runs the whole length of the northern boundary, next the road; this being surmounted with a green Holly hedge, 4 ft. high, and 2 ft. thick, with here and there an occasional head carried well above it, a few of which will be budded with gold, silver, and ornamental green varieties as soon as they are of sufficient size. The shrubs and trees which were used in planting, number more than 200 species and varieties, and in addition to the usual kinds generally met with, the following may be mentioned:—Abies Albertiana, A. Douglasii, A. Smithiana, Biota orientalis elegantissima, B. orientalis semperaurescens, Cephalotaxus Fortunii, White Cedar, green and variegated Cryptomeria, Cupressus in variety, Fitzroya patagonica, Junipers in variety, Incense Cedar-Larch, Silver Fir in variety, Pinus in variety, Retinospora in twelve varieties, Yews in variety, Thujopsis borealis and dolobrata, Azaleas, Andromeda, Strawberry Tree, Aucuba in six varieties, Berberis in variety, Buddlea globosa, Box, Ceanothus azureus, Laurels in six varieties, Gum Cistus, Daphne, Hardy Heaths, Escallonia, Garrya elliptica, Gaultheria Shallon, Griselinia littoralis, Pampas Grass, Hypericum, Hollies in great variety, Kalmia, Sweet Bay, Japan Privet, Magnolia, Osmanthus, Pernettya, Phyllyrea, Photinia, Evergreen and other Oaks, Raphiolepis, Ruscus, Rhododendrons in good named varieties, Skimmia, Spartium, Ulex, Vincas, Yuccas in variety, Acers in variety, Cornus, Ailantus, Almonds, Amelanchier, Allspice, Catalpa, Bird Cherry, Cytisus, Deutzia, Tree Ivies in variety, Purple Beech, Forsythia, Genista, Snowdrop Tree, Hibiscus in variety, Leycesteria, Tulip Trees, Tree Honeysuckle, Herbaceous and Tree Pæonies in variety, Syringa, Prunus, Acacia, Pyrus malus floribunda, Ribes, Variegated Elders, Spiræas in variety, Bladder Nut, Snowberry, Lilac, Guelder Rose, Weigela, Weeping Poplars, Willows, Elms, Birch and Ash.

A good variety of creepers are planted against houses and other places, such as—Ampelopsis, Clematis, variegated and ornamental Green Ivies, Jasmine, Passion Flowers, Roses, Wistaria, and variegated, green and Dutch Honeysuckle. It is not remarkable that, with such a variety as we have above indicated, all of which thrive to an amazing degree—the monotony so prevalent in most planting, should be avoided, as in no two parts of the garden are the same kinds visible, and at the same time they secure an agreeable mixture of evergreen, deciduous and flowering varieties, which, even in winter, is sufficient to furnish the owner with something pleasant to behold, instead of bare borders. One more advantage in having such a variety is, that at no time, either in the hottest months in summer, or the coldest months in winter, is the garden without flowers, not upon the hardy herbaceous, bedding out, and such like plants and bulbs, of which the garden is well stocked, but upon the trees and shrubs already alluded to, and many of their flowers and fruits rival in colour, form and interest the more tender kinds in the conservatory. After the Roses, Rhododendrons, Lilacs, Almonds, and such like, follow the Andromeda, Arbutus, Azalia Buddlea, Ceanothus, Gum cistus, Garrya, Japan Privet, Pernettya, Skimmia, Ulex, Allspice, Forsythia, Prunus triloba, Leycesteria, Pyrus malus floribunda, Tree Honeysuckle, Hibiscus, all of which flower abundantly. It should also be mentioned that the interest taken by the present generation of gentlemen in gaining a knowledge of the names of trees and shrubs, was, in this instance, thoroughly demonstrated; every tree, shrub, creeper, and in most instances the herbaceous

plants being marked with a galvanized iron consecutive number, which corresponds with the same number attached to a written list kept by the owner, who, on reference to this list, can at all times ascertain for himself the name of any tree or plant growing in his garden. In the kitchen garden (where marked "Roses" on the plan) are planted about 100 varieties of the best sorts of Standard Roses, this method of planting being preferred by some, as the ground can be better prepared and attended to, the ground in this case being composed can be procured to lay turf instead, as it gives a much earlier and firmer bottom, and is generally preferable to waiting a season for seed.

At F. is planted four lines of pyramid and standard Apples, Pears, Plums, and Cherries, and between them Raspberries, Currants, and Gooseberries with an edging of Strawberries. On the north and east sides is a neatly clipped Yew hedge, and on the south side running the whole length of the grounds is a green holly hedge with old Oak trees as shown, the adjoining property on against the east boundary as shown. The Pines being now 8 ft. to 9 ft. high have already a very pretty effect.

The kitchen garden is in the position marked, having been well trenched 2 ft. deep with plenty of manure added. A Vinery and plant stove are built against the house, the heating apparatus being well concealed out of the way. The Vines are planted inside, with liberty for their roots to travel outside. They have made, since planting, rapid strides, filling the whole available space, and this year carried over



Plan of a Suburban Garden in the North of London.

of good maiden loam, without manure, to the depth of 3 ft.; the manure to be applied as a top dressing in summer, and well watered in.

It was never intended to have any flower garden, strictly speaking, but to plant bedding plants, bulbs, and annuals in the shrubbery beds and borders, the one heart-shaped, and three circular beds C.C.C.C. alone being planted with bedding plants. This system has answered well. The ground is naturally undulated throughout; it is highest at D. and lowest at E., the Lawn Tennis ground slightly falling from north to south. The lawn was sown down with grass seed, and is now a fine turf, but it is perhaps better where turf this side being meadows, which are over-looked from the house and grounds.

At the termination of the serpentine path at G., the ground is hollowed out, drained, and gravelled, and creepers planted all round and carried up the sides and across the top on iron supports, and are allowed to hang down at will, making a cool retreat for summer afternoons, admitting the air and light, but shielding the bright sun; the owner suggesting that the black Spruce Fir should be the only tree used in planting round this spot. A line of Lombardy Poplars is planted, alternately with evergreen shrubs against the west boundary fence, and a line of Pinus cembra 200 bunches of fair average size and good quality, the sorts being Black Hamburgh and Foster's White Seedling.

Potting-shed, pits, frames, &c. are placed in a yard at the south-west corner, the ground being so lowered and the buildings so arranged, that it is impossible to see them from any part of the garden, yet they receive the sun and air, and at the same time are protected from winds on all sides. Plenty of rain-water collected from the buildings in a large tank capable of holding a constant supply is held in reserve for the dry summer months.—*T. Bevan*, 31, *Park Rise, Dartmouth Park, N.W.*

THE PEAR CONFERENCE.

We have received from the Secretary of the Royal Horticultural Society the following abridged statement taken from the full report of the Pear Conference recently held at Chiswick, and which is not yet sufficiently advanced for publication. This extract will, however, serve the purpose of disseminating useful information to intending planters during the present season, and it is with this object that the Council have decided upon giving it the earliest possible publicity. The report has been skilfully prepared by Mr. A. F. Barron, and we shall look forward with interest to the full report whenever it is ready.

The selection of the present season for the holding of a great exhibition and conference on Pears in succession to that on the Apples in 1883 proved to be especially propitious, the crops of Pears throughout the country being in general very abundant and good. The cold dry summer was not specially favourable for the growth and development of Pears, and in many instances the fruit was much smaller than usual, especially of the earlier varieties. The later varieties benefited greatly by the autumnal rains, and proved in general of a fair average character.

The response to the invitation issued by the Council proved of the most satisfactory character, the number of Pears sent in for exhibition far exceeding the most sanguine expectations of the Committee, the exhibition being not only great in extent, but in all respects a truly representative exhibition of nearly all the varieties of Pears known or cultivated in this country. The total number of exhibitors taking part in the Conference numbered 166, contributions being received from thirty-five of the English counties, also from Scotland, Ireland, Wales, and the Channel Islands, the total number of dishes or different lots of Pears staged numbering 6,350. In addition, several large and meritorious collections were received from France, which proved of great interest.

Counties.	No. of Exhibitors.	No. of Dishes.
Bedfordshire	1	63
Berkshire	4	66
Buckinghamshire	4	213
Cambridgeshire	1	13
Cheshire	2	82
Cumberland	2	2
Derbyshire	2	26
Devonshire	5	311
Essex	5	294
Gloucestershire...	2	157
Hampshire	2	111
Herefordshire	7	310
Hertfordshire	5	451
Huntingdonshire	1	39
Kent	11	486
Lancashire	2	83
Leicestershire	1	53
Lincolnshire	4	121
Middlesex	19	638
Monmouth	1	58
Norfolk...	4	98
Northamptonshire	2	72
Nottinghamshire	4	173
Oxfordshire	1	41
Rutland...	1	28
Shropshire	1	63
Somersetshire	1	69
Staffordshire	2	58
Suffolk	2	36
Surrey	17	622
Sussex	8	338
Warwickshire	2	42
Wiltshire	6	176
Worcestershire...	5	234
Yorkshire	2	69
Scotland	16	415
Wales	6	103
Ireland	2	30
Guernsey	2	33
Jersey	1	74
Total	166	6351
France	2	262

The total number of reputedly distinct varieties of Pears exhibited subsequent to the corrections made by the Committee amounts to 650.

An audit taken of the whole of the varieties exhibited gives the following results as to the most favoured or popular varieties, Beurré Diel, although only a second-rate Pear, standing at the top of the list, having been exhibited 194 times; Marie Louise being placed 2nd, 155 dishes of which were shown; and Louis Bonne of Jersey 3rd, 132.

List of Fifty Pears Exhibited the Greatest Number of Times.

	No. of Dishes.		No. of Dishes.
Beurré Diel... ...	194	Knight's Monarch..	73
Marie Louise ..	155	Ne Plus Meuris ...	73
Louise Bonne of Jersey	132	Beurré d'Amanlis...	72
Duchesse d'Angoulême	121	Beurré Superfin ...	70
Winter Nellis ...	121	Pitmaston Duchess.	69
Passe Colmar ...	118	Uvedale's St. Germain	68
Josephine de Malines	113	General Todtleben..	67
Bergamotte Esperen.	112	Counseiller de la Cour	61
Beurré Rance ...	108	Beurré Bosc ...	57
Catillac	108	Thompson's ...	56
Beurré Clairgeau ...	106	Napoleon	55
Doyenné du Comice.	103	Marie Louise d'Uccle	53
Beurré Capiaumont..	86	Glou Morceau ...	53
Beurré d'Aremberg..	80	Van Mons. Léon Leclerc	51
Vicar of Winkfield..	78	Huyshe's Victoria..	50
Chaumontel ...	77	Gansel's Bergamot..	50
Beurré Hardy ...	74	Baronne de Mello...	50
Beurré Bachelier ...	74		
Comte de Lamy ...	73		

In regard to the nomenclature, each of the collections exhibited were carefully examined by the Committee, and corrections made where considered requisite. Errors of judgment may in some cases have occurred, due to the altered appearance the same fruits often assume under different conditions, &c. Some others may have been overlooked, or their proper labels have got misplaced. Every endeavour was, however, made to secure the most correct nomenclature possible. The corrections made by the Committee have in all cases been sent direct to the exhibitors. A pleasing feature noted by the Committee was the general correctness of the nomenclature.

On a general examination of the whole of the collections exhibited, and noting the more prominent varieties in each, the following list has been prepared—viz.,

Sixty of the most Prominent Varieties of Pears Exhibited at the Conference.

Alexandre Lambre	Josephine de Malines
Bergamotte Esperen	Jersey Gratioli
Beurrè Alexander Lucas	Louise Bonne of Jersey
,, d'Amanlis	Madame André Leroy
,, d'Anjou	,, Trevye
,, de l'Assomption	Marie Benoît
,, Bachelier	,, Louise
,, Baltet, pére	,, ,, d'Uccle
,, Bosc	Nouvelle Fulvie
,, Clairgeau	Olivier de Serres
,, Diel	Passe Colmar
,, Hardy	,, Crassane
,, Rance	Pitmaston Duchess
,, Spae	Princess
,, Sterckmans	Souvenir du Congres
,, Superfin	Suffolk Thorn
Chaumontel	Thompson's
Comte de Lamy	Urbaniste
Conseiller de la Cour	Van Mons. Léon Leclerc
Doyenné Boussoch	Williams' Bon Chrêtien
,, du Comice	Winter Nelis
Duchesse d'Angoulême	Zéphyrin Grégoire
Durondeau	
Easter Beurré	Stewing Pears.
Emile d'Heyst	Bellissime d'Hiver
Flemish Beauty	Catillac
Fondante d'Automne	Gilles ô Gilles
Gansel's Bergamot	Grosse Calebasse
General Todtleben	Uvedale's St. Germain
Glon Morçeau	Verulam
Huyshe's Bergamot	Vicar of Winkfield.

Of modern Pears or varieties, although not new, which are not yet in general cultivation, the committee made the following selection, which are highly recommended for good quality, both in flavour and bearing properties—viz.,

	Season.
Beurré Giffard	August
Madame Treyve	September
Summer Beurré d'Aremberg.	,,
Clapp's Favourite	,,
Pitmaston Duchess	October, November
Beurré d'Anjou	November
Beurré Baltet, pére	,,
Emile de Heyst	,,
Marie Benoist	January
Nouvelle Fulvie	,,
Beurré de Jonghe	,,
L'Inconnue (Van Mons.) ...	,,
Duchesse de Bordeaux... ...	February
Passe Crassane	,, March
Olivier des Serres	,,

Varieties recommended by Committee for growing for market purposes:—

	Season.
Beacon	August
Fertility	September
Souvenir du Congrès ...	,,
Marie Louise d'Uccle ...	October, November
Durondeau or de Tongres ...	,, ,,

Of new varieties, the Conference Pear exhibited by Messrs. Rivers and Son (season, October) was awarded a First Class Certificate.

In the collection of varieties exhibited from France, and not yet proved in this country, the Committee recommended the following as worthy of introduction:—

	Season.
Beurré Dumont	October
Madame André Léroy ...	November
President Mas	,,
President d'Osmanville ...	,,

No list of the worthless varieties has been prepared, it being deemed sufficient in this report to notify those that are worthy of cultivation.

Without entering into comparison of the merits of the different collections exhibited, it is important to notify this fact—that the cultivation of good Pears is not confined to any particular climate or district of the country. If we take the magnificent examples from M. Joshua Le Cornu of Jersey as the result of good and careful cultivation, we have their equals produced by Mr. Haycock and by Mr. Thomas in Kent, and closely followed by Mr. Wildsmith in Hampshire, and Mr. Breeze in Sussex. Many other single examples throughout the exhibition were equally meritorious. No one failed to remark on the excellence of the examples from Lord Chesterfield in Herefordshire, or those further north still from Mr. Dalrymple, St. Boswells, Scotland, which were probably the most meritorious of all. Nothing contributed so much to these successful results as good and careful cultivation. As a general rule, the best fruits are produced where the greatest care is bestowed. An important factor in the successful cultivation of the Pear is, as gathered from the returns, in the use of the Quince stock, which, from its close surface-rooting character, is more directly amenable to the attentions of the cultivator.

A general detailed report is in course of preparation, but which will necessarily take some time. This will contain the cultural and other notes supplied by the various exhibitors and the selections of varieties made by them; also a short descriptive catalogue of the whole of the varieties exhibited.—*A. F. Barron, Secretary to the Committee.*

FUNGOLOGY.

I fear that this appellation of a section of natural science is somewhat sarcastic, as gardeners, at least, have never found much pleasure or amusement in the study of Fungoids, or reading essays upon their forms. How we got on in our gardens prior to the resurrection or resuscitation into life of this Fungoid science, it seems hard to say; the more we know or read about it the more we marvel that gardening exists. The great plagues of old Egypt seem to have been but playthings to the terrible Fungoid ravages, with the terrible Fungoid names which seem to afflict all forms of vegetation.

Every day seems to bring to light some new parasite or Fungoid epiphyte, or other mouldy old man of the sea, riding with blighting and terrible effect upon the shoulders of some once bright and healthy element in our vegetable life. It is not quite certain whether we have not reached, in vegetable life, a kind of purgatorial stage, for all things seem to be passing through a species of Fungoid pilgrimage, out of which few can hope to come unscathed. That some of these parasites are of great power for evil, we have seen in the recent history of the Potato, the Vine, the Hollyhock, and some few other plants. Happily, these so far have been able to weather the storms of fungoid fury, and have come through the encounters apparently little the worse; some other fungoid afflictions seem too trifling to merit much attention, and if the minds of already sufficiently troubled gardeners had never been called to them, they would probably have been content to remain none the wiser. Perhaps the worst forms of these fungoid attacks after all are found in printed essays. Certainly, these must prove the most profitable method of dealing with them.—*W. M.*

CUCUMBERS IN JUNE.

In reply to your correspondent, "J. F.," who asks for instructions at p. 238 as to how to grow the plants so that he can cut Cucumbers in June, I may say that he should sow, at the end of February, seed of Rollisson's Telegraph singly in 3-in. pots, having a few pieces of small crocks in the bottom, over which a few half-decomposed leaves should be put for drainage, and two-parts filled with light rich compost, covering the seed with a little of the same kind of compost, then plunge the pots to the rims in sawdust or leaf-mould in a box sufficiently deep to allow of a square of glass being placed over it without touching the pots, and place it on the pipes in his house.

After an interval of a few days the plant, if the seed is good, will appear through the soil, the box should then be placed near the glass to prevent the seedling plants from being "drawn," and as soon as they have attained to the height of 2 ins. they should be top-dressed with soil of the same description and temperature as that in which they are growing; care being taken in doing so not to press the stems of the plants, as that would be likely to injure them in their then stage of growth.

They should be afterwards either planted on a bed in the house, if there is one, or shifted into larger pots before becoming pot-bound at the roots, putting a stick to each plant for support, and applying tepid water at the roots sparingly until the latter have pushed well into the soil, after which more liberal and frequent supplies should be given. In shifting the plants do not bury the stems of the individual plants any deeper in the soil in the large pots than they were in the smaller-sized ones.

Five plants will be sufficient to fill your correspondents house of 15 ft. in length, and if they are intended for fruiting in pots, the larger the latter are the better it will be for the plants and the crop; the pots should be well drained. Doubtless the information necessary to their proper after-treatment will be given in The Gardening World in due time.—*H. W. W.*

FRUITS, FLOWERS & VEGETABLES.

The Lady Downes Grape.—This Grape does not keep so well when grown in a cool house as when treated to a Muscat temperature. The writer has had experience of some Lady Downes, which, though much blacker and more heavily bloomed than others grown in a much higher temperature, do not keep so well, invariably showing signs of shrivelling in December, while the less black and more lightly bloomed ones treated to a higher temperature keep well till April. Good colour and bloom are generally considered signs of perfection in Grapes, and generally, we may say such is the case, but Lady Downes seems an exception to this rule. A cool temperature and plenty of air seems to be favourable to the production of good colour and heavy bloom, but the qualities that go to make Lady Downes such a grand keeper, seem to be developed more perfectly in a stronger heat, and proportionally less air. In the latter case, colour and bloom seem to suffer, but the keeping qualities are developed to a satisfactory extent, and after all that is the great thing in Lady Downes.—*J. T.*

Gladiolus Saundersii.—This is one of the most distinct forms in this family. The three upper petals are of the same length, the centre one erect, the two side ones very much recurved; the lower petals are of unequal length, the two side ones very much recurved; the colour is a bright salmon-scarlet, the bottom portion of the three lower petals white, covered with remarkably even spots brighter in colour than the body of the flower, and so forms a very remarkable and telling plant well worthy of cultivation.—*W. E.*

Poinsettias flowering during the dullest months of the year, afford the most brilliant adornments of our stoves and drawing-rooms during the festive season now so close at hand. Having successfully grown a batch of them by methods somewhat out of the beaten track, I was thinking of writing to you about them, when I saw with great pleasure the admirable paper by "J." at p. 229. At the first glance I thought I would defer what I had to say on the subject till another time; but as my *modus operandi* has been somewhat different from that described by him, it may be of use to some of your readers at a future time. Always reluctant to throw anything away that may be of use, at the beginning of last July I found I had on hand a number of Poinsettia rods of last year's growth, stowed away in a box with a few handsfull of dry soil, they having been shaken out of their pots in the month of March and left with just sufficient soil to keep life in them, and placed under a Vinery-stage. During the first week of July they were cut down to the first eyes from the roots, and the latter were trimmed back to within 2 ins. of the stem. Then we potted them into 48-sized pots, using a mixture of soil from a Melon-bed with about one-half of well-decayed leaf-mould, using the compost in a moderately moist condition, and giving no water at the time of potting. The pots were plunged on a Vine-border up to their rims, and the surface mulched with short grass from the lawn. No watering was required till they had well broke. They remained there till the first week in August, when finding the nights abnormally cold, we put them on a gentle hot-bed, but without any protection. They made stiff deep-coloured growth while there, and about the first week in September they were shifted into a brick pit with a slight bottom-heat, the air being kept on night and day, and the lights removed on all favourable occasions till the end of September. From then till their removal to their present quarters in the second week of December, they had the benefit of a slight amount of fire-heat; but with this the temperature must have often, for days together, have been below 50°. They are now a promising lot of plants, varying from 9 ins. to 20 ins. in height, with plenty of green healthy foliage, and will give good average heads of bracts from Christmas and on into the new year. They are now kept in a temperature of from 55° at night to 65° in the daytime, and syringed on all favourable occasions. From the time the pots were filled with roots they have had occasional waterings of liquid manure made with cow-urine, and a healthier lot of stuff could not be wished for.—*W. B. G.*

A useful Kitchen Garden Label.—There are few more useful things than a thoroughly good kitchen garden label, for correctly labelling the subjects grown in this department is an important point. These labels should stand 12 ins. above the ground, be written in a legible hand, and state the time of sowing, planting, and from what firm the seeds came, so that all the information wanted may be had in the proverbial nut-shell, and on the spot. We have tried numbers of different labels, but we find none so useful, so come-at-able, and so easily made as those made from Lime-stakes. They are about the thickness of a man's wrist, cut into 16-inch lengths, pointed at one end, and the plane run over the other. You then have a label after being painted, which is a real pleasure to write upon.—*R. Gilbert, Burghley Park, Stamford.*

Christmas Roses.—My plants of Christmas Roses potted up in October from the open ground, are throwing up, in some cases, from forty to sixty flowers, each as white as snow. It is the variety known as angustifolius, the whitest of all, and the blossoms in their charming purity look like the flowers of some hardy Eucharis. They will be in admirable form just at Christmas, and will come in with Holly and Misleto to grace that festive season. My Christmas Roses do not receive a particle of help from artificial heat; a few days since they were frozen hard, but no ill effects have come from it. So many persons might grow some flowers in this way, by having a dozen or so strong clumps, but let them take care that they obtain the right variety, the one named above; and let them also have a small piece of reserve ground in which there is some good loam, to plant out the clumps in, as soon as possible in early spring, when frosty weather has passed away.—*R. D.*

Japanese Chrysanthemums in the open Air.—Hybrid Pompones.—In trying to reply to "Cerilla, Hammersmith," I must commence by acknowledging the courtesy of his remarks. I say "trying to reply," for hitherto, until within the last few years, I have principally grown incurved, reflexed, and the hybrid Pompones; which last, by the way, I greatly regret to find are going out of cultivation, and rarely now seen at shows. Mr. Cannell used to give them a separate section in his *Floral Guide*, but even this distinction, neither he, nor Mr. Davis, continue to make. For open air purposes, that is for cutting and decoration, no others can come near them in perfectness of blooms, or the quantities produced. The run now is on size, and if a variety is not capable of producing a bloom as big as a mop, it is incontinently thrown aside; at least, I cannot remember more than one certificated within the past two years. There are numbers of private individuals raising seedlings at present, and, if the National Chrysanthemum Society does not extend its patronage to this class, many good things, past and present, may get lost. I commend the point to the notice of the Editor, and I do so from the point of view that I look forward to a great extension of the growth of Chrysanthemums in the open air, and as those hybrid Pompones are specially suited for the purpose, it would be a pity were they lost to cultivation. I admire Mr. Molyneux, the champion grower, all the more since he told one of his interviewers, that he was as proud of his Chrysanthemums in the open air, as of those indoors. So long as people are ashamed to speak of growing Chrysanthemums of any kind out doors, and are satisfied with one large bloom, instead of fifty, their culture must perforce be restricted to the affluent, instead of gracing the walls of every villa and cottage, and November and December must be dull, drear, and gloomy, for all but the wealthy. Without digressing in that direction further, I am afraid your correspondent, if under the influence of London smoke and fogs, cannot produce blooms so clean and bright as those I sent on from the country, and this applies still more to his favourite Japanese. He wants of a bright clear yellow, presumably to bloom early—if so there is nothing better than L'Or du Rhin, dwarf and free; Madame Desgranges, one of the best, early, is white indoors, and light yellow in the open air. Later, that splendid yellow Comte de Germiny, with a shade of bronze. He might also try Mandarin, though that and such thread-like ones as Agrement de la Nature, bright amber, retain moisture rather too much; La Rouge or Henry Jacotot, of that colour, might answer better. As a lilac-rose, better than James Salter is Daimio, but only blooming now; grow both, and add Dr. Macary, Cry Kang, and Clythe, for variety. The best rose-coloured early for cutting I know is Alexander Dufour. To reds, add Bacchus, L'Admirable, and Margot, with Reverie, and S. Delaux, for a change grow Maid of Guernsey, and Lady Selborne, to succeed Elaine.—*W. J. Murphy, Clonmel.*

Notes from Flete, South Devon.—Looking through the many glasshouses at Flete the other day I noticed a very fine lot of Calanthes, Veitchii and vestita, the former carrying forty expanded and unexpanded flowers on a spike, and the latter over two dozen on a spike; also a fine piece of Phalænopsis grandiflora in bloom. I also noticed in the intermediate house several good specimens of Clerodendron Balfourianum laden with their showy flowers, and this is the second time they have flowered this year, so Mr. Salway, the head gardener, informed me. A fine plant of Anthurium Andreanum bore six large spathes, and several plants of Ixora Duffii, carried immense heads of bloom, and proving very attractive at this dull season of the year.—*James Mayne, Stowford Lodge, Ivy Bridge.*

Judging Chrysanthemums.—Many of the so-called errors of judges really arise from the indefinite wording of schedules. Mr. Molyneux could write an interesting article on this subject, as I have heard him relate his experiences. But many others might easily be avoided by the adoption of a short code of rules, applicable alike to all shows. Would it not be well for the National Chrysanthemum Society to insist on some such plan in the case of all affiliated societies? In classes were their medals are competed for such a course is already imperative, and helps to give the awards their full value. The case referred to by "Exhibitor," on p. 202, could not have arisen if No. 5 of the "general conditions" of the N.C.S. had been in force. It reads thus:—"That those Chrysanthemums bracketed as synonyms in the National catalogue cannot be exhibited in the same stand; and that being so, shall be a disqualification in all classes in which the Society's medals are offered."—*C. T.*

The Chrysanthemum Leaf-miner.—Can any of your readers suggest a remedy for the leaf-miner insect, which, in a similar manner to the Celery fly, does so much damage to Chrysanthemums? All through the summer my plants were attacked by this pest, and leaf after leaf had to be pinched off. Syringing with soft soapy water, and a decoction of quassia, had no effect on them. I think many growers must have been troubled in the same way, as I saw them also at Weybridge as bad as mine.—*Herbert.* [The

only remedy we have found is to watch closely and regularly, and kill the little white grubs by squeezing them between the finger and thumb.—Ed.]

Boilers and Heating Apparatus for Amateurs.—In answer to the enquiry by "G.B." at p. 206, I may say that I have at work three Loughborough boilers which I think admirably adapted for amateurs with small greenhouses. The "Loughborough" has advantages over many others; it can be fixed by a labouring man, so that there is no necessity for a mechanic being called in, which often involves heavy expenses after the boiler and apparatus have been procured; and it is so easily worked that the amateur will soon be gratified to find himself a good stoker, which is generally a difficulty with beginners. I shall be willing to show "G. B." or any one my boilers at work, or give any information connected with them that I can.—*J. H. Witty, Highgate Cemetery, N.*

ORCHID NOTES AND GLEANINGS.

Work in the Houses.—From now until after Christmas there will be little to do in the Orchid houses beyond the general care of the plants, but the season affords a good opportunity for carefully looking over them, and cleaning those which require it, and, in doing so, it is well to have a small pan of weak tobacco water at hand, with which to sponge any affected with insects, or, indeed, whether insects are present or not, for it is a good preventative. Sometimes white scale gets under the sheaths of Cattleyas and Lælias, and where such is the case it is best to thoroughly strip the dry sheath off and well and carefully clean the bulbs; the insects will then have no hiding place on the plant. Where the pseudo-bulbs are clean and there are no insects on them, the sheaths should not be disturbed on any account.

We are likely to have changeable weather, and it is above all things advisable not to be scared at a little frost, and overdrive the heating apparatus to the detriment of the plants; all that is necessary is to observe the temperature we gave in our first issue for December, and where the heating apparatus cannot be controlled without extra ventilation, it should be given at all times. An evening visit is an important and pleasant part of the growers duties, but at none is it so absolutely necessary as in winter, as at that time late in the evening many important matters can be regulated, which would, if left unattended to, work mischief.

Throughout the whole winter it is important to keep those parts of the brickwork and underneath the stage, which are liable to become very dry by proximity to the hot water pipes, frequently moistened, as nothing is more productive in insect pests than such dry spots. Bleak ends of houses and fronts where any danger of the inside temperature getting too low exists, should be protected by matting or canvas, even a very thin tiffany fixed a few inches off the glass keeps out a lot of cold, and does not exclude much light.—*James O'Brien.*

Zygopetalum Mackayii.—I have a good sized plant of this useful winter-flowering Brazilian Orchid. It is kept in the stove amongst other plants, and has to stand the general treatment which a house of mixed plants is subject to. I do not think it is disturbed at the root oftener than once in four years, for the reason that if we gave it all the pot room it is capable of filling, it would take up more space than we can afford it. Yet it never fails to flower every December, and it will last and keep good and fresh sometimes into the new year. When it begins to open its blooms we remove it to the conservatory or else into the mansion. Our plant now has five spikes of good sized blooms, and it helps to adorn the entrance hall of its owners house, not in a draughty place, but near to the light.—*T. W.*

Ridiculous Names for Fruits.—Big Bob's Baby is the latest specimen. Next we would suggest Big Bob's Baby's Boot, for of course it must be alliterative. Then when some rival thinks he has something better than this raiser has given us, it can be called "The Buster of Big Bob's Baby's Boot," or some such expressive cognomen; or Big Bob's Baby's Boot Badly Broken.—*Gardeners' Monthly.*

THE GARDENERS' CALENDAR.

THE KITCHEN GARDEN.

Horse Radish.—This is a good time to make plantings of this useful root, a root, which if worth growing at all, is worth growing well. And with this object in view, it will be necessary to take up a good lot of the old plantations to select roots from for making the new, which should be done as follows:—Open a trench 2 ft. wide and about 18 ins. deep, which fill up and raise to the height of 18 ins. from the surface with well decomposed dung and leaves from an old Cucumber-bed, treading the whole well together as the ridge is being made into the required shape. Then put the line down 6 ins. from either side of the ridge, and cover the litter with soil, thus making a ridge 18 ins. wide on the top, with the centre 3 ins. lower, then the side and end forming a sort of trough for the water.

In planting select the second size roots, which, if they are to be had, should be from 20 ins. to 30 ins. long, having every little rootlet the entire length rubbed off, by drawing the roots through the closed hand covered with a piece of coarse cloth; then plant them in their entirety with a long dibber, two rows, 1 ft. apart, and 8 ins. or 9 ins. asunder in the row on the ridge, and slanting slightly in the interior of the litter, with the crowns about 1 in. under the surface. A planting should be made every year in proportion to the quantity of Horse Radish used in the year, so as to always have a supply of it, good in quality and quantity.

Celery, Lettuce, and Endive Plants which have had a little protection in the shape of Fern from the effects of the recent sharp frosts should, now that a gentle thaw has followed, have it removed forthwith to a convenient place in readiness for future use if necessary.

Frame Ground.—See that there is no coddling of the young Cauliflower, Lettuce and other plants which are located in this department. As advised in a previous calendar, protect with mats or Ferns the pits and frames in which they are growing from frost when necessary, and take the sashes off during favourable weather to promote a sturdy growth in the plants as well as to prevent the latter from sustaining injury from excessive dampness.

Herb Beds.—See that these, together with quarters of Spinach, Cabbages, Broccolis, Onions, Walks, &c., are kept free of weeds, and that a surface-dressing of leaf-mould, if not already done, is laid on beds of Mint and Tarragon, to prevent the roots from being frost-bound in the event of another frost setting in; and let good order and judicious management be observed throughout this department.

Mushroom House.—I need scarcely say that so long as the Mushrooms grow sufficiently fast to meet the demand for the same, there will be no necessity to turn the hot-water on in the pipes, or to apply atmospheric moisture in the house further than damping the surface of the beds with tepid water in the event of their becoming dry. In the event of its being necessary to warm the pipes to maintain a minimum temperature of about 50°, tepid water should be distributed over the floor and walls, so as to keep up a humid atmosphere in the house.

Woodlice are usually very troublesome in the damp and darkness of Mushroom-houses, and the readiest way of eradicating these pests is to pour boiling water out of a long-spouted watering-can along the sides and ends of the beds, especially between the latter and the walls, where they congregate as soon as day-light is let in on them, and which is the best time to apply the boiling water which makes short work of them. Continue to collect horse-dropping with which to make up successional beds in the manner indicated at p. 155.—*H. W. Ward.*

THE PLANT HOUSES.

Decorations for Christmas.—During the next week there will not be much time for any special work, as in this department there is always an extra demand for flowers and plants for decoration, which of course means a certain amount of labour. In selecting plants for decoration, it should be remembered that any foliage plants such as Palms, Crotons, &c., will be much more liable to get damaged when they are just developing young leaves; therefore, those with matured growths should be taken, and for any purposes where hardy plants can be used, it will be advisable to do so.

Flowers for Succession.—In regard to general work, bulbs and all other plants required for keeping up a succession in the forcing department must have attention. Another matter of importance is to see that all plants in a growing state are thinned out as opportunity occurs. If Pelargoniums, Cinerarias, Primulas, Herbaceous Calceolarias, &c. are given plenty of room during the earlier stages of their growth, they will form much stronger and better plants for flowering.

Watering.—We cannot too often reiterate the necessity of careful attention to watering at this season of the year. If the roots of plants are preserved in a good condition, and the soil is not made sour by saturation, the plants will start off freely as soon as we get bright weather. It is perhaps better to keep plants a little too dry than to over-water them at this season of the year: at the same time, it must be borne in mind that where the temperature is kept up by artificial means, plants will soon suffer if allowed to become too dry, and unless careful examination is made, it is easy to be deceived, as the surface of the soil will often appear moist when it is dry underneath.

FLORICULTURE.

On Raising Seedling Florists' Flowers, &c.—It was considered fifty years ago and upwards a very great achievement if a seedling of special merit was produced; and at that time such seedlings were considered, in many instances, of great commercial value. Seedlings of acknowledged merit, and possessing distinctive characteristics relative to form, colour, and habit of the plant, used to realise almost fabulous prices. From one to five guineas was charged for new Pelargoniums, such as Joan of Arc, Sylph, Garth's Perfection, &c., and they were eagerly purchased at those prices; Dahlias were rarely sent out under seven shillings and sixpence, or ten shillings and sixpence each. In 1839 a collection of seedlings was offered by, at that time, a well-known raiser, viz., Mr. W. Knight, North Trade, Battle, Sussex, *twenty-seven* varieties were offered for *ten pounds three shillings*, and a note was appended stating that for "Knight's Coronation—fine large dark claret, fine cupped petals, fine shape, well up in centre, and always constant; Lord Nelson, fine dark crimson, extra cupped, beautiful round shape, well up in the centre, good habit, and always constant, price of this, fifteen shillings; Miss Putt, fine yellow, beautifully laced with rich red, fine cupped petals, fine shape, very beautiful, the best of its class, every flower being perfectly laced;" there was no discount to the trade.

The late Mr. Samuel Girling, of Stowmarket, did an extensive trade in Dahlias, and has paid as much as a hundred pounds for the stock of a seedling. I may mention that an old friend of mine between forty and fifty years ago sold him the stock of one "Lady Stopford" for seventy-five pounds; this was at the time when seedlings of merit were eagerly sought after, consequently they commanded high prices. Nearly all the metropolitan, suburban, and provincial nurserymen and florists issued annually long descriptive priced lists. Chubb & Miller's (Newgate Street) list contained 145 varieties; Chandler, Vauxhall, 78; Gaines, of Battersea, 194; Hugh Low & Co., 205; F. & A. Smith, Bethnal Green Road, 162; Catleugh, Chelsea, 131; and many of the provincial growers' lists contained a far more extensive number of named varieties, all priced at from one to fifteen shillings each. We may truthfully exclaim "O tempora" in contrasting the prices at the time in question with those of the present day. One dozen of selected Dahlias, as per catalogue, to cost from one to ten pounds appears to us monstrous now, when we can at the present time purchase at from one to ten shillings the dozen, varieties that far excel those that have passed away with the respected raisers, yet doubtless, whose memory is still warmly cherished by many that survive them.

I might enumerate in this paper all the florist flowers that have passed through the hands of raisers during the same period, and which have now become of almost nominal value in comparison to earlier days, when the raising of novelties was not so general as at the present time, or perhaps so universally adopted and understood. The fact may be regarded as illustrating the progressive nature of man's mission to increase and

multiply, and replenish the earth, and there is an abundance of evidence that the horticulturist—and I may say pertinently in this matter the florist—the art has now become so disseminated, the various products brought to such great perfection, that it is only requisite to purchase a good packet of seed of any florist flower, and the result will invariably be that you have a good collection of choice sorts, so that now many of those that were deemed worthy at one time of being perpetuated and distinguished by some popular name can be produced from seed with facility, and treated almost as annuals. Take the Pansy, for instance. What a fine variety, with first-class flowers, may be obtained if the seed is secured from a well-known firm. Carnations, &c., in the same way. You may from a packet of seed (as I have done) raise some grand flowers of nearly all the cardinal colours—scarlet, rose, white and yellow, &c. All kinds of seeds are now produced on an extensive scale, and competition is strong in trying to excel in the raising of them. Thus a grower holds his connection and extends his trade, well knowing that this is the great secret of success. We are very much indebted to the continental growers for pure strains of choice seeds of nearly every description, as every confidence, as a rule, can be placed in them, both as to the quality and germinating power of their seeds, and as producing something at once novel and distinct, and although novelties in a pecuniary sense, are not so valuable to the raiser now as at one time, there is the same interest taken and pleasure afforded in producing them. No one cares to cultivate a worthless variety, let them be whom they may; consequently, the pleasure of sowing and growing is enhanced by anticipating satisfactory results.

During my long career I have at all times taken great interest in the hybridization of plants, and have been amply rewarded for the pains taken in so interesting an occupation. It must be a very bad batch of seedlings now-a-days that does not contain some that are worth adding to existing collections, however select. The facilities at hand in the present day are so immeasurably superior to those of the olden times, that were some of our forefathers in gardening permitted to take a peep at what is being done, they would, I have no doubt, be astonished beyond measure; the old flued greenhouses and hothouses, the fermenting dung and tan beds, pits and garden frames that had to be employed because no better system was then known, would be sorry adjuncts to the garden and gardening operations, and the skilled cultivator of the present day. Theoretical knowledge, with a practical bearing, has expanded, and brought a corresponding development advantageous alike to all interested.—*George Fry, Lewisham.*

THE BRACKEN FERN IN AUSTRALIA.

The Common Bracken Fern seems to be as great a nuisance to the agriculturists of these parts as the rabbits are to the squatter. The rich volcanic soils feed it well, and it spreads and developes itself accordingly. It costs a good deal, both in trouble and money, to keep it down. Burning the Fern only seems to make it grow more luxuriantly next year; chopping the roots apparently tends to spread it. The so-called root of the bracken is in reality an underground stem, or rhizome, the same part which in the Tree Fern we regard as the trunk. Within this stem, underground or above ground, there is stored each year a supply of starch and other plant food. Every year's fronds contribute to the supply. The young opening fronds draw upon the vegetable banking account until they are fully developed, and then they repay the parent by contributing towards the store-up supply in the stem. It is evident, therefore, that if we cut or mow down the young, half-coiled fronds of the bracken, just at the time when they are developing, and when they have been abstracting the nourishment from the stem, the latter will be impoverished. If we mow them down year by year the stems must wither and die. This may seem a rather tedious process, but in a few years it would prove an effective one.—*J. E. Taylor, in Colonial paper.*

Onions.—The number of bushels of Onions imported into the United Kingdom in 1884 was 3,037,406 of the value of £532,007.

A NEW CALIFORNIAN SPRUCE.

Mr. Sereno Watson thus describes a new Californian Conifer, Picea Breweriana, in *The Proceedings of the American Academy*:—"Branches slender, often elongated and pendent, puberulent; leaves 5 to 12 lines long, ½ to nearly 1 line wide, strictly sessile upon the slender base, obtuse, smooth and rounded or slightly carinate above, stomatose beneath on each side of the slightly prominent mid-nerve; cones 3 ins. long, narrowly cylindrical, attenuate at base; bracts linear-oblong (2 ins. long), a fourth of the length of the puberulent scale, which is obovate, with the rounded thickish summit entire; seed 1½ lines long, the wing 4 lines long by 2½ broad. This unusually distinct species has been found (by Thomas Howell, in June, 1884), only at high elevations in the Siskiyow Mountains, California, and on the head waters of the Illinois river, in rather dry rocky ground. It grows to a height of from 100 ft. to 150 ft., and a diameter of 1 ft. to 3 ft. Bark reddish. The specific name is given in compliment to Professor W. H. Brewer, who in connection with the California State Geological Survey had so much to do with the botany of the State, both in the field, and in the after disposal of the collections of the Survey. As he took special interest in the trees of the coast, and collected a large amount of material for their study, it is fitting thus to connect his name with the forest trees of California.

HORTICULTURE IN AMERICA.

At the time our story begins, 1837, Philadelphia was considered the headquarters of horticulture; here were to be found the Landreths and Maupays, as nurserymen, or dealers in fruit and ornamental trees; while Buist, Sherwood and Dryburg, Ritchie and Dick, McKenzie and Buchanan, with D. Fetters, were florists of good repute, and the few private collections of any note were Pratt, of Lemon Hill; J. B. Smith, of Moyamensing; General R. Patterson, and Mr. Pepper, the brewer, whose greenhouses occupied a building on Chestnut Street, second and third stories.

The principal kinds of plants then in demand consisted of Camellias, Roses, Pelargoniums, and Chinese Primroses. Of hard-wooded New Holland and Cape of Good Hope plants, were Acacias, Pimeleas, Chorozemas and Leschenaultias, with a sparse sprinkling of Cactus, etc., etc. Ferns were not known in those days by florists. In making up bouquets, which were not much in demand, the flowers used were mostly Camellias, Roses, single Chinese Primroses and also Carnations; and, as green to set these off, Chinese Arbor-Vitæ, with Rose Geranium leaves, were the steady stand-by. Plants in pots, for the decoration of private rooms or public halls, were seldom called for; in fact, the articles wanted, as Palms, Gum Elastic, etc., did not find a place with florists.

In New York, Thorburn, Hogg, Dunlap and Boll were the leading flower growers, while as tree nurserymen, the Downings at Newburg and Wm. Prince, Flushing, were the only notable cultivators. Mr. Prince, though eccentric in character, was notable for his zeal in introducing new and valuable fruit and ornamental trees into the country, and among these new things, which, be it said, proved of little account, was the Chinese Yam, about which, for a time, he bored the country, but after giving it a fair trial, it was found that half a day's work of a man was necessary to dig as many roots as would make him a dinner.

Boston then contained one horticultural establishment of merit, that of Hovey & Co.; one of the firm, C. M. Hovey, conducted the *Horticultural Magazine*, the only monthly periodical of the kind in the country. It was ably managed, and gave much valuable information on fruits, among which Mr. Hovey is an expert even at the present day. He it was who, against much opposition, advocated the merits of the Concord Grape, and it has nobly sustained the estimate he then formed of it. Boston people ought to be thankful that they have had a Hovey and a Wilder to educate them up to the high standard of horticulture which they now enjoy, and in which work my old friend, Dr. Asa Gray, has given valuable aid.

In the year 1837, such plants as are suitable for ribbon and carpet bedding out were almost unknown, but we then formed groups of Roses, Double Dahlias, Heliotropes, mixed with Fish Geraniums—as they were called—but the effect produced was anything but artistic. But about this time a scarlet, a white, and a lilac Verbena were introduced by me (not by R. Buist, as published), and florists, by crossing these, in a few years numerous varieties were raised of almost all shades of colour save yellow; and just let me say here, parenthetically that I grew a yellow Verbena in Scotland in the year 1832 (Verbena sulphurea), introduced from South America by Dr. Gillis; unfortunately, it never has found its way into the United States, so far as I know.

A few years previous, Petunia phœnicea had made its appearance, and by crossing this with P. nyctaginiflora, a white species, many beautiful varieties, both single and double flowered, were the result. Now began fancy grouping of these, aided by the new varieties of Fish or scarlet Geraniums of various shades of colour; but people were not contented with brilliant flowers; they sought after plants with gaudy foliage, which they found in Coleus, Achyranthes, Alternantheras and Centaureas; so, at the present day, it is no uncommon thing to find a bed filled with flowers and foliage of as many colours as that which made Jacob's coat so remarkable, and we would here remark that it takes no inconsiderable amount of taste to have the colours harmonise in arranging such beds, be the style either the ribbon, carpet or mixed type. Ladies, as a general thing, excel in this kind of work.

In Baltimore, where the taste for floriculture of late years has made rapid strides, credit is due to the Feasts, the Pentlands and the Hallidays for the aid they have rendered, while we think that the Maryland Horticultural Society, by its exhibitions, has exercised a more powerful influence than any other agent in bringing about the present pleasing state of things. Hundreds of florists have of very recent years sprung up in the city and its suburbs, yet these cannot supply all the demand for bridal parties, funerals, public feasts and private parties, so that quantities have to be procured from the northern establishments.

Then look at our public parks and squares in the city. What kind of aspect do they now present during the summer months from what they were a few years ago? They are found bright and beautiful, fit emblems of an advanced state of civilization.

About twenty years ago, one of the commissioners of the squares flanking the Washington monument asked me what ought to be done to improve those grass plats. I replied, remove the unsightly railings, and adorn the surface with groups of shrubs and beds of flowers. His answer was: "Oh! that would never do, as people would pull them up root and branch. My answer to this was, only give the thing a fair trial, and that it was his duty as a progressive man to educate and refine public taste.

In the same space of time that floriculture has advanced so rapidly pomologists have not been idle. The ancient list of native grape vines, which embraced little more than the Catawba, Isabella, and Lenoir, is now supplemented by new and superior kinds that would stand counting by the scores. From many, wines are made equal in bouquet to any foreign brand, thanks to the late N. Longworth, of Cincinnati, as the forerunner in this laudable enterprise.

The State of Ohio gave us a J. P. Kirkland, who raised some of the finest cherries now under cultivation.

Of pears numerous sorts have been introduced from abroad, but among these, if we except the Bartlett, it will be found that the finest and most profitable sorts are of native origin, having sprung up in hedge rows and waste places, to which have been added some fine sorts by Mr. Clapp and Mr. Danna. We do not venture to say much about the notorious kind known as Kieffer; the last we ate were not very mellow, and the tree is not proof against blight as reported. Pears do not bring such high prices as they used to do, but that wholesome and desirable fruit, the apple, still receives valuable additions to its number of kinds, and the quantity grown is immense. The quality of such as are grown in the Middle and Northern States does not compare well with those grown in the Western States in size and smoothness of skin, so that in the market the growers in the State of New York will scarcely be able to hold their own.

In the state of Delaware, and lands bordering both shores of Chesapeake Bay, there are car loads of peaches grown now for bushels that were raised fifty years ago,

and the planting of new orchards still goes on, and will continue. Small fruits, as raspberries, blackberries, currants and strawberries, have been greatly augmented in kinds as well as in quality. Every year brings forth a host of new strawberries, some of them good in fact, while most are represented as better than the best, particularly should they be brought to your notice by a travelling tree charlatan.

By the foregoing meagre statement it will be found that the country has arrived at a high state of progress in horticulture, much of which is due to the writings of the Downings, Wilder, Barry, Meehan and many other noted men, combined with the work of the American Pomological Society; not forgetting the aid afforded by descriptive and illustrated catalogues spread broadcast over the length and breadth of the land by the almost innumerable nurserymen and florists found in every section of our diversified and fertile country.—*W. D. Brackenridge, in American Farmer.*

TREES OF THE UNITED STATES.

There has recently been added to the collection of the Museum of Natural History, New York, an almost complete series of samples of the trees of the United States. There are between 400 and 500 sections of the trunks of different species. The specimens are about 5 ft. 8 ins. long each, and cut in such a manner as to display their bark and the transverse and longitudinal sections of the wood. This is done by cutting away one side of each specimen at the top to the depth of one-half the diameter of the trunk and for one-third of its length. One-half of each exposed portion is polished to illustrate the effect of this treatment of the wood, the remainder being left in the natural state, with the top of the upper divided part finished by bevelling—a method of very obvious advantage to those interested in the commercial value of timber. Among the more remarkable specimens enumerated is a plank of Redwood 8 ft. wide; a specimen of Engelmann's spruce 24 ins. in diameter, which, by the number of concentric rings, is alleged to be 410 years old, being the oldest tree in the collection; a specimen of the wood of Catalpa—which species is not stated—is presented with the information that it has been buried in the earth for seventy five years, and is yet perfectly sound in condition.—*Scientific American.*

Obituary.

We regret to hear of the death, during the last few days, of Mr. R. P. Percival, Westcliffe Road, Birkdale, Southport, aged 51 years, who has long been well-known in Orchid circles as the owner of a fine collection of these interesting plants, and as a most successful cultivator of Cattleyas and Lælias especially. Several species and varieties bear his name—as for instance, the pretty Cattleya Percivaliana, Lælia anceps Percivaliana, &c., and he will be missed by the many personal friends who enjoyed his agreeable society and warm hospitality.

NOTICES TO CORRESPONDENTS.

Special attention is paid in the columns of The Gardening World, to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides.* No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

QUESTIONS AND ANSWERS.

Chrysanthemums.—What objection is there to growing rooted cuttings in the open ground for a time, and potting them up in August? My best plants this season were grown in that way. Are cuttings from plants left out all winter stronger than those kept sheltered?—*L. M.*

The Chancellor Potato.—I notice in the prize lists for Potatos the name of Chancellor as a winner, both amongst the Round Whites and White Kidneys. Is there a selection from Dean's celebrated Potato of that name, or where does the Round White spring from?—*H. T.*

Names of Apples.—At p. 174, col. 1. Amongst the best half-dozen dessert Apples, the following names are entered:—"Lawrence's Incomparable," "Sussex Nanny," and "Winter Traveller." Neither of these names can I find anywhere. Nanny without the prefix I know well. Is there not some error here?—*H. T.* [They are local names, and like scores of others are not to be found in any of the lists, with the exception of Nanny, a variety which is scarcely known beyond the county of Sussex.—Ed.]

Names of Plants.—*E. F. T.:* 1, Davallia dissecta; 2, Trichomanes radicans; 3, Davallia bullata; 4, Polypodium vulgare cambricum.—*G. W. Gardiner:* Cypripedium Hookeræ.

Communications Received.—R. T. (many thanks).—Ch. Joly (with best thanks).—E. J.—Smith Brothers, Port Elizabeth.—J. W. & Co.—M. T.—La Rochelle.—W. A. W.—J. H. (next week).—L. Linden.—H. E. & H.—V. C.—D. J. H.—An Apprentice.

TRADE CATALOGUES RECEIVED.

James Carter & Co., 237, 238, High Holborn, W.C.—Illustrated Vade Mecum for 1886.

LONDON SEED TRADE.

December 16th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report the market as steady, with a moderate enquiry for Red Clover and Trefoil. A few sales of Alsike have recently been made; the unusually low price of this article is attracting attention. All Clover seeds are firmly held; America is still taking Red Clover, and there is no doubt we shall have no supplies from there this season. Rye Grasses firm, with a better demand; Bird Seeds unchanged.

COVENT GARDEN MARKET.

December 17th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	0 6	2 0	Pine-apples, St. Michaels, each	1 6	5 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ....per doz.	1 6	2 0	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 9	1 3	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	2 0	4 0
Anemone, 12 bunches			Mignonette, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	6 0	9 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.		0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	1 0	3 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	6 0	24 0	Roses, Tea, French	0 6	1 0
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	1 6	2 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Eucharis, per dozen	5 0	9 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	8 0	Tulips, 12 blooms	1 0	1 3
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 9	2 3
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, per doz.	9 0	12 0
Begonias, per dozen	6 0	12 0	Hyacinths, Roman, per dozen	12 0	15 0
Bouvardias, per dozen	9 0	18 0	Hydrangea, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	4 0	6 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots	8 0	12 0
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

These prices will vary much during next week.

Telegraphic Address:
"GILBERT, STAMFORD."

THE GEM OF THE SEASON.—Gilbert's Late White BROCCOLI, Victoria, in open competition beat all the Models, all the Giants, and all the Queens, besides seven dishes of Cauliflower. Awarded a F.C.C. at the R.H.S. This Broccoli is without doubt, pre-eminently the finest in commerce. Not thimbles full, but in ¼-oz. packets, 2s. 6d. each.

A. F. BARRON MELON, greenflesh, F.C.C., and true Telegraph Cucumbers, 1 doz. seeds per packet, 1s. each.

CHOU DE BURGHLEY; a pure Stock and Universal SAVOY, in ¼-oz. packets, 1s. each.

GILBERT'S SELECTED ONION SEED, saved from all the best shaped and finest bulbs; Magnum Bonum, White Spanish, and Bedfordshire Champion; 9d. per packet.

PRIMROSE SEED, crossed with Harbinger, from a very fine collection, 1s. 6d. per packet.

BORDER CARNATIONS, all colours, a very hardy and good stock, 5d. per packet.

APPLY to R. GILBERT, High Park Gardens, Stamford. The Trade supplied.

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Offer the following guaranteed first-class stuff:—

	s.	d.
LILY OF THE VALLEY, selected imported pips, for forcing ... ... per 100	7	6
Fine imported pips for forcing ... ,,	6	0
BEGONIAS (Single Tuberous-rooted). choicest mixed, enormous roots 7 to 9 ins. round, per doz.	7	6
Single Tuberous-rooted, choice mixed ,,	4	6
Choicest double varieties mixed ... ,,	15	0
LILIUM GIGANTEUM, grand roots, guaranteed to flower (only a few) ... ... each	7	6
5 years old, flowering roots ... ... ,,	3	6
Smaller ... ... each, 1s. 6d. and	2	0

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Agents Wanted.

TEA-SCENTED ROSES.
One dozen of these beautifully-fragrant and free-flowering Roses, carriage free, for 12s., extra strong plants, suitable for potting for the Conservatory or planting out of doors, and including fine plants of the splendid varieties—Niphetos, Catherine Mermet, Marechal Niel, Marie Van Houtte, &c. Six choice kinds, including those named, free for 6s. 6d. Descriptive Catalogue of Roses and Fruit Trees, post free.—GEO. COOLING & SONS, THE NURSERIES, BATH.

CHRYSANTHEMUMS, Japanese, Incurved, Pompon, Anemone, Early-flowering, and Singles. Strong cuttings, 1s. 6d. per dozen; 10s. per 100. Rooted cuttings ready in January, 2s. 6d. per dozen; 15s. 6d. per 100. Only the best and most distinct grown. Send for list (post free), containing full instruction for growing the Chrysanthemum to perfection. This will be of great assistance to amateurs.

TUBEROUS BEGONIAS from the very best strains, dry tubers, specially selected to colour, 4s. 6d., 6s., and 7s. 6d. per dozen; extra good mixed, all colours, 3s., 4s. 6d., and 6s. per dozen. Tuberous Begonia seed saved from flowers 5 and 6 ins. across, 1s. 6d. per packet. Double, certain to produce 75 per cent. of double flowers, 2s. per packet. Gloxinia seed from the finest collection in England, 1s. 6d. per packet.

H. J. JONES, Hope Nursery, Lewisham.

NEW CHRYSANTHEMUMS.

G. STEVENS, F.R.H.S, St. John's Nursery, Putney, is now booking orders for his new Chrysanthemums, which will be sent out in February next, good strong plants:—

MAIDEN'S BLUSH.—Fine Japanese, with broad flat florets, forming a full, large, handsome bloom; fine for exhibition. First Class Certificate Royal Horticultural Society, November 10th, and National Chrysanthemum Society, November 11th, 1885. Price 2s. 6d. each, cash with order from unknown correspondents. See report in this paper November 21st.

MARTHA HARDING, a fine Japanese variety. Golden yellow, shaded reddish brown; large, full, handsome flower; fine for exhibition. First Class Certificate National Chrysanthemum Society, 1884. Price 2s. 6d. each.

Chrysanthemum Catalogues of all the best exhibition varieties on application.

A SPLENDID NEW YEAR'S GIFT.—Volume I. of The Gardening World, beautifully bound. It contains one hundred and thirty-two pages of instructive and interesting information relating to Gardening, and one hundred and forty splendid engravings, the whole forming a most appropriate and useful present for a Gardener, old or young. Price 6s. 6d.

Can be obtained through all newsagents.—17, Catherine Street, Covent Garden, W.C.

SHOW.

Shepperton and Thames Valley Horticultural Society.

EXHIBITION OF ROSES AND OTHER FLOWERS, FOLIAGE PLANTS, ORCHIDS, &c., FRUIT and VEGETABLES. Special classes, open to all England.

The Third Annual Show of the Society will be held on Thursday, the 1st of July, 1886.

Further particulars, schedule of prizes, and entrance forms to be obtained from E. RUTTER, Esq., Halliford, Walton-on-Thames.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, DECEMBER 26, 1885.

To Our Readers.—With the present number we practically complete the first calendar year's issue of The Gardening World, although it has, as is well known, been several months longer than that year in existence. Twelve months since we had, as it were, but just entered upon an experiment in horticultural literature. The end of this year shows how amply that experiment was justified, for the "World" has during 1885 grown and expanded in its circulation and usefulness beyond our anticipations; and although but a penny journal, we are flattered by the opinion of hosts of its readers that it is worthy of a place amongst the best of its compeers.

Our labours have been directed less to the working of an old constituency than to the creation of a new one, and we are gratified to know that those labours have not been without well-merited success. We have endeavoured to work in an amicable spirit with our contemporaries, and some slight early frictions seem now happily removed, so that the best good feeling exists all round. The new-comer was, perhaps, regarded as an unwelcome intruder into the select circle at first; but it is now considered a promising and robust member of the family.

We have much to thank our readers for, and especially those who as contributors, or in a business way, have rendered us efficient and highly-valued assistance. The starting of a paper of this kind places one in a position to ascertain with material effect who are one's real as distinguished from our sham friends, and in that respect alone serves to hold up, if but privately, the mirror of human nature in an effective, if not always pleasing, fashion.

However, we prefer to remember that we are not only at the close of 1885, but that also it is the season of Christmas, with its kindly compliments and warm-hearted sentiments and good wishes; and, therefore, we very heartily wish to all our friends a very happy Christmas and a prosperous new year.

GARDENING MISCELLANY.

Mr. John Lawrie has been engaged as gardener to Col. Haworth Booth, Hall Bank House, near Hull; and Mr. A. McLeod as gardener to C. Stead, Esq., Mottingham Hall, Kent; both through the agency of Messrs. John Laing & Co., Forest Hill.

Mr. William Swan, who, for something like twenty years, had charge of Mr. Leach's collection of Orchids at Oakley, Fallowfield, near Manchester, and made a name for himself as a very successful cultivator, has become gardener to E. G. Wrigley, Esq., Howick House, Preston, which many will remember was the former residence of T. M. Shuttleworth, Esq., a noted grower of specimen plants. Mr. Wrigley has a fine collection of plants, including a good stock of Orchids, and we trust his new gardener may be as successful there as at Fallowfield.

Prunus Pissardi.—This pretty purple-leaved shrub, which is so effective for the garden, it was hoped, would also bear good fruits. A French correspondent informs us that there is no hope for it in that direction, for the fruits grown at Boulogne have proved small and worthless for any other purpose than to assist the decorative character of the tree.

Royal Caledonian Horticultural Society.—The annual meeting of this society was held on the 17th inst. in the Music Hall Buildings, Edinburgh, Mr. John Methven presiding. The treasurer, Mr. P. Neil Fraser, submitted an abstract of the accounts for the twelve months ending 30th November, showing the receipts to be £1,878 17s. 5d., and the payments £2,104 16s. 2d., leaving a deficiency of £225 18s. 9d. For admission to shows there had been received—Spring (two days), £462 18s. 9d.; summer (two days), £301 3s. 9d.; autumn (two days), £345 3s. 11d.; winter (four days), £222 13s. 3d.—£1,331 19s. 8d.; while the expenses were—Spring show, £215 10s. 1d.; summer show, £204 18s. 5d.; autumn show, £208 18s. 1d.; winter show, £444 18s. 5d.—£1,074 5s. The total funds of the society as at the date above mentioned were set down at £1,002 17s. 8d., as compared with £1,249 0s. 5d. at the corresponding period of 1884. It was stated that if the winter exhibition had not been held the society would, on the ordinary accounts, have had about £165 to the good. The chairman thought they might consider that the money had been well spent, and the treasurer added that he was of opinion that good work had been done for it. Mr. Dunn, Dalkeith, observed that the winter show was a new venture, and that unfortunately it fell to be held during the heat of the general election. They had also held an Apple and Pear Congress, and he believed that, taking it all in all, they might congratulate themselves on getting through so much work last year. The accounts were cordially passed. On the recommendation of the council, the Earl of Rosebery was elected a vice-president, and Mr. Norie, of the Union Bank, and Mr. David P. Laird, of the firm of R. B. Laird & Sons, members of the council in the place of those who retired. The chairman said he was sure that his lordship would be an acquisition to the society, and, perhaps, might be the means of enlisting his sympathy and services in its behalf. It was a drawback, he thought, that the nobility in the vicinity of the city did not take more interest in the society's shows than they did. The secretary, Mr. John Stuart, and treasurer were re-elected, and the meeting ended with a vote of thanks to the chairman.

Liverpool Horticultural Association.—The second meeting of the present session of the members of this association was held on Saturday evening last, in the Free Library, William Brown Street. The paper to be read and discussed was of very considerable interest to the members, as was exemplified by the crowded state of the room, being the Society's prize essay on "The Cultivation of the Chrysanthemum," in a competition open to under gardeners who are members of the association. The successful essayist, Mr. John Breen, Spital Hall Gardens, Cheshire, gave detailed instructions on the management of the plants from the cutting to the exhibition bloom or specimen plant, in a clear and lucid manner; his system of culture being the same as is generally followed in Lancashire and Cheshire. A most interesting and instructive discussion ensued, in which Messrs. T. White, A. R. Cox, W. Tunnington, R. G. Waterman, and others took part. In the matter of striking the cuttings various opinions were expressed, some advocating cool or rather the "no codling" treatment, whilst others urged that they would repay the grower if given a "little comfort" in the form of a slightly increased temperature. Considerable discussion took place "as to the right bud showing at the wrong time," the essayist's advice being to take the buds in the second or third week in August. Various opinions were also given on stopping; Mr. Cox advocated taking the first bud of such varieties as Boule d'Or, Meg Merrilies, and the Dragons after the July bud, even if it appeared as early as the middle of that month; and stopping was advised for those of the "Eve" type, to be done by taking out the extreme point in the third week of May, and in some cases the earliest blooming varieties to be stopped early, following those up with the mid season, and finishing with late ones. The style or fashion of exhibiting was considered, with a suggestion that the association should offer a prize for the best and most natural system of staging cut blooms. Mr. White presented to the essayist the Association's Certificate, and 1st prize for his clear intelligent and well-written paper. Mr. A. R. Cox exhibited a box of cut blooms which, for the season, were most remarkable; Boule d'Or (11 in. in diameter and 5½ in. in depth), Meg Merrilies, Fabian de Mediana, F. A. Davis, Mabel Wood, and Princess Teck.

The National Rose Society.—On Thursday the 17th inst. the above society held its annual meeting in the Covent Garden Hotel, Henrietta Street, to consider and pass the Committee's report for the year, and to transact other business. Mr. R. Bloxham took the chair at 3 p.m., when the report and financial statement were read and unanimously adopted. From these it appears that the society is making most satisfactory progress, the number of members now exceeding 400, and after paying the expense of the catalogue (£67 12s.) there is a balance of £40 19s. 1d. to the credit of the society. This has enabled them to incur an outlay which otherwise could not have been entertained, namely, in the improvement of the medals granted to affiliated societies. Following the admirable example of the National Chrysanthemum Society, the committee determined upon procuring a more artistic design for the medals, and accordingly entrusted Mr. Pinches to prepare a specimen for inspection, this has been submitted and approved of, and the necessary dies will now be prepared. The gold medal will be large and remarkably handsome, a prize which any fortunate winner will have reason to be proud of. The silver medal has been also increased in value, and the design is similarly tasteful.

It has been decided to hold the annual metropolitan exhibition for 1886 at South Kensington, on July 6th. The provincial show has also been fixed to be held at Birmingham, on July 15th, in the Botanical Society's gardens at Edgbaston. There was some discussion

respecting a suitable place for the provincial show of 1887, but though many towns were suggested, none seemed to be considered so generally satisfactory as Nottingham, and there probably it will be held if the necessary arrangements can be made. An important clause was added to the report, namely, that "so-called hybrid teas shall be classed and exhibited as hybrid perpetuals"—a ruling that perhaps many will regret, since it will undoubtedly lessen the diversity and beauty of the tea collections. Probably, however, the decision is strictly correct, and it will remove some difficulties that have occasionally cropped up at exhibitions. The usual complimentary votes concluded the meeting, but several of the members remained to the annual dinner, which took place, at 6 p.m., at the same hotel.

CHRISTMAS ORCHIDS.

At this dull season of the year when every good Orchid is eagerly sought for, it may not be out of place to mention that among the many Christmas flowering Orchids, Masdevallia tovarense ranks amongst the most useful and beautiful; and associated with the brilliant-flowered Sophronites grandiflora, Oncidium cheirophorum, and Odontoglossum Rossii majus, a very charming effect may be produced. At the present moment a rich display of those enumerated, with a profusion of other excellent species and varieties, may be seen at The Woodlands, Streatham Hill, the residence of R. H. Measures, Esq., including amongst other rare and magnificent kinds a new Cattleya with light olive-green sepals and petals, the labellum being of a rich violet-crimson conspicuously bordered with white; Odontoglossum Insleayi splendens, too, is represented by a fine plant and an excellent variety.

Mr. Measures may also be congratulated on possessing the very finest variety of Cymbidium giganteum, which is now bearing many long spikes of beautiful dark bronzy crimson blossoms. The unique Odontoglossum Josephinæ, is carrying a branching spike of twenty-five lovely blossoms; a plant of the chaste Lycaste Skinneri alba, bearing several pure white flowers; also the true Oncidium varicosum Rogersii, the best variety and easily recognisable by its enormous rich yellow blossoms. Cœlogyne Massangeana, with its pendant racemes is very attractive, while of Odontoglossum crispum the varieties are very numerous and exceedingly fine, some of them truly superb. Time will not permit of a complete list of all the Orchids in flower in this grand collection, but I must remark on the wonderful plants of Cymbidium Lowianum, full of vigour, and just pushing their enormous flower spikes, certainly a wonderful lot of plants, quite a number of them, and without doubt the best specimens in Europe.

A very rare and handsome Orchid is Lycaste pleua alba, and I do not remember to have seen it elsewhere, although well acquainted with the species. This collection now abounds in the very best Orchids procurable, and is at all times of the year teeming with beauties and new pleasures to gratify and delight the owner.—*G. J.*

MACKAYA BELLA.

It is a pity one so seldom meets with the subject of this note, as, when well grown it is a most beautiful object, its delicate tinted flowers with the deeply coloured veins being particularly striking, and only requiring to be once seen to be appreciated. In fact, amongst stove winter flowering plants, it has nothing to surpass it of a shrubby description of growth. As many either fail with it altogether, or only grow it indifferently, a hint may not be out of place for another season. Cuttings strike freely if a little bottom heat can be given them, but for my own part I prefer, when practicable, to get strong suckers, which, as a rule, are freely produced, and with a few roots when detached from the parent plant, they will start away very strong, and soon make specimen plants. In fact from a sucker as described, I have more than once grown a plant fully 5 ft. high, and of a nice pyramid shape and about 3 ft. through, and for the last potting, about the early part of July, I have given it a 10-in. pot, and as a compost three parts of good fibry loam and one of peat, with plenty of sand added to keep it open, as it requires plenty of water whilst growing.

I have grown them in both stove and intermediate houses, and shall after they are well established in say 5 in. or 6 in. pots, always in future keep to the last mentioned structure, and if possible give them every ray of both light and sunshine, as without so doing they make soft, sappy, long growth which never flower satisfactorily. So grown, they require more syringing to keep away red spider and thrip, but scale, which is unfortunately a great pest to this beautiful plant, does not increase so rapidly as when grown in a more shaded and hotter situation. As a rule most plants will have done flowering by the beginning of February, after which they may be pruned and at once started into growth, so that they may have plenty of time to finish active growth by the early part of August, when it will prove very beneficial to gradually inure them to the open air for a month or so if fine weather prevails, but it is not absolutely necessary, choosing a warm sheltered spot in the full blaze of the mid-day sun, which will materially ripen and solidify the growth, and in this lies the secret of success. Watering must from the time they are placed out of doors be gradually diminished, until only sufficient is given to prevent the plants from flagging.

On appearance of frost they must immediately be housed, and for a month or so after taking them under glass, either an early Vinery or Peach-house is the most suitable place for them, as both mentioned structures will at that season have an abundance of air and a dryish cool atmosphere, which suits them admirably; and continue whilst in a cool temperature to keep them on the dry side. If a succession of plants are grown they may be introduced to heat according to demand, when water may again be freely given. I have found the cool end of a stove to give the finest flowers, but not more than if returned to intermediate house. Older plants as a rule flower freer than the young ones, and one potting per year, say in March, will be sufficient. Perhaps this may seem a contradiction to a previous remark, which I intended to refer only to plants of first season's growth. I would not keep a plant, however, over four seasons, and the last year they will not be equal—as far as my experience goes—to the younger, as regards the length of the flower sprays, which is to most the chief desideratum. Anyone being able to give the above cultural requirements, will, I am certain, not have cause to regret it. I tried in the south of England a plant out-of-doors, from the first week of June to the last of September, but which through making only little growth flowered meagrely.—*E. Dumper, Summerville, Limerick.*

PRUNING GOOSEBERRY AND RED CURRANT BUSHES.

The time having now arrived when many persons will be busy performing this operation, or contemplate doing so at no distant date, a few remarks on the subject may be of service to those readers who are not quite certain how to act; and those whose experience may cause them to differ from me on any particular point will have an opportunity of explaining their views. Having seen various modes of pruning Gooseberry bushes in different counties, as practised in both private gardens and in extensive market-growing establishments, and compared the results, I have come to the conclusion that in many cases they are not pruned in such a way as to make the chances of securing a good crop annually as certain as it might be made by pursuing the plan I am about to advocate; which, although I do not claim to be original, yet is one not generally practised.

The usual method of pruning Gooseberries is to thin-out the young shoots to from 2 ins. to 3 ins. apart all over the tree, and shorten all the terminal ones to 5 ins. or 6 ins., or sometimes they are left a little longer, while those not required are spurred close back. Many who prune in this way will, perhaps, point to the good results of their practice: but I contend, for reasons I shall presently state, that still more satisfactory results may be obtained by not shortening the young shoots at all, except in the case of those branches that are likely to touch the ground when laden with fruit, or when one shoot touches another. Simply thin out the shoots, leaving the bearing wood about 3 ins. apart over the greater part of the tree, the centre being thinned out a little more, those shoots that are not wanted being cut clean away. Any of the main branches that show signs of being worn out should be removed, and young shoots left to fill the vacancies. Throughout the pruning bear in mind that the medium-sized wood produces the best fruit; therefore, remove the very strong and the weakest shoots.

The advantages of this method of pruning are that the buds are less liable to be injured by birds and spring frosts, which sometimes work great havoc among them. The natural drooping habit of the shoots is a great protection from these evils when not shortened back; and it will often be found when the young fruits on the base of the shoots are injured by spring frosts, those on the arched portion will remain untouched. This drooping habit of the shoot is also a protection from the attacks of birds, which often spoil the prospect of a good crop by picking out the buds; but there is much less chance of their getting at so large a portion of the buds if the shoots are not shortened, because they are too pliable, and although they may remove the bottom buds, a good crop may be obtained from the remaining portion of the shoots.

In regard to Red Currants I do not think there is so much difference of opinion about pruning; some leave the main branches much closer together than others, but I think there is nothing gained by so doing. When the centre of the bush is left well open, and sufficient space left between the main branches to allow the sun and air to act upon them, they will retain fruitful spurs almost down to their junction with the main stem, or if stools, where they spring from the ground. But if the bushes are allowed to grow into a mop-headed shape, the fruitful part will be confined to the extremities of the branches, and I am convinced that better results would follow if the main branches were thinned out more than is generally done. But the point on which I think the greatest mistake is made, is in pruning the trees during the first three or four years. Young trees may with advantage be allowed to extend much more rapidly than is generally the case, till they have filled their allotted space, then the extremities of the shoots can be cut back to one eye.

If good trees are planted they should be pruned back rather closely the first year to about two or three eyes, to induce plenty of breaks, and lay a good foundation for the future bush; but after that, at each annual pruning, the young shoots at the extremities of the branches may be left 5 ins. or 6 ins. long, and the side shoots spurred in closely, except those that are required to form additional branches as the tree increases in size. I once heard the following remarks made by a shrewd and extensive Kentish fruit grower as I was passing by a plantation of young Currant bushes, "these trees were planted the same year as mine, they are now not more than half as big, nor do they produce more than half the amount of fruit. They won't let them grow, but cut them back far too closely each year."—*H. Dunkin.*

POINSETTIAS.

Your correspondents "J." at p. 229, and "W. B. G." at p. 251, both give details of excellent methods of growing Poinsettias; and at the present time, when in a good many gardens the staff is on the decrease, and the demand for flowers on the increase, gardeners are called upon more than ever to devise simple means for keeping up the supply. As the system carried out here proves highly successful, and differs from either of those noticed above, a few details may prove acceptable to some of your readers. This year the whole of the Poinsettias grown here have been planted out-of-doors on a south border, along with a host of other winter-flowering plants. About the middle of May the old plants (which had been standing in a shed since flowering time) were cut back. The last week in May, when the buds were beginning to push, they were shaken out of their pots and planted out. By the first week in August they had made a good growth, and part of them were then cut over for cuttings to provide dwarf plants. These, at the present time, are plants ranging from 6 ins. to 12 ins. in height, and are throwing good bracts with foliage down to the pot. The rest were allowed to remain until the first week in September, and were then potted up and placed in a cool frame, kept close and shaded for a few days, and then allowed plenty of air and sun. At the approach of cold weather they were placed in slight heat. These have from one to six good bracts to a plant, with good dark green foliage to the bottom of the stems.—*Chas. Denning, Holme Lacy Gardens, Hereford.*

CHRISTMAS FLOWERS AT SWANLEY.

Taking advantage of Mr. Cannell's standing invitation to "Come and see," we paid him a visit a few days ago, and were well repaid for our trouble, so remarkable for extent and quality is the display of flowers to be seen in his nursery. From half a dozen houses to start with a few years ago, Mr. Cannell has gone on extending his resources, until now he has thirty-two houses, all but two of which are each 100 ft. long, and in construction the exact counterpart of each other, the odd two being, perhaps, of double the length. The Swanley houses are sharp-pitched span-roofs, and built with all due regard to economy and efficiency; and by the way in which plants thrive in them, summer and winter, they may be taken by anyone as models of what such houses should be. Ash beds or stages under each side of the roof, a path down the centre, with plenty of piping and boiler-power—that's the sort of house that Mr. Cannell favours, and he is justified by the results in eschewing all other types.

Begonia Carrieri: a valuable winter-flowering plant.

Plants in Flower.

A visit at the present time reveals a wonderful wealth of floral beauty—three houses of double and single flowered Zonal Pelargoniums, two of Primulas, one of Cyclamens, two of Bouvardias, one of Begonias, besides several of mixed subjects, including Marguerites, Salvias (nearly over), Tree Carnations, Poinsettias, Tuberoses, Heliotropes, Epiphyllums, and a host of other good things, to say nothing of the remains of the Chrysanthemums, of which five houses were filled—a sight that visitors will not soon forget.

The Pelargoniums.

The three houses of Zonal Pelargoniums are alone worth a journey to Swanley to see at this season. It is simply astonishing to see how grandly these plants are bloomed, how bright and intense are their colours, how great the contrast between the floral sunshine within and the gloom of a December day outside. To give any adequate idea of such a floral picture we must plead our inability, and give the names instead of some of the sorts which have proved to be good winter bloomers. Taking the singles first, we shall head the list with Mr. H. Cannell, because it is not to be supposed that a bad one would be selected to bear the name of a man who knows so much about the good ones. Well, Mr. Henry Cannell, is a crimson-maroon, with a pure white eye, and new, so that nothing more need be said to recommend it. Then comes Swanley Gem, rosy salmon, very pretty; Lord Chesterfield, soft magenta; C. H. Swinstead, crimson; Plutarch, bright scarlet, fine trusses; Lord Roseberry, cerise-red; Kentish Fire, crimson-scarlet; Favourite, cerise-scarlet; Octavia, soft magenta; New Guinea, orange-scarlet; Ferdinand Kauffer, rich magenta-purple, the best of this colour; Zeno, purple-magenta; Lady Reed, white, with large scarlet centre; Mary Caswell and Nora, soft blush; Lady Chesterfield, deep salmon, the best in the class; Lucy Mason, salmon; Omphale, soft satiny salmon; Edith Miller, pink, shaded purple; Kate Greenaway, rose; Edith George, reddish pink; Mrs. Robertson, bright rose-pink; Constance, rose-pink; and Queen of the Belgians, white. In the hybrid nosegay section, Aurore Boreale is the finest, the pips being of immense size, and the colour light scarlet tinged with salmon.

Among the double varieties we selected for special mention, La Cygne, white, a grand winter bloomer; Heroine, a larger flower, and longer in the flower-stalk, much valued for wiring; Madame Leon Dalloy, a pretty blush shade of flesh pink, extra fine; Belle Nancienne, white, with bright salmon centre, a very large trusser; Mrs. Corden, bright cerise, a fine trusser; F. V. Raspail, scarlet, and still one of the best; Paul Charbonnier, orange-scarlet; Hollyhock, brilliant scarlet, shaded with yellow; and Kobus, crimson-scarlet, somewhat new, and a large trusser. Amongst rose-coloured flowers the cream are, Lord Derby, Paul de St. Victor, extra good; and Pauline Roussel, soft lilac-pink. In the purple-pink section, the Lord Mayor and Rosea superba take the lead; while among the cerise coloured varieties, Erl King and Mr. G. Lowagie are still among the best; and in deep crimsons few can beat Negro and General Millott, which in all respects are first-rate. Romulus, M. L'Abbé Jalabert, and Boule Noir hold the lead among what are called purples; and among salmons, James Murkland, an American variety; Gertrude, Madame Monoreau, new; and Thea, one of Pearson's strain, are also good ones.

Ivy-leaved Pelargoniums.

We have in this section a gem of gems, as a combined summer and winter bloomer, in Madame Thibaut, a very fine double, of a bright pink shade of colour, very free, and good habit; but for the size of the individual pips, and fairly good habit in the plants, a variety with the dreadful name of Fursten Joseph von Hohenzollern, takes the palm. It is of a reddish shade of colour, tinged with purple, and the pips are of fine size and of the shape of a good double Balsam. Alice Crousse, deep magenta, is the best of this shade, and of very fair habit. A set with Chinese names includes: Shei-Poo, magenta-scarlet; Lang-Son, orange-scarlet, best of the section; Hanoi, reddish salmon, very distinct; all of which are very good. General de Negrier, magenta-pink, deeper coloured centre; Emile Lemoine, rich orange-scarlet; Massenet, bright magenta, very distinct; and Jean d'Arc, white, are novel and good.

Chinese Primulas.

These are well-grown at Swanley, and though designedly somewhat more backward than usual, carry a fine head of bloom, especially the doubles. The old double white, still unsurpassed for general utility, is represented by a grand batch. Princess Beatrice, soft lilac-pink, with a lacing of white, is exceedingly pretty; Princess of Wales, deep blush, is also very fine; and worthy to rank with them is the Marchioness of Exeter, white, spotted, and flaked with rose; while in Annie Hillier, a somewhat new variety of a deep blush colour, we have a fine type for the bouquetist, by reason of its long flower stalks. Among the singles, the strains of Swanley Red, Swanley White, and Swanley Purple, are largely grown, and well selected; The Queen, Fern-leaved and white, still reigns supreme for size and purity; and Queen of Whites is also a grand flower. Swanley Blue, mauve or porcelain-blue, is also a good pure stock; Emperor a deep salmon, and fine large trusses; and Swanley Giant is a very large purple.

Bouvardias.

In the Bouvardia House one of the finest of all is Priory Beauty, pale satin rose, very free, good in habit, and altogether a beauty. President Garfield, double, blush coloured; and Alfred Neuner, double white, still hold their own among the older sorts; and in two new ones, Sang Lorraine, double scarlet; and M. Lemoine, salmon-red, we have novelties of great promise. The stock of plants in the main consists of dwarf, bushy plants in 48 sized pots from which bushels of flowers could be cut, almost without missing them.

Winter-flowering Begonias.

The evergreen section of Begonias as represented at Swanley, are a class that deserve to be much more widely grown than they are for winter decoration, to say nothing of the usefulness of such sorts as Weltoniensis, widely grown as a window plant, and perhaps, until the new sort Carrieri made its appearance, the most floriferous Begonia known. It is equally good

as a winter bloomer; but surpassed by Carrieri, which seems to live by flowering, for even the cuttings will flower and it is always in bloom. The flowers are pure white, and produced in good size clusters, and of its freedom some idea may be formed from the accompanying illustration. B. Knowsleyana, silvery blush, is also a good bloomer. B. uitida is still one of the best of the old ones, and B. nitida alba is a novelty with smaller blooms. B. semperflorens gigantea rosea, one of M. Lemoine's novelties, make a fine companion to B. nitida. B. Ascotiensis, not much known here, but much used on the continent as a bedding plant, is also useful for its rose-pink blossoms; and B. manicata aurea maculata, is desirable for its fine foliage, which much resembles in colour and working, the leaves of Farfugium grande.

THE GENERAL COLLECTION

We noted a very fine batch of flowering plants of the Pride of Penshurst Carnation, perhaps the best yellow yet sent out, and worthy of wide cultivation. In Lily of the Valley, Mr. Cannell has flowering specimens of the German, Dutch, and home-grown crowns, and the latter obtained from Mr. Jannock, of Dersingham, is held in high estimation. Among the fragrant Heliotropes, White Lady is still the best—a grand winter bloomer, and General Garfield, violet with a light centre, is much appreciated here, for its medium sized, neat, compact trusses. Among Salvias, S. Pitcheri and S. Bethelli still stand first and we understand the former proved specially valuable during the general election, when blue and other party colours were in great demand in all parts of the country for button-hole flowers, which, if we may judge from the quantities sent from Swanley alone having, to a great extent, supplanted the ribbons.

THE CLAPTON NURSERIES.

As hunters of novelties and distributors of new plants for many years in a steady and persevering way, probably no firm has put so much money into or brought so much experience to bear on the introduction of new or rare plants as Messrs. Hugh Low & Co., of Clapton, many sections of Orchids being specialities with them, and notably so, Cypripedium Lowii, Cœlogyne Lowii, Dendrobium Lowii, Odontoglossum Alexandræ, O. blandum, O. Pescatorei, Vanda Sanderiana, Vanda lamellata Boxallii, Dendrobium Boxallii, Vanda Parishii, and V. P. Marriottiana, and generally speaking all the best Burmese kinds. Orchid growers also will not be slow to acknowledge their efforts through Mr. Boxall and their various other collectors in different parts of the world to introduce rare plants which amateurs have long wished for. As examples of these we may mention Oncidium macranthum, O. superbiens, Vanda Sanderiana, Dendrobium Lowianum, D. Dearei, D. Brymeriauum, Vanda Denisoniana, Odontoglossum blandum, O. nævium majus, &c. The establishment at Clapton is a general one, but the Orchid part has grown to such proportions, that it never fails to present itself to the notice of every visitor. It therefore claims the first place in our notice.

THE ORCHID HOUSES.

Let us say then what many of our readers will well know, that there is house after house of Odontoglossum Alexandræ of the finest strain; house after house of Odontoglossum Pescatorei, and Cattleyas and Lælias of all kinds, and that the Phalænopsis and Ærides and Vanda houses, are as rich now as ever. Among the immense batches of good things, our attention was especially attracted by quantities of Dendrobium Dearei, some of them with their lovely white flowers; D. Lowii, with their charming yellow blooms; D. Veitchianum, a good batch; Oncidium varicosum Rogersii, well furnished with spikes; O. prætextum, O. Forbesii, O. Wentworthianum, and many other fine Oncidiums, well furnished with bloom. Several houses are filled with the grandest strain of Odontoglossum Alexandræ and O. Pescatorei, among which are flowering good forms of O. hebraicum, O. blandum, O. crispum flaveolum, and others which usually come with the O. crispum from the best localities. The Phalænopsis have been often noticed, suffice it to say that they are up to their usual standard, the raised stage over a close bed in their chief house, seems to suit them admirably. In the main house in bloom or bud are quantities of P. Stuartiana, which is a very charming plant; P. Sanderiana, P. amabilis, P. Schilleriana, &c., and among them a very pretty and presumably quite new species, with robust growth and flowers like an enlarged form of O. equestris, with blooms almost entirely pink and white.

CATTLEYAS AND LÆLIAS.

The Cattleyas and Lælias occupy many houses, and an idea of the extent of the stock may be formed when we say that a new span-house, 200 ft. in length, is entirely devoted to Cattleya Mossiæ, of which, and its varieties, some grand specimens are to be found. Some of them are presumably new, if their habit of growth is any guide, one in particular being quite a pigmy in growth, but a beauty in flower, if the evidence of the numerous old flower-spikes may be taken as a guide. The house devoted to the varieties of C. guttata contains some fine specimens, and in these this firm is very rich. C. Schofieldianum, C. resplendens, C. Whitei, and those grand forms of C. Lodigesii (which have puzzled so many), having flowered out of them; and the Lælias have been no less prolific in L. Schroderi, L. purpurata pallida, &c. In bloom at the present time are some superb forms of white-petalled L. purpurata.

In the other houses, in bloom, are Dendrobium Brymerianum, Cypripedium purpuratum (true), C. insigne alba marginatum, C. ciliolare, C. Hookeræ, C. Lawrencianum, C. Haynaldianum, C. Lowii, C. Sedeni, C. villosum aureum (true), C. Boxallii (in many great forms), C. Spicerianum, Dendrobium barbatulum, Oncidium varicosum (a large batch), O. Wentworthianum, O. prætextum, O. prætextum olivacum, and a grand new form with bright chestnut-red flowers.

THE WARM HOUSES.

Vanda Sanderiana, Aërides marginatum, A. Lawrencianum, Vanda lamellata Boxallii, V. cœrulea, Angræcum Ellissi, A. citratum, and various others are represented by good specimens promising well for bloom, and in the general collection of Cattleyas, some immense plants of C. Skinneri (to which a house is devoted), some well-bloomed plants of the still rare old form of C. maxima, and several good specimens of the pretty and sweet C. luteola, call forth marked attention; among the other good batches of plants in bloom, may be noted Galeandra Devoniana, Odontoglossum Roezlii, and O. Roezlii album, O. tripudians, Liparis elegantissima, Cattleya dolosa, Lælia pumila, L. pumila Dayana, Cypripedium Harrissianum splendens, Epidendrum ciliare (very fragrant at night), Houlletia odoratissima (very showy and sweet), Dendrochilum glumacum, D. uncatum, various Calanthes, Odontoglossum vexillarium Keinastianum, O. Oërstedii majus, and many Masdevallia tovarense are in bloom. The large batches of Cattleya gigas varieties, C. aurea, C. Dowiana, C. Mendelii (which has produced such treasures), and C. Trianæ, not in flower, are almost as grateful to a growers heart as when the inflorescence is perfected.

FLOWERING PLANTS.

But not alone does Messrs. Hugh Low & Co. pursue the high art of Orchid culture, their efforts extend to all plants useful for cut bloom, or of ornamental foliage, and particularly to those useful for winter decoration, consequently large numbers of houses are devoted to Heaths, Epacris, Cyclamens, &c., of the last named some 20,000 are in bloom or bud, and a proportionate quantity of berried Solanums, Erica hyemalis, Tree Carnations, Bouvardias, &c., are grown, separate houses being devoted to each. Among the Carnations some grand new seedlings are in bloom, notably a pure vermilion, a white, a scarlet-flake, an orange, a scarlet and white tipped with pink—these are all of fine form and perfect shape.

Among the Bouvardias the well-known pink Priory Beauty, the whitish Alba odorata, and Vreelandii are very fine; and among the new doubles, B. Victor Lemoine, a double scarlet, B. Sang Lorraine, a double orange-scarlet, and B. Thomas Meehan, a double scarlet American form are particularly good. The double flowers are much more durable than singles.

FOLIAGE PLANTS.

Among the foliage plants many houses are devoted to Palms, such as Latania borbonica, Cocos Weddelliana, Geonoma gracilis, Kentias, &c.; and of coloured-leaved plants there is a fine stock, including the best varieties of Crotons, Dracænas, &c. Among the last named may be noted two, which all who have indoor or conservatory decoration to do ought to get, as they are bold, ornamental, and brightly coloured, viz., D. Massangeana, green, with a broad yellow band and lines down the middle, and D. Lindenii, dark green, with yellow marginal and medial bands. These are varieties of the well known greenhouse variety, D. fragrans latifolia, and are therefore not to be confounded with the warm-house kinds.

GREENHOUSE RHODODENDRONS, &c.

The house of Greenhouse Rhododendrons contains a large stock of well-budded plants, many scarlet varieties of the Duchess of Edinburgh section being in bloom, as well as Princess Royal, Princess Helena, and others; and the large stock of decorative Ferns, Araucarias, and other ornamental plants, surprise one with their vigour when we consider that they are grown within the sound of Bow Bells.

The large stock of hard-wooded Ericas, and other New Holland plants, is like the rest of the great and varied stock, in the best possible condition. Messrs. Hugh Low & Co. no doubt have to attribute some of their success to their having the immense establishment at Enfield; but the Orchids and other stock which is always kept at Clapton, is always to be found in the same sound, thriving condition.

SCOTTISH GARDENING.

The Selection of Seeds.—The present time is generally considered suitable for making a selection of seeds for the ensuing season, and before the list is put on paper it is well to look over the stock of kinds left from last year. A number of packets may generally be found containing seeds not used, and these should be examined, so that what are sound and healthy may be noted; and when the list is made out it may be minus the quantities in reserve. All the Brassicas, Leeks, Onions, Carrots, Turnips, Celery, Parsley, and Radish Seed remain good for several years, when kept dry and cool. Any favourite kind which may have been saved should be cleaned and put into paper bags, and those which have been found unworthy of cultivation should be cleared out as they are worse than useless, and may if retained, perhaps by inadvertance, be sown again, and so cause disappointment.

There are few seedsmen now but who may be depended on for a supply of genuine articles; indeed, most of them know that they would only defeat their own interests by doing otherwise. A mishap may take place under the best of management, but accidents are carefully avoided by vendors of seeds generally. When new kinds are purchased they should not take the place of any favourite and approved sorts, but be treated the first year as auxiliaries, till they are proved—and then some may be found wanting. Localities favour some sorts, while others do not thrive in the same parts.

Roses.—It is notable that Roses flower more freely, are less susceptible of injury, and make finer foliage in some northern districts than others. Some kinds, it may be, are all that can be desired in form and general excellence, while not many miles off they are found to be worthless, never opening their flowers freely, showing green hearts, or decaying before they are open. This we need hardly say is much influenced by climate and soil, not that the colder parts are the least favourable, but we think damp localities where sun action is more or less defective, and sappy growth is accelerated by extra rainfall, are evils which do much in diminishing the flowering proclivities of many Roses. Entire control over such difficulties can scarcely be obtained, but we know much can be done by raising the plants well above the surface, thorough draining of the ground, choosing a position well exposed to sun and air if such can be done, keeping the roots well to the surface by mulching, and preventing individual shoots from monopolising the chief part of the growth. Root-pruning during any period of the growing season is a preventitive, always keeping the growth stiff, and not allowing it to have its freeedom till late into autumn. Attention to such amenities as these, I feel sure, will always give due reward by rendering the plants more hardy than the "leave alone system," and by inducing in the mass of fibres at the roots disposition to flower and an increase of size.

I have proved this frequently, but never before so pointedly as during the past season. I offer a list of kinds which have done best, flowering in great profusion till the early frosts stopped them at the end of September and early in October. In two former seasons, these with a number of other kinds, were more inclined to grow to wood and leaf, opening their flowers

sparingly, but no doubt having had to be changed to fresh positions, inducing bunches of fibry roots has been much in favour of their free-flowering. Some cannot be classed as exhibition Roses, especially the whites, but immense quantities of these when half open are not to be despised where large quantites have to be cut.

Alfred Colomb, Aimee Vibert, Baroness Rothschild, Beauty of Waltham, Boule de Neige, Captain Christy, Charles Lefebvre, Comtesse de Serenye, Countess of Oxford, Docteur Andry, Duchess of Bedford, Coupe de Hebe (an old kind, but very fine in autumn and of excellent form), Duke of Edinburgh, Duke of Wellington, Dupuy Jamain, Edouard Morren, Exposition de Brie, Emily Laxton, Fisher Holmes, Ferdinand Lesseps, Firebrand, François Michelon, General Jacqueminot, Hippolyte Jamain, Jean Soupert, John Hopper, Jules Margottin, La France, Leopold 1st, Lord Beaconsfield, Lord Macaulay, Madame Chas. Wood, Madame Clemence Joigneaux, Madame Baronne de Rothschild, Madame Isaacs, Madame Marie Rady, Madame Lacharme, Madame Maurice Cote, Madame Plantier, Madame Therese Levet, Marquise de Castellane, Merveille de Lyon, Miss Poole, Paul Neron, Princess Beatrice, Queen of Bedders, Reynolds Hole, Annie Laxton, Senateur Vaisse, Sir Garnet Wolseley, Souvenir de Léon Gambetta, Souvenir de Paul Neron (Tea), Star of Waltham, John S. Mill, Triomphe de Cœur, Triomphe de Rivers, Victor Verdier, and White Baroness. Duplicates or more of all these have done well, and a goodly number of Souvenir de la Malmaison have been of much value.—*M. T.*

The Amateurs' Garden.

THE FLOWER GARDEN.

Protection of Plants.—The frost went as suddenly as it came; but we must not be lulled into false security on that account, and think we have got over the winter, as a similar change may, and most likely will, recur again; and should we be visited with severe weather, plants, unless protected, must suffer, as they are in a tender state from so much wet, and growing so late in the autumn. All that is necessary, however, with most of them is to have something of a non-conducting nature, such as leaves or dry litter, round the collars, or Cocoa-nut fibre over herbaceous subjects or bulbous plants under ground, as then the tops or roots will be in a position to take care of themselves.

Roses.—The best way of dealing with these is to mulch the beds with stable-manure, and if the Roses are dwarfs, to let it come up loosely round the lower part of the heads, as it matters not about the top part of the wood being killed so long as the base and buds there are safe from the frost. The only thing that can be done with standards is to thrust some loose hay into the heads; but it is only the Tea varieties that require this care, as the perpetual sorts are hardier and seldom take harm.

Planting.—Now that the weather is again open, this operation should be pushed on to completion with all speed, as Roses planted before the end of the year stand a much better chance of becoming established and flowering strong and well than those disturbed later on, which have less time to root.

Preparing the Ground.—To have fine blooms, the ground where the plants are to be grown must be well enriched, and not only that, but broken up deep either by digging or trenching, the latter being best; and while that work is going on the manure should be buried below, where the Roses will find it when most needed, and that is while forming and perfecting their bloom.

Gravel Walks.—These, unless where very sound and well made, have suffered from the frost, the expansive force of which, when there is moisture in the gravel, is great; hence the upheaval of the surface and the looseness it leaves. To remedy these evils, the roll must be put in use, and if this is run slowly over the walks a few times it will soon consolidate them and render them firm again, especially if done as soon after rain as the gravel will bear.

Lawns are made soft from the same cause, and the more rolling the turf gets during the winter the finer will the grasses come, and the better appearance will they present, as worms are constantly turning up soil and making the surface look untidy by the numerous casts they exude. Killing the Worms: It is a good plan at this season to get rid of these troublesome pests, which may easily be done by watering the lawn with lime-water, as when this touches their skins they quickly wriggle out of their holes.

THE GREENHOUSE.

Temperature.—The temperature most suitable for the greenhouse at this season of the year is about 50° by day, and a few degrees less during the night, which heat will agree with most plants, and keep those that are in flower fresh by preventing damp lodging on and spoiling the petals.

Pelargoniums and Chrysanthemums.—Pelargoniums of the show and fancy classes will now be all the better for having the weakest of their shoots thinned out, and all the stronger stopped by nipping out the points, which will cause them to break again and become furnished below. The most suitable place for the plants is a light shelf well up to the glass, as there the growth they make is sure to be sturdy and strong. Excepting such sorts as Golden Dragon, Ethel, Meg Merrilies, and a few other late kinds, Chrysanthemums are mostly over, but it will soon be time to start again, and to get good cuttings the old plants must be taken care of by being cut down and stood, or, better still, turned out of their pots and plunged in rich light soil in some cold frame, where they will soon send up some fine strong shoots from the crowns.

Camellias.—These often cause much disappointment by shedding their buds; one of the reasons of this evil being too much heat, but the most general is allowing the plants to get dry at the roots. This being so, they should be examined frequently, and watered in such a way when they require it as to thoroughly soak the ball of soil through.

Composts.—As it will soon be time for re-potting most plants, it is of the greatest importance to be provided with suitable composts to shift them in, and that the stuff may be in good condition, it should be got under cover at once. The chief thing to secure is fairly fresh fibry loam, and this, with a little peat, leaf-soil, and rotten manure, will be all in that way that anyone wants.

Pits and Frames.—The great enemy with plants in these now is damp, and to fight against such a foe every opportunity must be seized when the weather is favourable to give air, as it is a confined atmosphere that starts and engenders the mould and helps to bring on decay of the leaves. Any that are affected in this way should be picked off at once, and it is a good plan to just stir the surface of the soil at the same time, and give the frame or pit a rake out, which will make the floor fresh and sweet, and give the inmates a chance of holding their own till the days lengthen and start them again.

THE FRUIT GARDEN.

Vines: Ripe Grapes.—Amateurs who have a vinery generally essay to keep ripe Grapes till Christmas, but this year, owing to the excessive rainfall, it will have been a very difficult matter, and only done by much watchfulness and care, unless the sorts grown happen to be of the thick skinned kinds, and even then the bunches must have been constantly looked over to see that there are no mouldy or decaying berries, which, if there are, should be snipped out at once, as otherwise they are sure to spoil others they touch. Gentle Fires: The way to preserve Grapes to as late a period as possible, is to have the pipes or flues just warm, but not sufficiently so to raise the temperature, as that would cause a shrivelling of the berries, the thing to aim at being coolness and dryness of the air, under which favourable conditions the Grapes remain fresh and plump.

Bottling the Grapes.—In cases where there are only a few bunches hanging, it is best to cut them with as much wood attached as can be got, and to place the lower ends, where severed from the Vines, in a bottle of water, which may then be suspended in any dry room, treated in which way Grapes will keep a long time, and are not a tithe of the trouble they are when left in the house.

Pruning the Vines.—This is an operation that is generally left till too late, and always when it is, it is at the expense of the Vines, which then suffer from bleeding or sap-letting, which flows out at the cuts, and once it starts it is almost impossible to stop it, and it only ceases when the buds break, which they do under such circumstances very weakly, as the juices have oozed out of the rods. By pruning early these evils are prevented, as, instead of the pores of the wood being open, they have had time to close, and the life giving fluid shut in, when it takes its natural course and pushes forth strong vigorous shoots that show plenty of fruit.

The Way to Prune.—There are several ways of pruning Vines, the one most generally adopted and considered the best by nearly all practical gardeners, is the spur system, which consists of having a single rod to each rafter, or a vine about every 3 ft. apart, and the shoots that are made yearly at each side cut back close to the last bud, and though the bunches produced under this method of treatment may not be quite so large, they certainly are more close and compact than those obtained from young canes.

Running up Fresh Rods.—Those who adopt the last mentioned method of growing Grapes run up fresh rods annually, cut out those that have borne annually, or if not annually they are frequently renewing the canes, but the doing of this crowds the house with foliage, and is a tax on the Vines. Although not agreeing with the perpetual running up and cutting out of rods, we would strongly recommend extension of growth, and if there is one vine in a house that shows more vigour and health than the others, by all means lead fresh canes from it to where the others are, and let it gradually replace them, or fill any vacant space there may be.

Young Vines.—Vines that were planted last spring and have made good rods, the size and thickness of one's thumb, will not need heading back much, and may be left 5 ft. or 6 ft. long at least; but others, smaller and weaker, will be all the better for being pruned closer in, and in either case they should be shortened to a good plump bud, the proper distance to make the cut from it being about half-an-inch, and it is a good plan to rub the wound over with a little white-lead to prevent the part bleeding.

Vine Borders.—The digging and disturbing of these cannot be too strongly condemned, and instead of subjecting them to that treatment, they should have a few inches of horse-droppings or other short rich light manure laid on the top, which will not only feed and nourish the roots, but encourage them to come nearer the surface, where they will be more under the influence of sun and air, and keep in a healthier state than they are when driven below.

Strawberries.—These often get much injured during severe weather, and especially is this so when the plants are dug between and get their roots cut and disturbed, a practice that is still common in gardens, instead of which the beds should be heavily mulched with a mixture of soil and rotten manure, so as to partially cover up the crowns, which will greatly strengthen them when they begin to grow in the spring. Cutting off the Leaves: Not only are Strawberries much weaker by the treatment already referred to, but they are made more tender by the exposure they are subjected to by cutting off the old leaves, all of which should be left on, as they are a great protection to the young ones, and the trusses of flower which they shelter from the keen winds and frosts that we often get, even to the middle of May.

Bush Fruits.—Gooseberries and Currants are often left till they get old and bare below, but instead of allowing them to arrive at that state it is far better to grub them up, and replant; but this should not be done in the same ground. A good way of growing them to economise space being to plant them alongside of walks, and by having single rows so arranged, they are handier to net or get at for the purpose of picking the fruit.

Making and Putting in Cuttings.—To keep up a stock, and always have some small bushes at hand ready for filling up gaps or making fresh plantations, cuttings should be put in annually, the best wood for forming them being the young strong shoots, and the way to prepare these is to take them off about 18 ins. long, and then trim off all the lower buds, leaving only three or four at the top, when the cuttings will be ready for inserting, which may be done in fresh-dug soil by pushing them down by the side of a line in rows, or dibbling them in with a small dibble, and making them firm.

THE CHRISTMAS ROSE.

Although introduced into our gardens nearly three centuries ago, the Christmas Rose remains to day a comparatively scarce plant, and, indeed, a very rare plant in anything like fine clumps. To attempt a solution of this may at first appear superflous; still the fact that they are impatient of removal, and take a considerable time to re-establish themselves after being transplanted, may in some degree account for the scarcity of at least fine clumps. But some may remark that, with such a lapse of time even the smallest plants might have formed magnificent specimens. In this I readily concur, though it is highly probable that the originally introduced plants have long since passed away. The Christmas Rose, the St. Bruno's Lily, and The Fair Maids of France, are all great favourites with the writer, simply because they were his first acquaintances among hardy plants; and under these three popular names he first learnt, and never forgot, three popular hardy plants. At the time of which I speak good clumps might be seen frequently in country cottage gardens, clumps 3 ft. or more across; but you cannot meet with these to-day, and this causes one to wonder what has become of these giants as it were, the result, probably, of twenty year's growth.

In point of popularity it would be difficult to imagine a more popular flower for the coming Christmas season than the Christmas Rose, which if rose it be, is certainly minus the thorns. It is highly appreciated, and justly too, at this dull season when flowers are scarce, and it is the more valuable because, let the weather be what it may, the flowering of it is sure, and being so thoroughly hardy, it is capable of withstanding our severest winters with impunity, for frost never does more harm than browning a few of its leaves, which, considering that it loses the great majority of its foliage annually, to be replaced by new, is no great loss to the plant. Even when the ground is covered with snow, these mid-winter flowers may be seen peeping from their beds, determined, as it were, to be in their place at flowering time.

The culture of the Christmas Rose, botanically known as Helleborus niger, is very simple, provided a few particulars be adhered to. One of the primary points is a good depth of well enriched loam, of a somewhat retentive nature, though well drained; a position in partial shade is also highly beneficial to them, and insures large vigorous foliage. On no account, that is if the best results are desired, should they be planted on sandy soils exposed to the full sun, for here they will most assuredly fail. A position such as I have described will be forthcoming in most gardens, and, as I have before observed, that they are most impatient of removal, care should be exercised that they are well planted in the first place, and that the proper position be selected for them.

Where they are specially required for the blooms, which are so valuable at this time, they should be planted in a bed by themselves, where they may be covered at flowering time by hand-lights or a spare frame, which may be removed when the flowering has ceased. Protected in this way, the blossoms become much more pure than when left exposed to wind, rain, and frost, and, as a natural consequence, are far more valuable. Speaking of the Christmas Rose calls to my mind some exceedingly handsome clumps which existed some years ago in Mr. Latimer Clark's garden at Sydenham. These were annually a picture at flowering time, and coveted by all who saw them. They were covered by large bell-glasses, specially made for the purpose, and they were annually one mass of handsome pure white flowers, which lasted for weeks in perfection. When seen in such condition and in such quantity, they are certainly the pride of any garden in winter time. Another good method of growing them successfully is in turf-pits. This will be more readily accomplished where rough turf abounds by building a pit 18 ins. high. Plant them in this in good soil, and success will follow. The benefits derived from this method are that they remain sheltered from cutting winds and are kept somewhat cooler; moreover, they may at any moment be covered by a mat or spare light if necessary.

The varieties of the Christmas Rose are very few—at least, the recognised forms, though there is a considerable variation among collected plants. Apart from the typical plant, Helleborus niger, the varieties Caucasicus and maximus are the most distinct, the former being an intermediate form between the original species and maximus, and the flowers snow-white. The latter is a grand plant, still very rare; this commences to flower in November, and is succeeded by the other two, which brings about a somewhat lengthened flowering period. In connection with this family there is ample scope for the hybridist, who hitherto has been rewarded with some fine additions to the genus, mostly, however, among the Lenten Roses, which flower later on; they produce seeds comparatively free, but are very slow to vegetate, and seedlings take from three to five years to make good flowering plants, so that those who take them in hand will need a fair amount of patience.—*J.*

CARTERS' "EMPEROR" PETUNIA.

Many of our readers, doubtless will have seen the charming baskets of Petunias which have been exhibited at the summer flower shows, and to those who have not, the accompanying illustration will serve to give some idea of the great variety among them, though for their marvellous beauty and their gorgeous colours, the engraving, no matter how aided by description in words, must necessarily fail to give an adequate notion. Messrs. Jas. Carter & Co., have worked on the improvement of the "Emperor" strain of Petunias for years, and by careful seeding making it better every year, until now it seems almost impossible to improve on it either in habit, floriferousness, or quality of bloom.

The flowers illustrated represent some of the types, which, together with every inconceivable grade between them, may now be secured by the simple means of a packet of seed. The one type represents the rosy crimson form with white eye; another, the rose veined with crimson; the third, the flaked and mottled class; and a fourth the double, which comes in every conceivable tint. The crimson and white bizarre form of the Inimitabilis section is also represented, as also one of the forms with wonderful kaleidoscopic arrangement of the veins radiating from the centre, and the fringed class, which runs through both doubles and singles.

When we consider the great value of the Petunias as bedding and window-box plants, and how in some hot summers or in poor shallow soils they are among the few plants to be depended on to give bright flowers, we wonder they are not more grown than they are, for in the matter of showiness but few things can compare with a good bed of mixed Petunias, which is a thing of great beauty when viewed closely, and is visible and effective from a greater distance than most flowers.

Seeds sown in a cold greenhouse or frame any time early in the year make stout plants by bedding out time, and even if forgotten until the lack of enough bedding plants is made known in the spring, at any time, within a few week of bedding-out time, the Petunia, if sown in a little heat, is one of the best and safest plants to rely on to make up the deficiency.

PRUNING VINES.

Amateurs and young gardeners just beginning to prune their Vines for the first time are sometimes afraid to use the knife or secateur with that freedom that practice alone can give, so that a few hints may not be out of place at this season of the year. Barbarossa and Duke of Buccleuch should not be cut so close as other varieties. The first-named should be left with two buds, and the Duke with three or four. When the Vines are being disbudded in spring, the most fruitful-looking and best shoots can then be retained. With other more certain "showers" the pruning may be quite close—*i.e.*, to one bud. Sometimes, when such close pruning is the rule, the bud that is left does not come away in spring, but another forces its way out of the old stem. This generally happens when the cut has been made too near the bud retained. Cut as far away from the bud as possible, just below the next bud, so that a piece of shoot may be left that will heal and dry up without making the bud suffer.

Sometimes, however, Vines break back on the old wood when quite correct pruning has been practised, but not often. The shears or knives used should be of the best quality, and should be in good order. A slightly slanting cut should be made, and so clean that no signs of jagged edges may be seen.

When Vines are pruned a few days before they are to be started, they should have styptic applied to the wounds. The next day after pruning apply the styptic with a hardish brush, taking care that the whole surface and edges of the wounds are coated over. In the case of young rods which have been run up in summer, various ways of pruning may be practised according to what is desired. When young vines have been allowed to grow and ramble at will all the season, and it is not desired to take any fruit off them next year, they should be cut back to within 2 ft. of the bottom, and allowed to come away with just as many shoots as are required to form bearing rods for another year. Supposing these to have flourished, at the next pruning they may be allowed to remain 6 ft. or 8 ft. long—according to strength—and an additional 6 ft. or so retained the next season, until the required length is attained.

Attention should be paid to the running up of young rods to take the places of old unsightly stems, which can easily be done without interfering very much with the cropping of a house. Some varieties, notably, Lady Downes, fruit better, and "break" better when the Vines have attained a few years age. Young rods of Lady Downes are indeed sometimes very troublesome to get to "break" equally. By the way, Golden Champion ought to be included among the varieties that should not be close pruned—three eyes at least should be left.

It may be profitably urged that one great secret in regard to having fine shoots on which to practice pruning is, that at disbudding time only as many shoots should be retained as there is abundant roof space for. Sometimes the writer has seen several miserable thin spindles of shoots crowding together where only one should have been. One would have been strong and fruitful, three or four are weak and unproductive.—*Scotia.*

THE HOLLY.

The European Holly is certainly one of the evergreen glories of English gardens. There its deep green glossy foliage and bright coral berries, which hang on for a long time, are seen entwining the pleasure grounds and shrubberies the whole of the leafless and inactive period in vegetation—winter. It is also in our mother tongue inseparably connected with the delightful association of merry Christmas gambols and feastings, when both the churches and the dwelling-houses are decorated with its sprays and boughs. It is said that the practice of dressing our houses, &c., is a relic of Druidism, and so links the past to the present festive season, as does the Mistletoe.

"The Holly or Holme (*Ilex Aquifolium*) derives its name from the Anglo-Saxon *Holegn*, whilst another ancient designation, Hulver, or as Chaucer wrote it, Hulfeere, has been taken from the old Norse *Hulfi*. From the use made of its branches in decorating churches at Christmas-time, the monks, by an easy corruption, bestowed on the Holly the designation of the Holly-tree (R. Folkard)."

Dr. Chandler mentions that during the times of the Druids, priests houses were decorated with boughs "that the sylvan spirits might repair thither, and remain unnipped by frost and cold winds until a milder season had renewed the foliage of their darling abodes." But Mr. Folkard states that the custom of decorating houses and churches with Holly at Christmas is probably derived from the Romans, who were wont to send boughs to their friends during the festival of the Saturnalia, which occurred about the same period, and the Oaks being then bare of leaves, the priests obliged the people to bring in boughs of Holly and Evergreens. There is little doubt that the early Roman Christians, disregarding the church's interdiction, introduced the heathen practice of decorating their houses with Holly, and in course of time connected it with their own faith; and he further informs us that there exists an old English superstition that elves and fairies join the social gatherings at Christmas, and this led to boughs and branches being hung up in both hall and bower, in order that the fays might "hang in each leaf and cling on every bough during that sacred time when spirits have no power to harm."

It was formerly an article of belief that, unknown before, the Holly sprang up in perfection and beauty beneath the footsteps of Christ when he first trod the earth, and that though man has forgotten its attributes the beasts all reverence it, and are never known to injure it. In Cambridgeshire it is still believed by many that if the Holly with which the house is decorated at Christmas is removed before Candlemas-day the prosperity of the tenant will vanish with it, and not return before the following year.

The common British Holly has been by many considered to be merely a shrub, but when left to its natural growth it attains the height of at least 30 ft., and it is mainly employed in the formation of hedges. Its wood is extremely hard and tough; it is of much value to the inlayer for ornamental work, and is used for making the best description of patterns for printed calico or paper-hanging. In large or full-grown trees the leaves of and near the top are, for the most part, nearly entire and not spiny.

We have stated it is a good plant for forming hedges; indeed, no other plant is so well adapted for this purpose. It bears the shears well, and forms a fence as tall, as wide, and as dense as can be wished for by the most exacting. It is of rather slow growth for the first year or two; but after that, if a moderate degree of attention be bestowed upon it, it advances more rapidly and soon realizes its character for combined beauty and utility.

The perfect hardiness of the Holly, and its ability to withstand the most violent winds, is one of its chief recommendations. Hence it is that it is so much planted in exposed positions, and in the smokiest parts of the manufacturing districts of Lancashire, Yorkshire, &c., sharing with the hardy Rhododendron the capacity to withstand the sulphureous fumes emitted from the tall shafts.

There is one point that deserves mention—the fact that some of the variegated forms of the Holly are much freer growers than others, a quality which should influence the choice. Three of the best with golden variegation are Golden Queen, Waterer's, and Moonlight; then of those that have silver variegation, two of the most useful are the Handsworth and Milkmaid. There are several very fine green-leaved varieties; among them we may mention Shepherdii, laurifolia, rotundifolia, and marginata. But seedlings are found to show much diversity of colour, and those who make a speciality of Hollies select and propagate for sale not a few fine seedling varieties, which are purchased by those who know their value, and appreciate novelty. When Holly-berries are procured for seed, they are gathered when dead ripe and heaped up in a corner with sand, where the heap can be fully exposed to the weather. The heap is turned over every two or three months for a year, which causes the skin encircling the seeds to decay. The seeds are then sifted out and sown in February in beds of fine rich soil. Raising Hollies from seed is very slow, but a very sure work. Certain varieties can be propagated by means of cuttings struck under hand-lights.—*R. D.*

Carter's "Emperor" strain of Petunias.

GUNPOWDER SEED.

A Story for the Christmas Fireside.

In the old days of the Chartist agitation there was probably permeating a large portion of our working population, a deeper-seated brooding over what were regarded as political wrongs than could be found in the same class now. Without doubt, times were then much harder, and the poor had to endure great and grievous hardships, so that when men did think, they almost invariably thought with depth and much bitterness. The granting of the franchise to all classes without exception then would—and very naturally—have been regarded as a terrible and dangerous experiment. Since that time, however, we have seen a social revolution, which has changed so much what once was bitter into mildness; and so much that was full of want and suffering into comparative abundance and prosperity. To that end the press of this country has largely contributed, and now we find happier and wiser counsels prevailing, and far more willingness to wait patiently for needful reforms. Thus it has happily come about, that a great political contest has been conducted during the last few weeks with such an absence of serious excitement or alarm as could scarcely have been anticipated but a few years ago.

Our little story dates from the earlier period to which we have referred, in fact, to the politically agitated year of 1848, which had been full of fright, excitement, and intense political party feeling; and the plot is laid in a near suburb of the great metropolis, where not a few of our sturdy artizans and mechanics reside. Our hero was, however, but a humble cobbler, a mender of boots and shoes, and a maker, to the best of his ability, when orders for new ones came in—which, by-the-bye, was none too often, for shop-work had broken the back of the genuine cobbler, and he had to be content with what jobs his poor neighbours could find for him. Tim Stokes got a livelihood of a sort, poor enough, but his wants were few, and to some extent he provided for those in other ways. Tim was held in high esteem by his fellows, not only for his honesty and shrewdness, but also for his political proclivities, for he was as earnest a Chartist as could be found in the kingdom. Happily, he was not a man to let his political dissatisfaction take the form of angry threats and denunciations. Cobbler that he was, he was very intelligent, and a stern thinker, hence he kept his stronger passions in check, and not less held control over those of his fellows, for in Barford, where Tim lived, the Chartist agitation, found a warm habitation.

But Stokes had another characteristic which proved of immense value to him in those days of political turmoil He was an enthusiastic amateur florist, and in his little plot of 20 roods or so of ground, found day after day sweetness and solace, aye, and much food for generous reflection, that very materially aided to sooth his path in life, and toned down harsh and bitter feelings towards those whom he and others considered his oppressors. The very elements of his life that kept him so well under control, served also to give him in Barford a especially high status, not only in matters of common life, but also in political matters, and thus he was looked upon in the locality as a leading Chartist. Tim grew Auriculas and Polyanthuses well, and of such as they were in his day, he had some of the best. He was also a bit of a Tulip fancier, having in that respect some of the tastes which marked then, as now, the sturdy artisans of the north. But of no flower was he more fond than of his Sweet Williams, for sentiment held some little sway over the old cobbler, and remembrance of his childhood home and ancient cottage garden in a far off county remained imprinted on his mind, and of all flowers the Sweet William was the one most lovingly remembered. We may be sure that the Chartist even in the bitter days of '48, who could exhibit such a love for flowers as Tim did, was not a dangerous demagogue or political firebrand, although his thorough earnestness and depth of conviction none could question.

It happened, however, that in Barford there were a few evil spirits, whom it is but charitable to assume were more influenced by excitement and hardships than controlled by knowledge and judgment, and who rebelled against the cooler and more temperate advice which Tim gave at the Chartist meetings. They were for violence, for wild night attacks upon property, and especially upon some newly introduced machinery in their employers factory, and which had the temporary result of reducing the number of hands employed. That such a result should have happened just then, naturally tended to inflame mens' minds against capitalists and property, and thus the few more ardent though evil spirits in the place found no inconsiderable following. A dangerous spirit of insubordination and of threatened violence broke out at one of the Chartist meetings, which Tim did his best to subdue, and for the moment the danger seemed to have passed away.

The mutineers, however, feeling that Tim's power was greater than their's, resolved on some form of injury or humiliation to the cobbler, and a few, in secret meeting, determined that they would visit his cottage some night, and themselves disguised, force the old man, either by threats or violence, to quit the place, if not for good, at least for a time. Tim's cottage, which was literally in the midst of his pretty garden, stood somewhat apart from other houses. Still further, Tim lived alone, for being without children, and his wife having died several years previously, he had lived a true batchelor life, his wants being few, and those supplied by his own hands.

A night that was at once dark and stormy was chosen by the violent men for their attempt on Tim, and when about nine o'clock they reached the garden gate, they saw the glimmer of a light through the chinks in the closed shutters, and the old cobbler's hammer could be heard thumping his leather, as he still, at that late hour, thought and worked by the fireside. Presently, above the sound of the hammer, a knock was heard at the door, and fearless Tim calls out, "Come in!" The door is opened, and in walked a man clothed in a long overcoat, wet, dirty, and draggled, and wearing over the greater portion of his face a black calico mask. The sight of this unlooked-for object naturally made Tim quail somewhat, though naturally so fearless. But when two others, similarly disguised, entered, then closed and bolted the door, Tim was deeply alarmed, and naturally felt in great danger of bodily harm. "What do you want?" Tim asked as firmly as he well could. "We want you to leave Barford, and that pretty soon," said one of the intruders. The voice was a bit husky, but Tim thought he recognised it, and, of course, the speaker. "Why should I leave here?" said Tim. "Because you are in the way here," was the reply, "and most likely, if you don't go quietly you'll be helped off. We don't want to do you any harm if you'll give your word you'll go away at once. If you don't it will be the worse for you!" Tim said that he had done no one harm, and should not go for them, to which the fellow rejoined that they meant business, and if he did not agree to quit Barford in five minutes they would take him out of it a dead man.

Naturally alarmed at the turn matters were taking, Tim reflected for a moment, and as if suddenly struck with a bright idea, said, "Well mates, I don't know why you should want to harm me but as you're stronger than I am I suppose I must submit; it's hard to leave my little home and garden, and go away to find another home," and the old man seemed as if choked with emotion for a moment, but the feeling passed off. Rising, however, as if with the intention of acting as he was bid, he turned to the shelf behind him and took down a large tin canister, placed it on the table, and again sat down on his chair. Then he took a box of matches from his jacket pocket apparently with as little concern as though he were about to light his pipe, opened it, and took out a match. Then he lifted the lid from the canister, placed it on one side, and emptied some of the contents, which resembled coarse gunpowder, out on to the table before him, with its bottom towards the intruders, so that the contents were partly hid. Still, they could see as they thought, a heap of powder on the table, and the big canister apparently half-full lying beside it. The men were a little taken aback with Tim's cool and apparently odd proceeding, and for a moment did not scent any danger. When, however, the old man took the match box in one hand and a match in the other, and held both close to the black heap, the hearts of the wretches fairly crept into their mouths, for they instinctively thought that Tim was about to blow them all up. This effect the old man had hoped to create, and at once he said in firm and stern words "You came here to do me harm, and even to kill me if I would not do your bidding. Now prepare for death yourselves, for sure as fate there is no power on earth can prevent me from sending you into eternity in a moment."

The men were paralyzed by this address, for they felt that their lives were in Tim's power, and also that the old man would not hesitate to punish them even if he sacrificed his own life. "Stop for God's sake" shouted the men simultaneously, and in terror, for they were afraid to move, lest Tim should be alarmed and fire the heap before him. "You had better say your prayers," the old man said with terrible solemnity, or leave the house immediately, but I will only let you do that when each one has sworn not to attempt doing me further harm. Immediately the men did so with all the force and fervour they were capable of, for their hearts were in their mouths with fright. "Now you may go," said Tim, "but only one at a time," and the man nearest the door moved hastily, drew back the fastenings, opened the door, and dashing out, ran with all speed away. "Now the next," said Tim, and the second made as hasty an exit. Then the third was bidden to follow, with the abjurgation ringing in his ears, "Clear out, sharp!" and sharp he went.

Tim then arose and followed him to the open door, and having satisfied himself that the cowards had decamped, he re-fastened the door, and setting himself down in his chair, laughed heartily. Happily, his intending assailants were a long way out of hearing, for had they but known that the heap which, to their affrighted minds, appeared to be fresh gunpowder was really only Tim's crop of *Sweet William Seed*, they would doubtless have returned and wreaked upon the old man terrible vengeance. After replacing the seed in its canister, Tim retired to rest, and passed a quiet night. Next day he told the story far and wide, well knowing that the ridicule the telling would produce would prove his safest protection. In this respect he was right, for not only did the report of the attempted attack upon Tim bring over to his side most of the previous malcontents, but suspicion as to the personality of the offenders was so strong and apparently correct, that ere many days had passed the culprits were missing, and were never more heard of in Barford.

Tim's life henceforth, though not less of a political kind, was, at least, both more peaceful and prosperous than before; and those who had sworn to work him harm seemed only to have brought the old man blessings. Specially did his Sweet Williams become popular; plants and seeds were in great demand, and for many a day the neighbours would joke with Tim over the wonderful powers of his Gunpowder Seed.

FRUITS, FLOWERS & VEGETABLES.

Poinsettias for the Christmas Decorations.—I read with interest the article on Poinsettias by "W. B. G.," at p. 251, in which he gives us his novel mode of starting the old stools, plunged in a Vine-border in the open air. We grow Poinsettias here in large quantities, not only for stove, mansion, and church decoration, but also to follow up the Chrysanthemums in the conservatory, where, arranged amongst Primulas, Eupatoriums, Roman Hyacinths, Lily of the Valley, Coronillas, Callas, &c., they make a grand display at this season. Although we have given up growing old plants, finding that young ones keep their foliage better and give us the largest bracts, still I shall be pleased to try a few on "W. B. G.'s" system next year. Our plants were taken into the conservatory last week. When the Chrysanthemums were removed they were grown under the following conditions, and I have sometimes kept them good without losing their leaves for nearly two months. After the plants have got past their best, a few are stowed away in a warm potting-shed, giving them water once or twice whilst there. They are introduced into heat again in time to get the first batch of cuttings early in May, and we continue propagating until the beginning of July. The cuttings are dibbled singly into thumb-pots, then watered and plunged in a close propagating-box, where they are kept close without any more water until they have rooted, when they are shifted into 60-sized pots, and when established are removed to cold pits, gradually increasing the air until the lights are tilted night and day, and removed altogether on warm days. When the pots are full of roots they are potted into 48 and 40 (deep 48's) sized pots, in loam, leaf-soil, and sand. We never syringe overhead, as we find it promotes too soft a growth for conservatory work. About the end of August, the plants are removed into an intermediate house, and have air for a time on all favourable occasions. When the bracts begin to show

the fire-heat is increased, and weak Guano-water is given occasionally. The bracts seem to develope the better for a warmer, drier atmosphere during the latter end of November and the beginning of December. When fully developed, the fire-heat should be gradually lowered, when the plants may be removed to the conservatory, where a little extra warmth should be given for a time until they get used to the change, gradually dropping it or a sudden change will result in loss of leaves. As a rule, we get the finest bracts from those struck in May, and the dwarfest plants from the July cuttings. —*S. Pragnell, The Gardens, Broomfield Lodge, Chelmsford.*

Yellow-berried Holly.—It is a pity this highly ornamental Holly is not more planted: it is but seldom met with. The leaves are green, and the berries being bright yellow, form quite a contrast to the red-berried and variegated kinds. We have some bushes of this Holly now full of berries, as all the Hollies are this year, and it is quite as beautiful as the other varieties.—*John Crook, Farnboro' Grange, Hants.*

Chancellor Potato.—"H. T." probably refers to the fact that at the International Potato Show at the Crystal Palace last autumn, this Potato was shown in both the White Kidney and White Round classes. The sample occasionally varies, and whilst with some it may come handsome oval shaped, with others it is longer and kidney-shaped. Very much depends upon the soil, and its capacity to force the tubers to complete development. Fully grown it is a Kidney, but it will also produce some tubers that equal in form the very handsomest of rounds. There are no selections from it. It is a product of Magnum Bonum, crossed with the old King of Potatos, and rather favours the latter shape, one end being rather larger than the other. It is a grand main crop kind, ready to lift in October, produces fine, even, and handsome tubers, and is of first-class quality. So far it has proved absolutely disease resisting, and it should be so, as its parents so far have proved to be two of the best disease resisting sorts we have.—*A. D.*

Dessert Apples.—The same querist asks about the names of certain Apples returned in the report of the Royal Aquarium Show, as in the 1st prize collection of dessert kinds, and yet are comparatively unknown. No doubt it was a surprise to many to find the judges awarding a 1st prize to a collection of six dishes, which included two kinds unknown to commerce, but were simply highly coloured. The rule so admirably applied at the International Potato Show that kinds not previously in commerce should be eligible to compete for prizes, seems needful in the case of fruit competitions also, as it is easy enough to manufacture names. If the two kinds in question are simply local sorts, and not otherwise known, it is odd that if good enough to appear in a 1st prize collection of dessert kinds of Apples at a big show where the quality throughout was remarkable, they are not found in commerce. The Sussex Nanny is an old kind. I have a tree of it, but its peculiar feature seems to be that not only is it little known out of Sussex, but that it does not bear out of that county also.—*A. D.*

Alpine Strawberries.—I remember the late Rev. W. F. Radclyffe, who was a great authority on Strawberries, once saying that "every garden should have some Alpine or another for September and October." Well, they come in very useful at that season of the year; the old red and white Alpines are still very good. The red and white bush Alpines are the least trouble, because they do not put forth any runners. There is an Alpine variety known as the Parsley-leaved, or Le Mendonnaise, which makes a pretty plant, but is more ornamental than a good dessert variety. One named Blanche d'Orleans was a great favourite with the late Mr. Thomas Rivers, and I remember his saying in a letter that it was bearing large and delicious fruit at the middle of September; but he regarded Galande as the largest and best of all; the latter has dark red fruit, the former white. Mr Rivers recommended raising Alpine Strawberries from seed, because seedling plants always produced larger and better fruits than those propagated in the usual manner. If anyone can fancy a delicious dish let him try Apine Strawberries with sugar and Alderney cream, or sugar and sherry; but not without his digestion is good.—*Ino.*

Rhus cotinus.—This beautiful shrub, which was introduced from the South of Europe as far back as 1656, is also known as the Wig Plant, and the Venetian Sumach or Wild Olive. When at Salisbury, in August last, I saw in the pleasure-grounds of the Bishop's Palace, in the Cathedral Close, a very large bed of it in all the glory of its summer beauty. Here is a shrub, long ago introduced to our pleasure-grounds, but yet is seldom seen in its beauty—such as I saw it at Salisbury. It is of moderate growth, and not over-fastidious as to soil or situation. But few subjects are so effective as is this plant, when in full flower. The light, airy, feathery appearance of the inflorescence is something unique—the peculiar bright bronze hue contrasting well with the deep green of the foliage. It is a shrub that lasts a long time in flower; and, to be seen to the best advantage, should be planted singly on the grass; but I have seen it associated with other shrubs—on one occasion, among some dwarf variegated Hollies, with surprising effect. The charming inflorescences are well-adapted for mixing with other flowers in a cut state. It has a light gracefulness, distinct from anything else. The flowers of this picturesque plant are hermophrodite, many of the flowers are abortive, and, after flowering, they assume the appearance of elongated hairy pedicles. I can scarcely recommend another shrub more highly ornamental.—*R. D.* [It may interest our correspondent and others to know that Mr. Ed. Pynaert Van Geert, of Ghent, is now offering an elegant weeping form of the Wig Plant—a novelty that comes as a welcome addition to our select hardy shrubs.—Ed.]

Chrysanthemums.—"L. M.," on p. 254, asks two questions, which I will endeavour to answer. He asks first, "What objection is there to growing rooted cuttings in the open ground for a time, and potting them up in August." My answer to that query is, that Chrysanthemums can be exceedingly well grown in this way, and they do not require so much time spent upon them in watering; for where plants in pots have sometimes to be watered two and three times a day, once will suffice for those in the ground. The best time to take them up and pot them is in September, *after the buds are set.* To the second query, viz., "Whether cuttings from plants left out all the winter are stronger than than those kept sheltered," my answer must be yes. Anyone who has grown and left their plants in the ground all the winter, cannot fail to have noticed what nice strong healthy cuttings they throw up in the spring. The roots merely require a little protection, such as advised in my notes in last week's issue of The Gardening World, p. 246. I may add that I shall give a few hints upon growing Chrysanthemums outdoors before I have completed my notes upon cultivation, that are appearing in your columns. Such notes will give the best time to plant, and also a list of varieties suitable for growing out of doors.—*W. E. Boyce, Yerbury Road, Holloway.*

Stephanotis floribunda, Fruiting.—It may be interesting to some of the readers of The Gardening World to know that the Stephanotis floribunda fruited here in the summer of 1883. The fruit was allowed to hang on the plant till the following summer, when it was cut, a portion of the seeds were sown at once, and almost every seed germinated. I have now three dozen plants from 6 ins. to 1 ft. in height, in appearance similar to that recently described by one of your correspondents.—*James Russell, Poltallock Gardens, Lochgilphead.*

Celery, Sutton's White Gem.—To those who like a Celery that does not want too much room, that will just suit shallow soils, and is always good alike, I would say, grow Sutton's White Gem. I have grown it for two years, and shall continue to do so. It has an excellent constitution, and an appearance in growth of its own; so that almost everyone on seeing it, exclaims, "What Celery is that?" long rows of it being as level and even as though each plant had been shaped in the same mould, while the flavour is as good as in any other variety.—*J. H., Sussex.*

Eucharis Amazonica.—We have a fine plant of this beautiful Amazon Lily now in bloom, making the third time which it has bloomed this year. It is growing in a compost of loam, leaf-mould, and sand, in a 15 in. pot, in which it has been for the past two years. It produced its first crop of flowers in February (twelve spikes); the second in June (thirteen spikes); and the third now consists of forty-one flower spikes, the majority of which are carrying five flowers, in various stages of development. When growing freely, and showing its flower spikes, it receives liberal treatment in the way of liquid manure.—*W. Brown, Prideaux Place, Padstow.*

Skimmia japonica and oblata.—It may not be out of place at this season of the year, when so many berry-bearing and other plants suitable for decorative purposes are in demand, to call attention to these useful low-growing shrubs, than which I know of few things more ornamental. Although, perhaps, not quite as red in the berry as some of the high-coloured Hollies, they are, still, none the less attractive, and the berries being borne more in bunches, and at the tips of the shoots surrounded by a bunch of green leaves, renders them quite distinct from the Holly. The chief object of this note is to bring this lovely low-growing shrub to the notice of those who may not have grown it. It may be grown by every one who has a garden, seeing that it grows not more than 2 ft. high, and is not particular as to soil. Many people complain that it does not berry well; but this is because it is not placed in a suitable position. It sets its berries best in the shade. In this garden we used to have a quantity of it planted in the open borders, and they remained there for several years, and never had a berry on them. They grew very fast, and were everything that could be desired, except that they bore no berries. Some three years ago we took them up and planted them in shady places, and the next season they were full of berries, and have been so ever since. Last season, when making a bank on which to grow a few Alpine plants, the back of which was under some trees, and the bank having only one face, I thought I would put some plants of Skimmia japonica on the top, at the back, under the branches of a Weymouth Pine. In this position they grew well, and at the present time are a mass of berries, and nothing could be more ornamental at this season. I would strongly recommend everyone to give them a trial, in a shady situation. Those who have small gardens in or round large towns, and who have not space enough to grow Hollies, should certainly plant Skimmia japonica. I have seen it full of berries, and growing beautifully under a large Pinus, from 20 to 30 ft. through the branches. They were planted by the 100 under this tree in one of the large shrub nurseries. This is enough to convince everyone that this is the place to grow them, as nurserymen have to study £ s. d.—*John Crook, Farnboro' Grange, Hants.*

The Pear Conference.—In looking over Mr. Barron's report of the above in your last issue, I am surprised to find an omission which is at least singular—the county of Dorset is entirely ignored. It is true that my collection was the only contribution from Dorsetshire; but as it contained 112 dishes—one of the most extensive in the show, and the absolute largest exhibited by a *bonâ fide* gardener—it could scarcely have been over-looked on account of its insignificance. I trust this is the only omission made by Mr. Barron, for as a member of the committee (as well as an exhibitor) I can assure your readers that the time and attention taken up by such undertakings is very considerable, and when it is undertaken solely for the good of horticulture, it is not very flattering to be left out in the cold altogether.—*W. G. Pragnell, The Gardens, Sherborne Castle, Dorset.* [We learn from Mr. Barron that the omission of any reference to Mr. Pragnell's magnificent collection of 112 dishes, which formed one of the most interesting features in the exhibition, is due to its having, by an unfortunate error, been included in the contributions from Devonshire.—Ed.]

How to Grow Violets.—Put a little good fresh soil round your best plants as soon as the runners are ready to peg down, and only grow two or three to each clump, selecting the strongest. Take them off in May when well rooted, and plant out in a bed of good loam, into which leaf-mould and well-rotted manure have been freely worked. Give them plenty of room, pinch off all runners, and sprinkle frequently overhead with a fine rose, in hot dry weather. You will thus get grand clumps in the latter part of September, or very early in October. Place your frame in a sunny spot, and make it up with good stuff; mixing leaf-mould, rotten cow-dung, and a little sand with your loam. Lift your clumps carefully, without disturbing the roots much, and plant them firmly in the frame, 6 ins. to 9 ins. apart, keeping them close to the glass. Give all the air you can except during the prevalence

of frost or cutting winds. Keep down runners, and you will be rewarded with abundance of blooms during some of the dullest months of the year. I grow over a dozen sorts, but find nothing equal to Marie Louise or De Parme for frames. I have had a large number in pots this season, and they look really charming when they are well flowered, and when each bloom is carefully and neatly tied out to a little wire stake. The foliage of each of the sorts named is of charming shape, and has a rich gloss. In order that you may judge of the success of the above method, Mr. Editor, I have pleasure in sending you a bunch of my blooms, which please accept as a Christmas button-hole.—*A Somerset Amateur.* [We congratulate our correspondent on his success as a cultivator of Violets. He has sent us a bunch of fine blooms, large in size, pure in colour, and delightfully fragrant. As a button-hole for Christmas this will remind us of the sender and other absent friends of THE GARDENING WORLD, and (dare we say it in a whisper?) they will not be forgotten!—ED.]

Green Peas in November.—Messrs. R. B. Laird & Sons, Edinburgh, inform us that they have heard from a gentleman in the West Highlands, that his gardener sent to table a dish of green Peas on November 5th as good in quality as those obtained in July. If the gentleman is still living of whom the story is told, that his partiality for green Peas was so strong that he followed them up from the first crop in the sunny south to the last obtained at Aberdeen in October, he should make a note of the West Highlands as a likely place to contribute to his enjoyment of the luxury a few weeks longer.

The Edinburgh Apple Conference.—Your contributor "X. Y. X." has not taken the trouble to search deeply for information regarding the work done at Edinburgh, If he will wait until the report is presented, he will find that much practical good will result from the meeting, as the council have a mass of interesting and useful matter in hand which is in course of "digestion." To his remarks as to the jurors being in a "maze," allow me to say that had "X. Y. Z." been there until dark on Saturday, he would have seen that they had not neglected their duty nor lost themselves. —*One who was there.*

Christmas Roses.—If these charming plants are wanted for any decorative purpose indoors they must, of course, be potted, but, if for cut bloom only, they should not be disturbed. I have to-day cut about fifteen dozen for house decoration. We grow them in good land, and mulch them yearly. When we see the flowers breaking up in the centre, we put propagating cases over them, they are then kept from the weather; the flowers open pure white, and the trouble of potting is avoided. Christmas Roses are one of those things that do not like to be disturbed at the root, unless you want to increase the stock. My opinion is, "let them alone." I have every respect for "R. D," and am perhaps treading on dangerous ground, nevertheless, I am writing from experience.—*R. Gilbert, Burghley, Dec. 21st.*

Harbinger Primrose.—This day, December 21st, we picked our first batch of this truly charming winter-flowering plants. We have about 300 in pots, lifted in October, and placed in cold frames and cool houses near the glass. They keep on blooming until March. Last February I had a span-roofed house full. This house is close to the garden doors, and the plants took the people by storm. The very best advice I can give to all my friends is, always to have something imposing close to the entrance of the garden—the first peep is *the* peep.—*R. Gilbert, Burghley.*

PLANTS FOR TABLE ORNAMENT.

(Continued from p. 245.)

PANDANUS JAVANICUS VARIEGATUS AND P. VEITCHII are both very useful subjects for table decoration, and make much more graceful plants if they are propagated from small offsets. The best position to grow them is on a shelf in the stove, as if kept close to the glass and fully exposed to the sun, the variegation becomes much brighter than where they are grown in a shady position; they should be kept moderately dry. If grown on too vigorously they soon lose that graceful habit which is so essential in a table plant.

PANDANUS GRAMINIFOLIUS.—This, when well grown, makes a very light and graceful plant; and as it is of slow growth, plants that have attained a useful size will do much service before getting too large for the purpose.

JACARANDA MIMOSÆFOLIA.—This is an exceedingly light and graceful plant, although it is not often met with in good condition. It well deserves attention, as when well grown it makes a very handsome plant. It should be grown in the stove, and succeeds best in light peaty soil.

ARALIAS.—These include some of the most elegant plants that can be found for the purpose. A. Veitchii, A. Veitchii gracillima, and A. elegantissima, are especially beautiful. A. leptophylla is also a useful

PANDANUS JAVANICUS VARIEGATUS.

species; and to keep up a supply of plants of a suitable size, it is necessary to propagate annually. The three first named sorts can only be propagated by grafting, and the best stock to use is A. reticulata. This is easily propagated from cuttings; and if the tops are saved when the plants are used for grafting, they will always give a successive supply of young plants. The grafts may be obtained by cutting down any plants that have become too leafy. One good plant will give a number of grafts; the stem may be cut up into short lengths, say two eyes to each graft, or where it is

A TABLE DECORATION.

required to make the most of the stock, they may be cut up into single eyes. In putting on the grafts they should be kept as close to the root of the stock as possible. The spring is perhaps the best time for grafting, though it may be done at any season of the year, provided the stocks are in a good condition. A. leptophylla may be propagated from cuttings; or, if good established stocks are at hand, plants may be obtained in less time by grafting.

DRACÆNAS.—This valuable genus includes a great variety of useful plants, which are specially adapted for table ornamentation. D. terminalis is probably the most popular of the coloured-leaved varieties, it is of free growth, and generally colours well, the bright red leaves being very effective. D. Cooperi: This is rather more delicate than the above, but when well grown it surpasses it in beauty, the leaves being beautifully recurved gives it a very graceful appearance. There are many other beautiful coloured-leaved varieties which are very useful for the purpose, but the above named still remains the most popular for general use. Of the green-leaved sorts D. congesta is a useful species; D. rubra is also a popular plant, the sort usually met with under this name in market nurseries is somewhat different to the normal form. I do not know if it is a variety, or whether it is a distinct species, but it is certainly a much more useful plant.—*A. Hemsley.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

Syringing Orchids.—This question may now be discussed with advantage, as any errors in distributing water, in winter especially, never go unpunished. In my paper read at the Orchid Conference, in May last, I said:—"Syringing a house of Orchids should never be done, and the syringes should be only used for moistening the staging and back walls, or doing any other work on which it can be certainly employed without harm. When used on the plants the operator cannot tell what he is doing, and in the hands of a thoughtless person the syringe is the most mischievous instrument ever introduced. There can be no rule for its use among Orchids as a means for distributing water, and certainly no benefit that can be set against the loss of young growths and decayed flower-spikes which must follow an indiscriminate use of it." Those words were addressed to amateurs whose houses are filled with mixed Orchids gathered from various parts of the tropics, and as they are rather sweeping in their character, I should like to give a few of my reasons for making them.

Very soon after my initiation into the rudiments of Orchid culture—now just thirty years ago—I was struck by the offhand manner in which the practice of syringing was referred to in writings on Orchids. Such directions as "Orchids should now be syringed three times a day"; "Aërides, Angræcums, Saccolabiums, Phalænopsis, and all East Indian Orchids require syringing in winter," and similar remarks, caused me to observe the working of the instructions, and I soon found that a large per centage of the deaths could be traced to following them, and that in the case of the strong growers which withstood it, the plants were what I call grown from the tops with the aid of the roots alone, and not from the bottoms and by the medium of the roots in the material in which they were potted or basketed as they are when the moisture above is reasonably restricted, and the roots drawn to seek it below, where once established they give a lasting support to the plants, not known to those which are not well rooted in the pots.

Seeing this and many other reasons, I gradually relinquished the use of the syringe for any other than special work, and with a definite object which could be well controlled, and for many years I might be said to have discontinued its use (as its use is generally understood) entirely, and also induced many others to greatly restrict their operations with the syringe, and in every instance with good results. Nevertheless, in many places the evil was as bad as ever, and in 1876, when writing a series of articles for *The Garden*, respecting which I have many pleasant memories and interesting letters, I in no unmeasured terms condemned the manner in which the syringe was being used, that being, so far as I know, the first time anyone was bold enough to call attention to the matter. Coupled with the general increase of knowledge of the habits of Orchids, the result has been that from then the syringe has been more carefully handled, and many followed my extreme views on the subject and never used it on the plants at all. Now for a few of the counts on which the syringe may be arraigned.

First, as I have said before, there is no rule for its use. It is alleged that baskets and blocks are benefitted by syringing, and for the sake of argument (I do not admit it) let us say they would be at different times, each according to its season of growth; but who, in syringing, is to pick out those wanting it, and leave those which do not? Moreover, blocks and baskets are suspended in houses having plants in them on the stages below, and one needs have some prospect of great benefit to the blocks, &c., to warrant one in subjecting the staged

plants to the accidental splashes and inevitable drip which is ruin to any Orchid.

Syringing is supposed by some to be a means of keeping up a moist atmosphere, but as to the benefit to be derived from it in that capacity, in my experience it defeats itself by producing too much moisture at times, and too quickly alternating to a dry temperature to be any other than hurtful, for those who rely on its use in this respect generally neglect the means of supplying proper and equable moisture by the arrangement of the houses with that object in view.

As a means of keeping down thrips the use of the syringe is often advanced, but whatever effect it might have had on our old enemy the common black thrip, it has but little on the yellow one, which seems to be an amphibious creature evolved from it on purpose to stand the syringe, and I believe enjoy it in middle and old age, although it may be embarrassed by it in tender youth. To rely on the syringe to keep plants clean is a fallacious notion, and as with most of the other objects for which it is employed, it prevents people from using the legitimate means to accomplish the end in view, until it has done much mischief; and besides this there are few waters so pure that a harmful deposit is not left when they are repeatedly used.

But now the "syringists'" big gun must be fired. He says syringing is done in order to imitate nature. Good heavens! What operation in nature is it supposed to imitate? Is it rain? If so, in the name of nature many outrages are committed, but few more clumsy than this. Nature, before rain descends, generally spreads a veil over the sun but he who syringes does it by the clock or by his own convenience, and I have seen lads to whom this—which should be a delicate operation—was entrusted, deluging everything in the house, with the sun so full on it that the leaves were quite hot. Nature sends rain down from above, falling on the upper sides of the leaves, while the plants under glass find it coming from above, from the earth upwards, and from all parts of the compass in a few minutes. I am afraid that what the operator imagines to be a thrill of delight is generally a tremor at the approaching crack of doom which the plants must think at hand. One of the first instructions a young gardener gets, is, "drive it well under the leaves." How must those countless delicate stomata each with its wonderful apparatus, sensitive as the needle of the compass even to a passing cloud, which nature so closely guards, be shocked every time these instructions are carried out.

Many Orchids rarely get rain but obtain much moisture by night dews, and humid vapours by day, and these are easily arranged for by moisture supplied for evaporation, but not dashed on the plant by day and by a lowering of the temperature by night, that being one of the cardinal points in Orchid culture.

It will be seen that the syringe is advanced by some as a doer of several distinct operations at one and the same time, and I say that whatever part of each it effects is done in a slovenly manner, and with evil results in other directions. Success in Orchid culture depends on every operation being attended to distinctly, and so far as practicable every plant being grown without regard to what the others like, I therefore say if you want to clean a plant, clean it in the ordinary way, and if certain plants want water, water them, but do not subject those which do not want it to the infliction, in pursuit of a bad practice. I am sorry to say that most writers shirk this subject, and while they say "We frequently see much mischief done with the syringe," and such like phrases, they do not put their foot down on the matter, but give contradictory statements. For my part I know several collections in the best condition, in which a syringe is never used, and I know some miserable ones which would spring into new life if their owners were to throw their syringes away, and look about them to supply a sweet, pure, moist atmosphere, without having recourse to such an erratic means. My object in making these remarks, is, to get all who use the syringe to think well what they are doing, and to restrict its use as their own reasoning, by the light of these remarks warrant, and then I am sure they will do good, for the amateur Orchid grower is a man of strict perception as a rule. Uses may be found for the syringe without doing damage frequently, and my advice to all, is that when using it for a certain object and within a certain limit, they should make sure that they are not encroaching on something else not intended.—*James O'Brien.*

Cypripedium insigne violaceo punctatum.—An interesting set of C. insigne varieties leading up to this, the grandest of all of them, comes from Messrs. Wm. Thompson & Sons, of Clovensfords by Galashiels. There are two varieties of the true light coloured C. insigne albo-marginatum, with rather narrow dorsal sepal, tipped and edged with white; a very superior form of the true old C. insigne, with a large dorsal sepal, exquisitely marked on a clear emerald green and yellow ground; and a couple of flowers of C. insigne Maulei, from Maul's own stock. This is often confounded with C. insigne violaceo-punctatum, but by comparison with the pair of the true form of that variety sent by Messrs. Thomson, it is nowhere. The flowers of C. insigne violaceo punctatum, they send beat everything in that way we have seen, the flowers being gigantic and seeming to have as much of the shiny looking villosum in them, as insigne. The dorsal sepals are very large, flat, and perfectly round, the blotching very rich, and the snowy white part which takes up fully one third of it, wonderfully blotched with bright dark mauve.

Lælia anceps, white varieties.—Some very fine masses of these, imported from western Mexico by Messrs. F. Sander & Co., were included in the sale of rare Orchids at Messrs. Protheroe & Morris's Central Sale Rooms, Cheapside, on Friday, December 18th, when the bidding for them was well sustained. Much trouble was taken in importing them, in the hope of getting them over still in flower, but, although the pains taken were well bestowed on the plants, the buds perished. Nice healthy pieces went at prices well within the reach of ordinary buyers, but many of the best examples realised from five to five and twenty guineas each, the news of the flowering of good white varieties out of the previous importation, causing buyers to bid with confidence. Some wonderful masses of Oncidium Marshallianum with immense bulbs, were also sold, and fetched good prices.

Orchids at Salisbury Green, Edinburgh.—In the select collection of Orchids belonging to Wm. Nelson, Esq., there is now in flower a fine plant of Vanda Sanderiana, the first I believe that has been flowered in Scotland. The plant is about 12 ins. high, and bears a spike of seven flowers, and as it is only a year since it was imported, it speaks highly of the care that has been bestowed on it by Mr. Laing the gardener. There are also many other good things in flower here, including a very fine variety of Angræcum sesquipedale, and the same of Dendrobium Wardianum; the Cypripediums are in great variety, and the examples of C. Spicerianum are specially fine.—*R. C. F.*

The Gardeners' Calendar.

THE PLANT HOUSES.

Roses for Forcing.—It will now be time to start a good batch of Tea-Roses for early spring flowering; success will mainly depend upon having good strong well established plants that have been well ripened off. We like to allow the plants to become quite dry in the pots before pruning them, and they should be watered very sparingly until they are well started into growth. If the pots are well filled with roots, manure water may be used as soon as the plants are introduced into heat. In starting them, we do not like to give them too much heat; the main thing is to keep up a regular temperature, this is especially necessary after the plants begin to come into leaf. On all favourable occasions a little ventilation should be given, but in doing so, care should be taken to avoid a cold draught. Sulphur should be used to prevent mildew making its appearance, and if the house is thoroughly fumigated just before the plants begin to come into leaf, they will get through the most tender stage before it is necessary to fumigate again.

Tree Carnations.—Where a large stock of these are required, it is advisable to commence propagating as soon as good cuttings can be obtained, and in the case of any sorts that do not branch out freely, a few plants should be stopped back, and if placed where there is a little extra warmth they will soon break out and give some good cuttings. So much has been written at different times on the culture of Tree Carnations that it is hardly necessary for us to say much on that point in this column. There is one point, however, that we would impress on all who hope to succeed in propagating Carnations, viz., that it is of the first importance that the cuttings should not be put in too deep, and that the base of the cuttings are brought in firm contact with the soil. We have often seen pointed dibbers used for putting in cuttings, and the consequence is, that a small cavity is left just where it is most necessary that the soil should be firm. In cases where cuttings root from any part of the stem this is not such a vital point, but with Carnations or any other plants that produce roots from the base of the cuttings only it is a very important matter.

THE FRUIT HOUSES.

Late Grapes should, as recommended at p. 204, be cut next week with a good length of wood attached for inserting in bottles nearly filled with water, and having a few pieces of charcoal in each to keep the water sweet; the bottles should be allowed a sufficient angle on the shelves in the Grape-room to prevent the weight of the individual bunches from over-balancing them, and the space between the neck of the bottles and the shoot to which the bunch of grapes is attached should be stopped with cotton-wool to prevent evaporation from taking place, and the vapour from settling on the berries. A dry atmospheric temperature of from 45° to 50° should be aimed at in the Grape-room, and as soon as any of the berries show signs of being affected by damp or other causes, remove them forthwith with a sharp-pointed pair of scissors. The bottles, too, should have a little attention during the next four or five months, in the way of being re-filled with water once or twice during this period, so that the end of the wood attached to the bunch of Grapes shall be in contact with the water, and thereby prevent the berries from shrivelling.

Pruning the Vines.—I never observe any hard and fast line in carrying out this operation; I simply prune back to a good plump bud irrespective of its being the first or fourth one from the main stem; if the latter bud is selected, the two immediately preceding it are cut clean away, leaving the one close to the rod to make bearing wood for another year, the long spurs being cut hard back at pruning time next year. The wounds, in order to prevent bleeding, should be dressed four or five hours after being pruned with Thompson's Styptic; this done, remove with the hand any loose bark that may be attached to the individual rods, and then wash the latter with soft-soapy water at the strength of 4 ozs. to the gallon, rubbing it well into the crevices round the spurs, &c., with a stiffish brush, taking care, however, not to injure the buds in doing so. Prior to washing the Vines the glass and woodwork should be thoroughly washed with soapy water (syringing the glass with clean water as the work of washing proceeds), and the brick and plaster work should be washed with hot lime.

The Borders should next have attention. The loose surface soil to the depth of a few inches—indeed, down to the roots—should be removed and replaced with a compost consisting of good calcareous fibry loam, old lime rubble, and horse-droppings, at the rate of five cart-loads of loam, one load of lime rubble, one load of wood ashes, one load of horse-droppings, and three or four barrowfuls of fresh soot, and about 3 cwt. of Thomson's Vine and Plant Manure, well mixed, following this with a surface-dressing of horse-droppings and a good soaking of tepid water, as well as a free circulation of fresh air, until the time of starting the respective houses arrives.

Early Vines.—Pot and other early-started Vines should have all the superfluous shoots rubbed off as soon as it can be ascertained which are the best to leave on each Vine; and all the bunches showing on the individual laterals but one should be removed as soon as they appear, the best, as a matter of course, being left; and these, after the berries are set, should be reduced in number to from seven to nine, according to the length and strength of each permanent Vine, and five bunches will be ample crop for each pot Vine to carry. As soon as the buds show signs of bursting, the night temperature should be raised to 55°, and 5° higher as soon as the bunches appear, and 5° more when they come into flower and until the berries are set, with a corresponding increase in the day temperature. The atmosphere in the house up to the time of the Grapes coming into flower should be moist rather than otherwise, and the reverse of this when the bunches are in flower, so as to secure a good set; and with this object in view, a camel's-hair brush should be passed over the bunches about mid-day, when the pollen is dry.—*H. W. Ward, Longford Castle.*

FLORICULTURE.

Florist Flowers, the Past and the Present.—I have been greatly interested by the historical notices of florist flowers which have appeared in The Gardening World from time to time, carrying me back in memory to boyhood's days. I was particularly struck by the reference made by your correspondent, Mr. George Fry, of Lewisham, in last week's issue, to one of my father's old Dahlia catalogues of 1839. In the history of the Dahlia, given the week previous by another correspondent, although my father's name was not mentioned, I find many of the kinds named as taking the lead between 1837 and 1840 were his introductions. Mr. Fry seems somewhat astonished at £10 3*s.* being asked for a set of twenty-seven new seedlings, offered in the 1839 catalogue, and draws a contrast between the past and the present. It may interest him, and other of your readers, to know that taking a prominent position in the improvement of the Dahlia in those days, meant, as it does now in carrying out specialities, both perseverance, labour, and expense.

At that time my father's collection of seedling Dahlias, as grown at the North Trade Nurseries, Battle, in Sussex, covered about two acres of ground, planted thickly together, and by the end of the blooming season all but about three dozen would be found pulled up and destroyed, those left being reserved for future trials. Perhaps the most remarkable variety in those early years which he succeeded in raising was Victory, an immense plum-purple, for which the Royal Horticultural Society awarded him their silver medal in 1837. This variety was sent out in 1838, and as a "toddler" at the time, I well remember his taking me to some dung-beds in the frame-yard, and telling me to look inside, saying that every shoot I saw represented 15*s.* I have heard him say that out of that one variety he made £700. With such an evidence, Mr. Fry's observations as to the changes that have come over the floricultural horizon during the last fifty years may well be corroborated.

Dung-beds then did the duty of hot water. The transmission of plants by post and penny postage was then unknown, railway facilities were anything but common, and the sending of plants to long distances was a work of danger and difficulty. If I mistake not, we had but one gardening paper, yet with modern facilities it is a question which pays the best—the old or the modern. I feel certain, however, that none of the modern Dahlia growers make the money now of these new introductions that were made by growers forty years ago.—*J. Knight, Bilston.*

Concerning the Dahlia.—In Mr. Geo. Fry's interesting remarks under the heading of Floriculture, he touched upon the prices paid for new Dahlias in times past. Beauty of Teffont was probably one of the first that commanded a high price; this variety was raised by the Rev. S. B. Ward, of Teffont, in 1835, and was purchased by the Messrs. Brown, Florist, of Slough, for the sum of £60. Then followed Yellow Defiance, purchased by the same firm at the high price of £200. This was a yellow self Dahlia, and marked a prodigious advance in those days; there is a good representation of it in the *Floricultural Cabinet* for 1840. It was raised by a Mr. Cox, and he sent it out in 1839-40. Essex Triumph, raised in 1841, was sold out for £60, and was sent out in 1843. I remember that flower well, it was a maroon coloured self raised by Mr. Turville. Marchionesss of Ormond realised one hundred guineas. Shylock, Beeswing, Alice, and Cleopatra, fetched £100 each; Lady Sale, £70; and Lucy Sale, Nonpariel, Sir J. Richardson, Duke of Wellington, Bob, Sir R. Whittington, and British Queen, fetched £50 each. Probably the last of the high priced Dahlias are Wheeler's Queen Victoria, purchased by the late Mr. C. Turner for the sum of £105, but it greatly disappointed expectations, coming hard-eyed and being useless for exhibition purposes.

In looking back upon the prices at which favourite Dahlias have been sold, it must not be supposed to follow, as a matter of course, that the higher the price the better the flower; this was regulated in a great measure by what the flower had done when shown as a seedling, its popularity, novelty, and improved form. If a flower made a name through any intrinsic merits of its own, a large sale invariably followed; the price being in accordance with such estimates. Then, on the other hand, some of the finest and most popular flowers in their day, were purchased for quite small sums. An excellent red self, named Sir C. Napier, and Mr. Hare Hansard, a pretty fancy variety, were sold for £5 each. The latter was purchased from the seed bed, on the strength of the novel and promising character it displayed at that stage, and was, therefore, a mere speculation. Sir C. Napier and Shylock, were flowers of the same class, and, as will be seen, there was a great difference in the prices paid for them, but the latter proved the best commercial speculation because the former was so little known.

There was one peculiarity about Essex Triumph that is deserving of mention, namely, that after it was sent out it produced blooms beautifully shaded with bright crimson, thereby enhancing its value and beauty, and causing it to be more esteemed than before.

I was with Mr. Turner when Queen Victoria was sent out, and I am not surprised at the high value he set upon it, for it was very finely shown as a seedling; it had a bright yellow ground tipped with crimson. It was regarded as the greatest novelty produced for many years past, for there had been no bright yellow ground Dahlia since the days of Cedo Nulli, a variety raised by Mr. Pothecary, Upway, near Dorchester, about 1833, and sent out by Mr. Widnall, of Grantchester. These were buff ground flowers, but they were equally dull and heavy-looking.

A great deal of lore has gathered about the Dahlia, very much of it of an interesting character. Probably, Mr. Fry has personal recollections, that if he could be prevailed upon to commit them to paper would prove of great interest to the readers of the Gardening World.

The volumes of the *Floricultural Cabinet* give excellent outlines of the development of the Dahlia by means of the illustrations they gave from time to time. I often turn back to these and look at the Dahlias of fifty years ago. What an onward movement there has been since then. Now, although fine new Dahlias are raised year after year, the actual improvement is very slow, but we may regard it as sure and definite, bringing with it solid gain, and attesting to the vitality of floricultural enterprise.—*R. D.*

Obituary

We regret to record the death on the 19th inst. at Leytonstone, of Mr. Alexander Protheroe, one of the founders of the well known firm of Protheroe & Morris, Auctioneers and Nurserymen. Mr. Protheroe was born on October 6th, 1804, and was brought up by his uncle, the late Mr. Thomas Jenkins of the Regents Park Nurseries, who in his day carried out many extensive planting contracts. It was while with Mr. Jenkins that he acquired his early knowledge of the nursery trade, and desiring to be in business on his own account he left his uncle and joined the late Mr. Morris at the Leytonstone Nurseries, where he subsequently commenced the profession of a horticultural Auctioneer and Valuer, and so laid the foundation of the very successful business now carried on by Mr. George Field Morris, and Mr. William Henry Protheroe. Mr. Alexander Protheroe conducted the auctioneering business for about forty years, and only relinquished this branch some sixteen years ago, in favour of his genial son and Mr. Morris, who at the well known sale rooms at 67 & 68, Cheapside, have immensely increased the reputation of the firm. The deceased gentleman belonged to the good old fashioned school of nurserymen, of whom alas! there are now but few left about the metropolis.

We have also to record the death, on the 20th inst., of Mr. Joseph Vander Swaelmen of the Lily Nursery, Gentbrugge, near Ghent, Belgium, aged 32 years.

QUESTIONS AND ANSWERS.

Flower Bed.—*J. H.:* If you can get a few dwarf Rhododendrons and Ghent Azaleas, a very effective bed may be made with the subjects you mention. We should plant the Rhododendrons and Azaleas alternately about 3 ft. or 4 ft. apart, and the Anemone japonica alba between them. The Crocuses we should set as an edging, and over them put some surface rooting plant, such as any of the hardy Sedums. Next to the edging we should plant the Tulip and Narcissus in clumps of five or seven bulbs, so that when the foliage dies down some quick-growing annuals may be sown over them. The Liliums should be planted near the Rhododendrons, where they will not be disturbed: and the Gladioli in groups of three. The Lobelias and any other available subjects of an appropriate character may then be used as dot plants in the most effective positions not otherwise occupied. The Rhododendrons and Azaleas would give the bed a finished appearance in winter as well as in summer.

Books.—*Ignoramus:* You cannot do better than get Thompson's *Gardeners' Assistant* (Blackie & Co.), price 35*s.*; and Mrs. Louden's *Amateur Gardeners' Calendar* (F. Warne & Co.). 7*s.* 6*d.* As an amateur you will find the latter of great service; but the first named is, of course, the standard work on English gardening.

Fern and Orchid.—*D. B. K.:* The Fern is Alsophila ferox, and it will do well potted in the usual Orchid compost, with the Zygopetalum, the moisture given to the Orchid being quite enough for it. You are lucky in getting a living piece.

Christmas Roses.—On p. 251, "R. D." recommends lifting and re-potting yearly. Is it not a better plan to leave the plants in the pot? If so, what should be the treatment after blooming? —*Somerset.* [We like to leave the plants in the pots, only fresh potting them about every third year. After they have flowered, give them the protection of a cold frame for a time, then remove as much of the top soil in the pots as possible, top dress with some fresh compost, fill up the pot with well rotted manure and plunge them up to the rims in a shady border.—Ed.]

Gladiolus.—Will you kindly tell me when I ought to plant Gladiolus bulbs, and how I should treat them to have them in bloom as soon as possible without the aid of artificial heat, as I have only a cold frame.—*Engstrom.* [At the end of January pot some roots in a moderately rich, light compost, one root in a 48-sized pot, or three roots in 7-inch pots and plunge them in cocoa-nut fibre refuse or coal ashes in the cold frame. Do not give much water until they commence to grow, and when the plants get too tall for the frames plunge them in a warm sheltered border out-of-doors. They should not be planted out in the open-air before the first week in March.—Ed.]

Pear Congress.—*Somerset:* We have sent your note to Mr. Barron, see p. 267.

Mushrooms and Woodlice.—Mr. Ward recommends the use of boiling water along the sides and ends of mushroom beds, for the purpose of killing Woodlice, would this plan injure the bed much?—*Enquirer.* [No. We have adopted this method of extermination many times, without any apparent injury to the beds.—Ed.]

Lady Corisande's Garden.—Can any reader of The Gardening World oblige me with Disraeli's description of Lady Corisande's Garden?—*Llongborth*

Carnations and Picotees.—I have more carnations and picotees potted than I can find frame room for. Would they do plunged in a bed of ashes and sheltered at the sides with hurdles? —*C. P.* [In a mild dry winter they would not take much harm in such a position, but it is wet and not cold that should be most guarded against.—Ed.]

Communications Received.—J. L. & Co.—J. D.—J. G.—R. C. F.—W. S.—C. T.—S. P.—D. P. L.—A. F. B.—Thomas Loose.—B. L.—P. B. O'K.—C. D.—T. B.—G. B.—D. B. K.—Ch. Maron, St. Germains.—J. L. & Co.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, King's Road, Chelsea, S.W.—Catalogue of Garden and Flower Seeds for 1886.—Catalogue of Roses, 1885-6.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—Descriptive Catalogue of Flower, Vegetable and Agricultural Seeds.

LONDON SEED TRADE.

December 23rd, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for the finest Red Clovers, and holders ask higher prices. The few samples of new English Cow Grass already marketed show poor quality, and are selling at a great advance on last year's values; Alsike sells readily; White and Trefoil are neglected; no change in Rye Grasses; Canary, Hemp, and Linseed sell slowly at rates current last week.

COVENT GARDEN MARKET.

December 23rd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	0 6	2 0	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces .. per dozen	1 0	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages .... per doz.	1 6	2 0	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 9	1 3	Sea Kale, per basket	2 0	3 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	6 0	9 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Anemone, 12 bunches			Mignonette, 12 bun.	1 6	6 0
Arum Lilies, 12 blms.	6 0	9 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	12 0	24 0	Roses, Tea, French,,	0 6	1 0
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	1 6	2 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Eucharis, per dozen	5 0	9 0	Tuberoses, per dozen.	1 0	1 6
Gardenias, 12 blooms.	4 0	8 0	Tulips, 12 blooms	1 0	1 6
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 9	2 0
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
			White Jasmine, tin.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.	....		Hyacinths, per doz.	9 0	12 0
Begonias, per dozen	6 0	12 0	Hyacinths, Roman, per dozen	12 0	15 0
Bouvardias, per dozen	9 0	18 0	Hydrangea, per dozen		
Chrysanthemums, per dozen pots	9 0	18 0	Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	4 0	6 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots	8 0	12 0
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

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SHOWS.

National Chrysanthemum Society.

PRIZES are offered for LATE FLOWERING CHRYSANTHEMUMS (Cut Flowers any varieties) to be exhibited at Royal Aquarium, Westminster, on Wednesday, January 13th, 1886. Full particulars on application to Hon. Sec., MR. WILLIAM HOLMES, Framptou Park Nursery, Hackney.

Birmingham & Midland Counties Chrysanthemum Society.

THE 26th ANNUAL EXHIBITION will will be held in the Town Hall on Wednesday and Thursday, November 24th and 25th, 1886. Schedules are in course of preparation, and when ready can be had post free on application to the Secretary.—J. HUGHES, Northwood Villas, Metchley Lane, Harborne, Birmingham.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 2, 1886.

THE NEW YEAR.—Another year has opened upon gardening, and its operations so far can only be gauged by what has been the product of past years rather than by any imaginary forecast. To gardening generally, the now defunct year of 1885 has been one of comparative uneventfulness, although there are some, perhaps, who regard the Orchid Conference of the spring, and the Pear Conference of the autumn, as very important horticultural events. No doubt the former gathering had material interest for that too limited section of the community whose wealth and tastes permits them to enjoy to the full the cultivation of one of the loveliest and most interesting races of plants the earth produces. Still, the interest shown, if on the part of those concerned, was very cordial, yet lacked nationality; indeed, we may count the chief Orchidists of this country with facility. All honour to them, none the less for their enthusiasm, and may that sentiment grow and increase until not scores, but hundreds and thousands find delight in the culture of Orchids.

The Pear Conference again, in spite of the fact that we have myriads of Pear growers in this country, yet seemed to fail in creating public interest. The few Pear growers, who are also pomologists, found in the marvellous collection of fruits staged at Chiswick ample food for contemplation, and a wide field of labour; but beyond those there were few displaying interest. Practically the nation failed to respond, and thus we have to admit that both the events alluded to above, if full of interest to the few, yet provoked little concern in the minds of the many. Horticultural events which demand special notice in a year's review, should at least show that they had evoked some degree of popular interest.

In a more limited sense, the changes which have been made in the Directorate of Kew Gardens, had, perhaps, some trifling interest in the little botanical world. Probably there were, whilst the changes were in progress, some little fluttering in the scientific dovecotes, and quiverings in the bosoms of learned botanists; but the result only showed that now, as in ancient days, Amurath to Amurath succeeds, and thus the high and mighty places in the botanical world are not to be filled by the vulgar herd. The aristocracy of science, as with some other aristocracies, possess the divine right to govern, and if they do not, then for what else does it exist.

Practically the year which has passed has been a plodding, solid gardening year, and although in some departments, perhaps, it has seen unpleasant fluctuations, it is in that respect, but in the fashion for depreciatory fluctuations, seems just now the common burthen of all things; whilst there is no special reason, therefore, to look into the opening year with unusual hope, we have at least no cause for despair. If the progress of the nation in wealth and prosperity finds for the moment a temporary check, and gardening is suffering in some directions in consequence, we can at least feel that in another direction there is room for some thankfulness, for with the spread of education and enlightenment amongst the masses goes also the progress of gardening knowledge and a love for gardening. How much this education has done for horticulture already is evident in the remarkable development of gardening serial literature within the past few years, and THE GARDENING WORLD is but an example amidst many of the expansion of gardening interest amongst the masses of the United Kingdom. We have faith in the progress of that love for gardening amongst the people, and feel that in our social life and national expansion, few elements are indicative of more soundness and goodness in the future than is this horticultural taste.

Leaving the sentimental for the probable, we have no doubt that the coming year will give up to us very much the replicacy of other years in the routine of its horticultural proceedings. We shall doubtless have to chronicle a long, and let us hope very successful season of exhibitions held all over the kingdom. Perhaps we may be disposed to think sometimes that little shows have trifling results, but it must be borne in mind that the smallest exhibition held in any rural district is no trifling event there, but may be, perchance, the chief and most interesting event of the whole year. Flower shows are so closely identified with horticulture, whether for good or for ill, that we have to recognise in them potent elements in the record

of any year's work. Our forefathers, whose experiences of shows was exceedingly limited, would, perhaps, marvel could they now revisit us and find us existing in a perfect atmosphere of shows, which seem to crowd upon us with marked redundancy as the year wanes. The Chrysanthemum is responsible for the latter development of exhibitions, and if in a year or two some other flower possessing not less useful and popular features should arise, and create, say in spring, all that the Chrysanthemum does for the autumn, then another addition to our show season may be looked for. Truly, we may think we have enough of shows and to spare; but it is just now absolutely impossible for the wisest to predict how much farther they may or may not expand to. In any case there is ample reason to believe that horticulture will expand to breadth and development beyond our present anticipations.

Of course, one year alone may not accomplish much, but the years are steps in the upward progress of horticultural advancement; a single step means little, a score of steps shows a great bound. We may not be able to take credit for any material advance made during the past year, but the usual annual step has been taken; and a review of the advance made during the past twenty years shows that stride upward has been a big one. The experience of the past constitutes our faith in the future, and those privileged to survey the condition of horticulture in this country in 2000 will doubtless see much of which we may just now only conjecture, but cannot realise. We, therefore, look forward to the new year with hope and pleasant anticipations. There are myriads of earnest minds contemplating more usefulness and activity; and although we are taught that prudence doth shape our ends, rough hew them how we will, we can but hope, that the shape will be in such a way as to promote the interests of gardening, and with them the interests of all classes of the community.

GARDENING MISCELLANY.

The Birds and Winter Berries.—What a marvellous disappearance of berries from various shrubs and trees took place during the recent sharp spell of frost. Large bushes of Yews, for instance, that were covered with their crimson fruit were soon stripped, thrushes and blackbirds, in particular, making them their prey. Even the berries of Cratægus pyracantha were not sacred from their depredations, and at Hanger Hill House, Ealing, the residence of E. M. Nelson, Esq., J.P., a large space of wall on a west aspect, covered with Cratægus, the same being loaded with berries, became such an object of attack that it was found necessary to net a portion of the wall in order to save some for Christmas decorations. The haws in the hedgerows and berries of the Holly have disappeared in the same way. The seeds of the Yew are said to be acrid and narcotic, and it would seem that the birds devoured the crimson pulp surrounding them, but allowed the seeds to fall upon the ground.

Royal Horticultural Society of Ireland.—This Society's exhibitions during the present year will be held as follows:—Spring show, Thursday, April 15th; May show, Thursday, May 20th; summer show, Thursday, July 8th; autumn show, Thursday, August 26th; winter show, Thursday, November 18th.

Mr. Robert Todd, so long in charge of the gardens at Rawcliffe and Ascog Hall, Scotland, has been appointed to lay out the grounds and act as superintendent at the International Exhibition of Industry, Science and Art, Edinburgh, to be opened in May next.

Sutton's Amateur's Guide.—"Better than ever!" we anticipate will be the general verdict on Messrs. Sutton's "Amateur's Guide in Horticulture" for the current year, for it is certainly a marvel of excellence as regards arrangement, typography, and the practical usefulness of the information contained in its 102 pages. The coloured and monotint plates are admirable, the former representing single Dahlias, Carnations and Picotees, and double Wallflowers, and the latter some half-dozen varieties of Broccoli and Sutton's Earliest of All Tomato, a remarkably early and free-bearing variety, strongly recommended for open-air culture. Besides the coloured plates, the pages of the guide are embellished with upwards of eighty well-executed wood engravings, representing valuable novelties in vegetables and flowers, which the firm are sending out this season, and older introductions, the strains of which are constantly being improved by the process of selection. "The Pocket Garden Calendar" issued by the same firm last year having proved acceptable to so many, a new edition for the present year has been prepared, and as it is of a convenient size for carrying in the pocket, and contains a good assortment of useful information for amateurs, and withal can be obtained by anyone sending a penny stamp, the edition will doubtless soon be exhausted.

Miss North's Orchid Pictures.—A correspondent writes:—"It was once suggested in a contemporary that these very beautiful and interesting pictures might be displayed in one or two English towns and then brought to Edinburgh or Glasgow for a while, so that more people might have an opportunity of seeing them than is possible if they are kept permanently at Kew. I believe I am right in considering that Miss North's presentation was made to the nation and not to a select few, and I feel sure anyone having influence enough, who would take this matter up, would be rewarded by the thanks of many who have not the opportunity of visiting London and all its wonders. If the collection were allowed to remain six months or so in each provincial town it was taken to, I feel certain thousands would go to see it, and it is hard to say how much it would do to increase the cultivation of Orchids. People want to see such a sight to let them know what beautiful forms and colours belong to the Orchid family. 'Red tape' is strong, but it can be broken sometimes. Why not in this case? London must 'devolve' some of its treasures."

Tuberous Begonias.—Messrs. John Laing & Co., Forest Hill, have favoured us with a large and well executed coloured plate of single Begonias, which for the size, form, and brightness in colour of the varieties represented, completely puts in the shade everything else in this way that we have seen. The blooms are of a size that was undreamt of a few years ago, the largest, Princess Victoria, measuring no less than nearly 7 ins. across. Messrs. H. Cannell & Sons, who have been successful in raising many grand double-flowered varieties, have also issued a large plate, printed in black and white on a tinted ground, and very effective as a whole. For size and shape the selection that has been made is all that can be desired.

A Horticultural Congress in Paris.—Under the auspices of the Société Nationale d'Horticulture de France, a horticultural congress will be held in Paris from the 4th to the 9th of May next, during the exhibition, when a great number of questions bearing upon horticulture and gardening generally will be discussed, and, no doubt, many valuable facts elicited. The active members of the committee of arrangements are Mons. Hardy, Ernest Bergman, M. Dybowski, Albert Truffaut, and Ch. Verdier; the secretary, Mons. A. Bleu; and the president, M. Leon Say.

Late Flowering Chrysanthemums.—The exhibition to be held at the Westminster Aquarium on the 13th inst. should prove of great practical service in bringing together for comparison the latest flowering varieties. Two prizes are offered in each of six classes, and a third will be given where the exhibits are of a meritorious character. Miscellaneous contributions are invited by the executive, and it is hoped that a liberal response will be made.

Dr. Talmage on the Chrysanthemum.—In a recent sermon, Dr. Talmage, of Brooklyn, U.S.A., said:—"The Chrysanthemum has taken us this week by storm of bright colours. Horticultural Hall, New York, has been all ablaze with this foreign flower. Even people who long ago decided that the Chinese must go have generously decided that this Chinese plant may take possession of our gardens and hot houses. Thousands of citizens have paid this week for the privilege of looking upon these constellations of floral beauty. To walk among them has seemed like crossing a corner of heaven. We applaud this floral exhibition as indicative of elevated taste. He who in the Book of Books compares himself to the Rose of Sharon and the Lily of the Valley no doubt approves of this decoration of our city. There is a possibility that the Rose, which has heretofore been considered the Queen of Flowers, may be outvoted by the one thousand varieties of this Mongolian importation. Long live the Chrysanthemum!"

USEFUL DECORATIVE PLANTS.

It is at this dull season of the year when flowering plants and cut flowers generally are of the greatest value, that we are inclined to appreciate to the full those plants which, on account of their pleasing foliage and graceful habit, combined with their robust constitutions, are so well suited for the embellishment of our sitting and drawing rooms. Here it is, either owing to the inclemency of the weather outside or various other causes, that much spare time is spent, and accordingly it should be the endeavour of all to make these apartments as gay and cheerful as possible. With this idea in view, and also with a further view of briefly setting forth a variety of suitable plants, it is that I have taken up my pen, and in doing so will cite only those which, from their robust constitution, are capable of withstanding the greatest amount of hardship with comparative impunity.

The Aspidistras.

Without any attempt at selection, I think I may well place to the front the Aspidistras, a small genus of plants which, on account of their hard coriaceous leaves, are capable of withstanding more hardships and rough usage than any plants of my acquaintance. They are very nearly hardy, too, though when grown under these conditions, we do not realise the hundredth part of their usefulness and beauty. They should be grown as greenhouse plants, and it is no common occurrence to meet them among the ordinary occupants of the stove. It is, however, when the plants are well grown and coloured that they become valuable as window plants, or as suitable ornaments for pedestals in the entrance hall and like places. The Aspidistras are largely grown on the continent, for these and many similar places, as balconies, corridors, &c.; and seeing that it is one of the easiest managed plants we possess, enduring to the utmost any amount of hardship we can inflict upon it, this is not to be wondered at.

It is one of the plants we too seldom see employed in its right place, for it will last for months without the general effect being marred. The leaves generally are of a deep glossy green hue, sometimes blotched or striped with creamy yellow, or in other instances the one half of the leaf is variegated and the other half green. The kinds most generally seen are A. lurida variegata and A. elatior variegata; there is also a variety of elatior known as aurea punctata, with the leaves as signified in its specific names, spotted with gold.

The India-rubber Plant.

For another instance where usefulness and hardihood are found in combination, I may mention Ficus elastica, a well-known plant, and one generally admired. It is as well suited for a window where it is comparatively gloomy and dull, as it is for the greenhouse or conservatory, indeed, it seems to thrive equally well under conditions not generally considered favourable to their well being, doing nearly as well where in contact with various gaseous vapours, as they do in glass structures, where their wants are duly attended to. It is a noble looking plant too, and may in summer-time be turned out-of-doors among sub-tropical plants.

Eulalias.

From this we may turn to a small group wherein beauty and grace are combined, the former of which may be found in their pleasingly variegated foliage, and the latter in their elegant pendant habit. I refer to the Eulalias, which figure among the most conspicuous of the variegated grasses, and which are without doubt the very essence of effect in any group of ornamental foliage and flowering plants. The Eulalias are quite hardy, but as with the Aspidistras, so with these, if we would see the most of their beauty and elegant grace we must give them the protection they need. In the Vicarage Garden at Bitton, the hardiness of these beautiful grasses has been well tested, and they are in fine clumps. At least one, if not two or more kinds of Eulalia japonica fol. var. has long narrow gracefully recurved leaves, with a band of creamy white running down the centre of each leaf, giving it an almost unique appearance. E. japonica zebrina is the zebra-striped Eulalia, remark-

able for the manner of its variegation, which is situate crosswise on its leaves, so as to form a bar; it is, however, mottled in some cases, always, however, forming a most elegant plant. It grows somewhat taller than the first-named, and when well established is one of the most picturesque of ornamental grasses.

THE VARIEGATED SNAKE'S-BEARD.

Another ornamental variegated plant is to be found in Ophiopogon Jaburean foliis variegatus, and which, without exception, ranks among the finest of hardy variegated plants. Besides the extreme elegance of the plant as a whole, it has the additional charm of producing from amidst its grassy tufts of gold striped leaves numerous flower spikes, bearing a strong resemblance to the pyramidal spikes of the Grape Hyacinth; in this case, however, the flowers are of a violet hue, which at once gives to it a novel and interesting appearance. It is a decided acquisition either in the greenhouse or conservatory, or for window-boxes indoors.

Ferns, as a whole, do not offer any great variety suited for continued hardship; some of the best of these, however, may be found in the Hare's-foot Fern, Davallia canariense, and the several forms of Asplenium bulbiferum; and while speaking of the Fern family I cannot refrain from calling attention to the value of Todeas for this purpose. Their use in cases enclosed in windows, though not new, is extremely rare. There are some instances known to the writer where they thrive admirably thus treated, and are not only a source of immeasurable pleasure to the owners, but of unending surprise and admiration to both the passer-by and the visitor.

FILMY FERNS.

I need not dwell on the unique beauty of these Filmy Ferns, with their deep green dense fronds, and delighting in abundant moisture, as they do, it is next to impossible to give them too much, and when the fact obtains wider circulation that they may be grown in the manner described, I think it only natural to observe that many who have hitherto refrained from any attempt with them in this direction will be only too pleased to embrace the opportunity these plants afford.—*J.*

DIPLADENIA AMŒNA.

GREEN-LEAVED DRACÆNAS, &c.

But we will pass for a moment from those bright welcome variegations of the plants of which we have noted, and glance at some others of sombre hue. In these we shall find the green leaved Dracænas figure, among them D. Australis, D. lineata, and D. rubra. These are all good durable ornaments, and D. rubra is a handsome broad-leaved kind, excellent for table-work.

Another good ornamental plant is Auracaria excelsa, always welcome and attractive; its deep green branches are so widely different from all else, which is in itself sufficient to give it a place among useful plants.

PALMS AND FERNS.

Among Palms we have numbers of beautiful and ornamental subjects, none, perhaps, more serviceable in the group now under notice than the well-known Corypha australis, a plant long known to furnishers and floral decorators generally as a really valuable plant; it endures gas, heat, and cold as well as any of its family, and far better than the majority, which is saying a great deal in its favour.

DIPLADENIA AMŒNA.

BY the efforts of hybridists, the showy Dipladenias are now becoming numerous; but, attractive as the modern ones may be, few of them excel in compactness of growth and freedom of flowering in a small state, the old and well-known D. amœna, the subject of the accompanying illustration, plants of which, in 6 in. pots, we have frequently seen covered with its pinkish blossoms. D. amœna is of very easy culture in an ordinary stove or intermediate house temperature, and may be grown as either large or small plants by arranging the supports or globes to the size required. It also makes a good exhibition plant if grown on strings under the roof and trained round globes just before it comes into flower. When so managed they grow more freely and are more easily kept clean.

CLEMATISES.

How many gardeners are aware that these are divided into two distinct groups—spring flowering and summer flowering—and there is this marked difference between them, that the first must not have the wood of the current year cut away in the autumn or winter, or they will not flower. All that is required is that the dead and decaying wood be cut away, but all the vigorous green shoots be left, nearly or quite, their entire length, as they bloom close to this wood, and not at the leaf axils and points of the growing shoots of the same year. The Clematises of Messrs. R. Smith & Co., of Worcester, that are seen in such fine form at the Whitsun show of the Manchester Botanical and Horticultural Society, are what is known as the spring flowering varieties.

Let me, for the benefit of your readers, give a list of a few good spring flowering types, viz., Duke of Edinburgh, rich violet-purple; Fair Rosamond, pure white; Lady Londesborough, silvery grey, with white bar; Lord Derby, reddish purple; Maidens Blush, delicate blush-white; Miss Bateman, pure white, one of the very best white Clematises; Sir Garnet Wolseley, slaty blue; and Vesta, creamy white. These are all single flowered, and they can be grown in pots as well as planted in the open ground; and if employed for decorative purposes grow in pots. I would recommend that the following double varieties be added: Belle of Woking, silvery grey; Duchess of Edinburgh, white; John Gould Veitch, lavender-blue; Sophie flore pleno, mauve; and Undine, deep puce, suffused with light purple.

The spring flowering varieties may be grown in 10-inch or 12-inch pots, both for exhibition and general decorative purposes; they succeed well in a rich loamy soil. In pots of this size, the plants should sufficiently furnish cylindrical trellises of about 2 ft. high, and 1 ft. 6 ins. across. As already stated, the plants flower from the well-ripened wood of the previous year's formation, and hence a supply of this wood must be kept up annually, encouraging a free growth after the flowering season is past. A little gentle forcing is necessary after blooming and during the summer months. Where free growth is desired, it is advantageous to plunge the pots into some porous medium as old tan, ashes, or cocoa-nut refuse, and also to mulch the surface of the soil in the pots with half-rotten dung. For show purposes, the flowers should be perfected under glass in order to have them fine and smooth. One word of caution is necessary; in planting the spring-flowering types out-of-doors, care should be taken to place them in positions where they can be sheltered to some extent from the early spring frosts; this is a matter of some moment. The double varieties should have a south wall, where they can get a good deal of sun during the fore-part of the day.

A good selection of summer flowering Clematises will be found in Edith Jackman, white, tinged with mauve, large and fine; Rubra grandiflora, a red flowered variety of this old sweet scented species; Jackmanni superba, an improvement on the last named; Lanuginosa nivea, white; Lawsoniana, rosy lilac; Madame Grange, crimson-violet; Magnifica, reddish purple; Othello, dark velvety purple; Otto Frœbel, greyish white, very large, and one of the best; Rubella, rich claret-purple; Sensation, grey, tinted with mauve; Thomas Moore, rich pucy violet; and Willisoni, bright mauve-lilac. It would be easy to add to this list, but I have contented myself with taking a best representative of varying colours and characters.

In regard to soil, a "good friable loam enriched with manure suits these Clematises well. A loamy soil is the best because the plants must have manure liberally supplied to them in order to keep up their strength, and in a loamy staple the fertilising properties of the manure are not liable to be dissipated as they are in one which is poor and porous. When, however, the soil approaches this latter description, it is all the more necessary for the plants that manure should be abundantly applied to make good the natural deficiency in fertility. In the case of light soils, a good proportion of loam, made friable by frosts, if at all of a heavy or clayey character, should be incorporated, since this will render it more holding; deep trenching should also be resorted to for the same purpose. In the case of heavy soils, they should be ameliorated by the free intermixture of calcareous soil, or of any sharp gritty materials which may be available, the drainage being made efficient and the soil well aerated before planting."

Clematises may be planted at any time between September and April. The Clematis puts forth a great number of feeding roots, and a great deal of manure must be applied at the time of planting in addition to that worked in with the soil. The crown of the plants should be put just below the surface, and the soil trodden firmly about the roots. During the summer a good surface mulching of manure should be applied, and plenty of water administered during dry weather.

Pruning the summer flowering varieties is a matter of so much importance, especially with a view of securing successional blooming, that I venture to make a quotation from Messrs. Moore & Jackman's book on the Clematis. "These (the summer flowering) forms of Clematis flower on the vigorous summer shoots, which caluminate in floriferous ramification forming dense masses of blossoms. The object, therefore, in pruning should be that of favouring to the utmost the development of these vigorous young shoots, and this is done by cutting the summer growth back early in the season, as soon as the frosts have disfigured the plants, say about November, to within about 6 ins. of the soil. The mulching, which is then to be applied wiath liberal hand, serves to prevent the soil becoming severely frost bound, and should, about the middle or end of February, be neatly forked in along with, in some cases, an additional supply of rotten dung, the latter being regulated by the manurial qualities of the original mulching, and by the natural strength of the land. Thus treated, the plants will commence flowering about the first week in July, and they will go on yielding flowers as long as their strength will enable them to throw out lateral growths."

But little remains to be stated; at this time of the year the old wood of the summer flowering varieties should be cut away, if not already done, and the shoots that are allowed to remain, trained nicely into position. The decaying wood of the spring blooming Clematises should also be cut away, and the remaining shoots shortened back to what appears to be blooming wood. Now is the time to make things neat and snug for the new year; for the garden should be kept as nice in winter as in summer, as far as neatness is concerned. To the observant eye there is much in winter that awakens the interest of the intelligent gardener.—*R. D.*

GARDENERS AND GARDENING.

This is a large subject, one which has been much discussed during the past few years, and about which it is difficult to say much that is new, and yet it is a matter of absorbing interest when looked at as affecting the social status and ability of the gardener. There are degrees of gardeners—let us not forget that. In the very front rank are found such men as William Ingram, D. T. Fish, David Thomson, William Miller, and others, who exalt the profession by their great ability and high intelligence. We name certain persons because they may be fairly taken as representatives of their class, but there are a large number of men who are highly esteemed in the profession, who are near the front rank, and doing good work for horticulture by means of practical work, and through the medium of the horticultural press. What a dearth of information there would be in the gardening papers were the gardeners as a class to altogether withhold their contributions.

There is a very large number of gardeners, so-called, who may be regarded as constituting a third stratum in the body, men who are unfortunately deficient in education and much in the way of social status, filling small places in many instances with great credit, and in their way doing worthy work, and that in a quiet and unassuming but not less valuable way. These are the men who to a large extent have made country shows what they are—sources of pleasure and profit in the neighbourhood, and thereby have greatly popularised horticulture. Many of them live lives of unremitting toil, working early and late, but bringing to bear upon their work considerable intelligence and industry. To many of these, we fear, there is little chance of bettering their condition, but there are many careful ones among them who are able to lay by something for a rainy day.

There is yet the lowest group—and a very large one—embracing those who, in addition to the work of the garden, add that of the stable, the cow-yard, and not infrequently that of the dwelling-house. Many of these are industrious and steady, but they are wanting in general intelligence and a knowledge of gardening work. Add to these the army of jobbing gardeners about the country—a very large number—who include the waifs and strays of the body, men who, having failed in almost everything else, have turned to the garden as a last resource. We could wish we were quit of many of these, but it cannot be helped. Many of them are very ignorant, indolent, and intemperate, and they degrade gardening by their association with it.

The labour market is overcrowded, and so long as that is so gardeners can scarcely look for any improvement in their social condition, except such as they are able to work out for themselves. By honesty of purpose, sober habits, by reading and reflection, they can make their lives bearable and even pleasant; and by educating their children to the best of their ability they can do something in the way of giving them a better start in life. In their offspring they can see remedied the defects of their own bringing up. That is surely something gained. A man of resource can also find some way of supplementing his income, if only in a small way. But while the general depression lasts let no one look for any great improvement in the position and emoluments of gardening through circumstances outside of himself; but he could do something for himself to make his condition more endurable if he will seriously set about it. Voltaire puts one view of the case in his unrivalled dialogue between Bashaw Tuctan and Karpos, the gardener. Bashaw Tuctan remarks, "You are a reasoner, I see, and have your principles of action." Karpos answers, "Yes, such as they are. They are but few, but they serve me; and, perhaps, if I had more they would only puzzle me." The Bashaw then says, "I should much like to know your principles"; whereupon Karpos replies, "They are to be a good husband, a good father, a good neighbour, and a good gardener. I go no farther, and I hope for the rest that God will take everything in good part, and have mercy upon me."—*X.*

WINTER BERRIES.

So intimately associated with legendary lore is our English winter greenery, that its natural interest is apt to be obscured by the traditions surrounding it and the merely decorative uses to which it is put. But only a slight burst of frost is necessary to show that winter vegetation fills a vital place in the economy of the seasons. No inconsiderable number of our most effective evergreens then bear fruit; which, mostly in the form of an insipid or (to us) perhaps injurious berry, is not generally recognised as of this character. Take the pervading but never vulgarised Ivy. From the late autumn when the drowsy bees linger over its aromatic blossoms, until the appearance of its grey-green berries, it grows daily more interesting; while of all verdure proof against the "winter's flaw," the painter could least spare it from his canvas or the poet from his idyll. But not on such terms may the Ivy be dismissed. Bacchus and his crew notwithstanding, the Ivy is in reality dedicated to the birds. Its Currant-like fruit grows all through the winter, and furnishes an abundant food supply for thrushes, blackbirds, and even pigeons. The smooth black-skinned berries are not fully ripe until the spring, and their appearance at all times is little suggestive of the nourishing food they contain, and which does not appear to be injured by the hardest frosts. On the other hand, the "haws" of the various thorn trees are occasionally quite destroyed by the rigours of a sustained frost, and the popular idea that an abundant autumn crop is indicative of an approaching hard winter, is, of course, a simple superstition. Cowper has said that

> The berry-bearing thorns
> That feed the thrush (whatever some suppose)
> Afford the smaller minstrels no supply;

but "haws" are, in fact, resorted to by widely different families, both of soft and hard-billed birds. When ripe the fruit is of a "mealy" character, and it has sometimes been used with advantage for fattening pigs. Besides the common Hawthorn, numerous other varieties retain their berries throughout the winter. The "yellow-berried" and "cockspur" thorns are among these; the latter, as well as the "plum-leaved" tree, often keeping their foliage until the winter is far advanced. Of quite another description is the "hip," the fruit-berry of the brier or common dog-rose. The supply of hips is generally much smaller than that of the haws; but the two are invariably coupled in considering the natural food of birds when pressed in winter by frost or drought. The berries of the Holly, as of the Mistleto and Laurel, add to the winter's provision, and are perhaps oftener called upon than is commonly imagined. That some birds suffer great hardships when the earth is sealed by frost cannot of course be doubted. No quantity of berries or even of grain can compensate for the temporary loss of the endless forms of insect life. But their sufferings are as much due to thirst as to hunger; and as long as the stores of winter berries remain unexhausted they find a fair amount of sustenance. The glutinous berry of the Mistleto yields support to the whole family of the thrushes, and is enjoyed long after the brighter fruitage of the mountain ash has been consumed. The purple berries of the Berberis which endure very severe weather, are also greedily eaten by birds, pheasants especially having a well-known liking for these dainties. As the Laureate reminds us in one of his latest poems —"The Flight"—

> The Blackthorn blossom fades and falls,
> And leaves the bitter sloe.

But although this fruit requires a touch of frost to ripen it, it cannot be relied upon by the birds after November. Many other edible berries fall into the same category. They ripen when the autumn tints are at their brightest, but "fade and fall" with lingering flower and leaf. A cheerful little plant, bearing cherry-like berries, is to be seen just now on every side. It is popularly known as the "winter cherry," but this is a misnomer. The true winter cherry *(Physalis Alkekengi)* belongs to the great Solanum family, and produces a berry somewhat similar to those of its namesake, but in an entirely different way, the fruit being at first enclosed in a kind of calyx or envelope, which falls off as it ripens. These berries may be eaten with safety; and the Germans, who never tire of cherry sauces, have found a special place for them in their rude cuisine. Of all these berries, as of many others, great use was made by the physicians of old. Ivy berries were esteemed "sovereign" for the plague; while those of the Mistleto constituted "a singular good remedy of most subtle parts" for a wide range of disorders. Haws were "absolute" for gouty and dropsical affections, and our robust ancestors were asked to prove the "strong faculty" of Holly-berries by swallowing a dozen before breakfast.—*St. James's Gazette.*

SCOTTISH GARDENING.

Annual Conversazione of the Aberdeen Seed Trade.—This was held on December 24th, and proved a decided success. Among the large company present (over 300) were Mr. A. Robson (of Smith and Sons), who presided, Mr. Bruce, Mr. Gordon, Broad Street; Mr. Darling (of Cardno & Darling), Mr. Anderson (of Reid & Co.), Mr. Smith, Mr. Cassel (of Cross & Sons, Glasgow), Mr. Bell (of Cross & Donaldson, Leith), Mr. Harper (of Harper & Co., Aberdeen), &c. After tea had been served, the chairman delivered a brief address. It was difficult, he said, to find anything either pleasing or discouraging to say about the trade at the present time. All kinds of trade had been so much of late depressed that many people had been thrown out of work; but it was pleasing to see how the people of Aberdeen, of all classes of the community, had put their hands in their pockets to help those poor persons who stood in need of help. Let them hope that the handsome fund collected for these people would be justly and equitably distributed, so as to enable every one to enjoy as happy and pleasant a Christmas Eve as they were enjoying that evening. We were all looking forward to a revival of trade. He saw it reported the other day that the improvement had begun in America, and that a great wave of prosperity might be expected to strike British shores in a very short time. He hoped that this would be as true as the American weather predictions usually were, and that we were on the eve of a great revival in trade. Notwithstanding the bad times we had experienced, the seed trade of Aberdeen had been progressing wonderfully well. During the last few years it had been increasing, he might say, by leaps and bounds; and at the present moment it was in a better position than perhaps it had ever been before. This, in the first place, was very much owing to the fact that the seed trade was well established in times gone by, and was well-built up by such men as

Benjamin Reid, Mr. Roy, Mr. Cardno, and Mr. Smith. These were the men who had built up the trade, and had put it in that position which had enabled it to stand through the vicissitudes of bad trade and bad times. But their progress was due also in a large measure to the new blood which had been infused recently, and which had given the trade a more substantial and solid position than it ever had before. They had considerable opposition in the trade, but they fought with honourable motives, and therefore it was possible for them all to meet around one table for purposes of social intercourse and enjoyment. Mr. Robson, in conclusion, expressed the hope that they would have a happy and enjoyable meeting and referred to the success of previous gatherings. An excellent concert of vocal music was afterwards provided. The committee who carried out the entertainment, and to whom much credit is due, were Messrs. Thomson (secretary), Reid, Huggan, Porter, Strachan, Duthie, Cocker, jun., M'Andrew, Wylie, Cockie, Thomson, and Rae.

Garden Operations.—After the turn of the year warm positions are chosen for some early crops, such as Carrots, Radishes, Leeks, Parsley, Spinach, Peas, and Beans, and the planting of a few Potatos. In such positions as are situated where protection can be given from severe weather, and the soil is of a congenial character, such early cropping can be attempted, but under no other conditions would one waste seed, time, and ground. Weather has complete command over such operations, and rather than sow in wet badly prepared land, it is much better to delay the work.

There is little gained by undue haste, and seldom can much benefit be derived from planting and sowing in January, except under glass. Plant protectors, hand-lights, and wire frames are all useful, and much may be done to gain a little time by the use of these, and covering them during severe weather. The covering and uncovering in market establishments by means of litter, &c., to shelter seeds cast into the ground, is a formidable operation, and cannot be easily practised in private gardens. We had last season a number of small frames made of wire netting, which when placed over seeds kept them bird proof, and mats placed over them keeps the frost out; these are exceedingly useful.

Now is a good time to sow early Peas and Beans in warm borders, and also in boxes, pans, pots, tiles, or whatever may be preferred. Almost endless are the means used to get these early—but it is objectionable to grow them in heat—the best we ever had were grown in boxes, kept entirely exposed, except in severe weather; though often the soil was frozen to some extent. When they were planted out in March the roots were in tufts, the tops short and stiff; they grew off into vigorous haulm without sustaining the slightest check. Beans of the Mazagan kind were equally good. Two or three kinds of Peas may be sown, and a succession obtained. Cover the earlier sowing, which may be coming through the ground, with fine dry soil, finely sifted ashes, old rotted tan, or some other kindly material for protection, and stake them early.

All early sowings of seeds should be covered with fine dry soil, which facilitates their growth considerably; many a fine healthy lot of seeds are lost by casting them into cold, wet and badly prepared soil. Every favourable opportunity should be taken to prepare vacant ground for the crops which are to be grown therein; some soils cannot be manipulated when dug or trenched early, as they get so saturated after snow thaws and heavy rains, that the season is far advanced before the land is dry enough for sowing. Leeks and Onions being crops which are much valued in the north, are sown in pinches and grown in boxes, pans or pots, and kept well to the light and air till a favourable time occurs for planting them out. In this way many of those large examples are raised, but these are not for the main crop, but as specialities, and for exhibition.

A rough sketch of the vegetable ground made now and arranged for the season's cropping reduces the management of the land to much simplicity; where gardens are small the practice is of primary importance, and regulates the quantities to a desirable nicety. Manuring for the crops and trenching for them as the kinds require should be done systematically. Trenching for Carrots, Parsnips, and Onions is very desirable, the two first require no manure, but very poor ground will give small roots, and in very dry seasons they are tough and stringy. Onions like deep rich soil, such as has been turned over two spits deep after Celery; a good coating of rotten manure under the top spit answers well. Soot and wood ashes turned into the surface are good fertilizers, and to a great extent ward off vermin. When soil can be ridged sharply in process of turning it over, it makes a good surface for planting and sowing in. For Potatos, ridges may be formed, and when the tubers are planted the ridges can be broken and the aerated kindly surface thrown over them. Amenities of this order are rewarded when due attention has been accorded them.

In the fruit garden there is generally plenty of work when fine weather prevails; during the present season, pruning, clearing bark of moss and vermin by scraping with a blunt instrument, then washing with brine or some of the prepared solutions so strongly recommended. All trees, except Peaches and Apricots, may be pruned and fastened to the walls, buildings, or fences on which they may be trained; thinning of bushes by the knife may be done as soon as time will permit. Though some dispute the propriety of keeping Gooseberries and Currants of sorts thin, practical men wherever we have met them, are agreed that sun and air entering freely among the branches and foliage is conducive to fruitfulness, and the fruit is decidedly benefited by nature's agents. We hope to describe minutely the system we have seen practised by fruit tree pruners, and the practice which ensured most success.—*M. T.*

WEST OF SCOTLAND PANSY SOCIETY.

At a recent meeting of the directors of this society it was arranged to hold the next annual exhibition and competition in the City Hall, Glasgow, on Friday and Saturday, 23rd and 24th July, 1886. Hitherto, the show has been held upon one day only; but encouraged by the large number of exhibits, and by the interest taken by the public in the exhibition, the directors have resolved to keep their next show open for two days. It is hoped the results will justify the expectations and reward the exertions of the directors of the society.

Although nominally a Pansy society, the exhibits are not confined to Pansies alone. They comprise Roses, Pinks, herbaceous flowers, &c. The various exhibits, when together, make a grand display, and at the last show there was a very large collection brought forward, both for exhibition and competition. It may be interesting to many to know the

Properties of Show and Fancy Pansies

As fixed by the directors of this society. They are as follows:—

1. Show Pansies.—*Form:* The outline should be a perfect circle and free of every notch, serrature, or unevenness; the petals lying close and evenly on each other. *Texture:* The petals should be thick, and of a rich, glossy, velvety appearance. *Colour:* In all two-coloured flowers the ground-colour (of whatever shade) should be perfectly alike in all the three lower petals, and should be circular and of equal width between the blotch and the belt in the three lower petals. *Belting:* The belt or margin should be exactly the same shade as the two top petals, and, whether broad or narrow, should be of equal breadth throughout, without running into or flushing with ground colour. *Blotch:* The blotch should be dense and solid, and of a circular character, free from all running into or through the ground colour or the eye. *Eye:* This should be bright gold or orange and solid, without mixing or running into the blotch, and should be exactly in the centre of the bloom. *Size:* The larger bloom—other properties being equal—should be the better, but no flower should be considered fit for competition under 1½ ins. diameter. *Selfs*, of whatever colour, should be of the same shade throughout, in yellow, white, blue, or any other shade; the denser the blotch the better.

2. In Fancy Pansies it is of great importance to have a large dense blotch and solid eye, not mixing or running into the blotch. The other essential properties are (1) form, (2) texture, (3) harmony of colour, (4) smoothness, (5) size.

The "dressing" of the blooms is also an important factor. Although, according to the society's rules, "all blooms must be shown, *with or without papers*, on stands painted green," it is of rare occurrence to see at this society's shows a stand of Pansies laid down without the paper collars being used. It is generally admitted that blooms can be set off with greater effect on paper than without it.

The Amateurs' Garden.

THE GREENHOUSE.

The comparatively mild weather of the past week has been a blessing to many of us, in reducing the amount of attention required by the fires during the Christmas festivities, and the plants in all departments look much better for the liberal amount of fresh air we have happily been able to give them. Advantage should be taken of every fine morning now to look over the plants in pots, and to water thoroughly all that require it. As a general rule at this season, where not much fire-heat is used, plants in pots require but little water, but it is bad practice to ever let the majority of them feel the want of it. If much watering has to be done, let it be done early in the day, and if a little heat can be turned on and the ventilators opened, it will be a great advantage to all the things in flower. The temperature in the greenhouse for the next few weeks should be maintained at about 50° by day, and from 50° to 10° lower at night.

Chrysanthemums.—The holidays enabled us to get in our annual stock of cuttings, and to somewhat relieve the strain on our resources under glass by throwing away the old stools. As we have never aspired to "show" form, but only to have what some of our practical friends call "a good head of bloom," we do not adopt the plan of putting in the cuttings singly in small pots, but use instead shallow boxes about 12 ins. long and 8 ins. wide, and put in the cuttings in rows, with one label to each sort, and by this means save space and labels. For about a fortnight longer we shall keep them close in the greenhouse, and then transfer them to a cold frame if the weather is not too severe. Let us strongly recommend our brother amateurs who are fond of the "mums" to grow most of the very early and very late-flowering sorts. We like to have a good bloom in October, and also at Christmas, and are not so particular about the Chrysanthemum season proper, as we see enough of them then at the shows.

THE FLOWER GARDEN.

In small gardens there will be little to do in this department for the next few weeks, but there are a few things which the plant-lover should always keep his eye upon. One of the most important of these is to look over beds of small plants after frost to see that those which may have been loosened are pressed firmly in position again, or should drying weather set in they will suffer much from not having a firm hold of the soil. Another thing is to see that the birds, in their search for food, do not scratch away the leaf-soil placed over plant-roots for protection. I find that ashes and cocoa fibre refuse are seldom disturbed, but leaf-soil and short manure seem to be favourite hunting grounds in hard weather.

While there is leasure on land some of it may be pleasantly and profitably employed in deciding upon the subjects which shall be made a feature of in the summer bedding, and how they are to be obtained. If any are to be raised from seed—and many must be—get out in readiness the home-saved stocks, and then consult the seed catalogues which are now coming to hand. Select what is required and send your orders in soon, so as to have the half-hardy things that must be raised in heat at hand when wanted.

THE VEGETABLE GARDEN.

In this department especially the question of seeds requires prompt attention, because it is not too soon in the south to make a sowing of early varieties of Peas and Broad Beans. Of the former we are chary of depending entirely upon new sorts that we have not proved; and therefore stick to the old acquaintances, Kentish Invicta and William I., with the addition of American Wonder, which has proved an acquisition, being early, very dwarf, and a great cropper. In Broad Beans we find nothing better than the Seville Long-pod; but for very small gardens Beck's Dwarf Green Gem should be given the preference on account of its dwarfness. A warm sheltered border should be selected for the first sowings, and the ground should be loosened up for a good depth with a fork, to allow of any excess of moisture quickly passing away.—*Scolytus.*

THE INTERMEDIATE HOUSE.

The question is often asked by people who are not acquainted with this kind of glass structure: What advantages does this structure possess? I consider, after eight years experience with a house of this kind, that it is the most useful structure we have on the place. We have besides, a greenhouse, stoves, Camellia-house, conservatory, and a fruit-house; but I would recommend all who are thinking of erecting only two houses for plant cultivation, to make them into a greenhouse and an intermediate-house, in preference to a stove and greenhouse as is usually done. Intermediate houses are far more useful, and a much greater variety of plants can be grown in them. Many so-called stove plants do better in this temperature than in a stove, while on the other hand many things that get greenhouse treatment are much benefitted by a little higher temperature at certain seasons.

Supposing a gentleman to have only three houses for plants—namely, a conservatory, a greenhouse, and a stove. If the former is to be kept gay during the winter, there is great difficulty in so doing, simply because the stove and cold-greenhouse plants do not thrive well together when in bloom, the heat which keeps the stove plants in good condition exciting the greenhouse plants far too much, and injuring them to a great extent. Again, a conservatory cannot be kept gay with bright flowers from greenhouses only through the winter; there must be enough heat to keep plants growing and opening their blooms. A stove and an intermediate-house is a better arrangement than a stove and a greenhouse, as in this case some of the cold-house plants, such as Ericas, &c., can be kept a greater part of the winter in cold pits. The main thing to keep in view in making this type of house—and in fact all glass houses—is to put in sufficient piping, and a sufficiently large boiler to keep up the required temperature in cold weather without having to push the fire too much. It is much cheaper in the end to do this at first, as it prevents the waste of fuel which takes place when the fire has to be driven so fast.

We have a house of this description here, and for the benefit of those who may be about to erect glass structures, I will name a few of the uses to which we put it, also a few (not attempting to name all) of the plants we find do well in it. It is only a small house 20 ft. long by 18 ft. wide and span-roofed, with a stage or bed in the centre, side benches, two side shelves, and two hanging shelves over the paths. The hanging shelves are used through the spring for Strawberries; after this for Coleuses, &c.; and in winter for Cyclamens, Primulas, Shrubby Begonias, and any tender bedding plants. The side shelves are used for winter-blooming double and single Pelargoniums; in spring and summer for Gloxinias, Achimenes, &c. Here we grow at the south end Tomatos in boxes, and get them ripe at the beginning of May; and over the roof, thinly, we train Cucumbers, which help to shade the plants underneath. Hybrid Rhododendrons of the Japanese type are perfectly at home here; hardy Shrubs, Hyacinths, &c. are forced in it; and Callas, Salvias, Libonias, Sericographis Ghiesbreghtiana, Strelitzia Reginæ, Centropogon Lucyanus, Linum tryginum, Monochætums, Epiphyllums, Hoya carnosa, Imantophyllums, Browallia elata (most useful things in winter, flowering freely), Abutilons, Lasiandra macrantha, &c., are beautiful all through the winter. It is most useful too, to bring on Indian Azaleas, and afterwards to make their growth in.

Here also we grow a batch of Celosias to keep us going in the conservatory till Christmas; bring on early Fuchsias and things of that character; Bougainvillea glabra is wintered here, and many bulbs are put under the stages. Bouvardias we use largely through the autumn and winter, and we find that a few Orchids do well here, such as Cypripediums, Dendrobiums, Cattleyas, Oncidiums, Odontoglossums, Zygopetalum Mackayii, Lælia anceps, Lycaste Skinnerii, &c. It is very useful to bring on several other stove plants during the summer and autumn months, also for putting fresh propagated plants from pits into; to grow a few Capsicums, Prince of Wales for late work; to put Solanums in to colour their berries, and a few Palms and Ferns in for conservatory work.

We are rather short of piping and cannot keep the high temperature up in cold weather, or we should get on better still in winter, but by taking advantage of the sun and covering the house at night, we like to maintain a temperature of from 55° to 60° by day, and 10° less at night.—*John Crook, Farnborough Grange.*

ON FORCING SEA KALE.

To secure an abundant supply of this highly esteemed esculent, should be a matter of first consideration in every place where there are facilities for its successful cultivation. It is somewhat surprising the comparatively small space we find devoted to it in many places, where large quarters are given up to Broccoli, including varieties which are comparatively tender and liable to be destroyed by frost, which frequently kills nine out of ten, so that the labours of the season are spoilt in a week or two. No similar disaster can befall a crop of Sea Kale, unless under some gross mismanagement, and it can be had in good condition for the table for at least five months, its succession being entirely under the control of the cultivator, so that the extra labour, as compared with the growth of other vegetables, is well expended and repaid.

Our system of cultivation is very simple and can be easily followed out where there is good ordinary growing soil. I have seen excellent crowns grown in stiff clay well manured, but a lighter staple is preferable. We generally grow it on the same piece of ground for several seasons in succession, because every piece left behind will make an effort to grow, and in some cases this proves very troublesome, at the same time an occasional change is desirable, and in fact imperative, if it is to be kept free from canker and maggot. There are two methods of propagation in vogue, viz., by seeds and by cuttings, but we prefer cuttings, and our plan is when lifting the crowns in the autumn to break off the strong roots, which are laid aside till the crop is lifted, when we cut them into lengths of from four to five inches, taking care to cut the lower part of the set slanting to ensure the set being planted the right way up, the upper end being cut straight across.

When a sufficient number of sets are made, they are laid thickly in rows in either ashes or light soil till the cuts are well calloused and the young shoots can just be discerned, when we take the first favourable opportunity of planting them. In taking them out of the cutting bed, we partly pare round the top of the cuttings, leaving only as much untouched as will produce one shoot to each cutting. This is a great saving of labour, for were it not done the bed of Kale would have to be gone over several times to reduce the number of shoots, whereas, under this plan, once going over generally suffices, and then very little requires doing. We plant in rows from 20 ins. to 24 ins. apart, and place the sets at 6 ins. from set to set. We give the ground a good dressing of well-decayed manure, and dig one good spit deep, choosing a fine dry day if possible, because the ground is subject, in the process of planting, to a great deal of treading upon, and we aim at keeping it in an open friable condition.

After planting we give the quarter a slight raking to take out the foot-marks; the only after-cultivation till lifting time comes round again is to keep it clear of weeds. Those who have a Mushroom-house will have little difficulty in keeping up a succession, while those who have not can put it in tubs or boxes under the stage of a warm greenhouse or in a stokehole. We have forced large quantities in petroleum-tubs cut in half, planting the roots in light soil and putting the upper half of the tub over, covering with fermenting material. A large portion of ours comes along naturally, being covered over with leaf-mould from whence we take it till forcing is no longer necessary. As we find it growing, we cover up till it is often buried from 10 ins. to 24 ins. in soil. I may add that we sort it into two sizes, using the strongest crowns first, finding it comes proportionately stronger as the season advances.—*W. B. G.*

THE AMARYLLIS.

In our issue of March 21st, p. 457, we gave an illustration representing Messrs. Veitch & Sons' Amaryllis house when full of bloom, it being the finest collection for grandly formed flowers, high colours, and in every other respect which the world has ever produced; and still Messrs. Veitch's collection progresses, the aim being now that almost unsurpassable flowers are obtained to place many of them on a spike, and thus extend the show which each produces and prolong the time of flowering. Their grand new varieties, which received First Class Certificates this year, well exemplified the clever manner in which they have succeeded, the following b ei g the perfection of Amaryllis:—

Niobe.—Vivid scarlet with a central white, stripe on each segment. R. H. S., March 24th. Two scapes each with four flowers.

Paragon.—Brilliant scarlet with whitish central star. R. H. S., March 24th. Two scapes each with four flowers.

The Queen.—White, veined and washed with deep rosy crimson. R. H. S., March 24th. Three scapes each with four to six flowers.

Basilisk.—Very large orange-scarlet with small greenish star. R. B. S., March 25th. Two scapes each with four flowers.

Ne Plus Ultra.—Rich scarlet with white star. R. B. S., March 25th. Two scapes each with four flowers.

Perfection.—Rosy crimson with a white central stripe on each segment, one of the finest in form yet raised. R. B. S., March 25th. Two scapes each with four flowers.

Lady Howard de Walden.—The purest white yet obtained. R. H. S., April 14th. One scape with six flowers.

Prince George of Wales.—Deep scarlet, shaded with crimson, broad white central band on each segment. R. B. S., April 22nd.

Autumn Charm.—Leopoldi × reticulata, a grand thing with ornamental foliage and lovely pale rose flowers, veined and netted with rosy carmine.

These represent the very highest point of grand florists' flowers, and in this direction Mr. B. S. Williams, who is an old Amaryllis grower, and also devotes a house to them, has made good progresss in dark blood-red varieties of the Ackermanii breed, and his hybrids with A. reticulata, Mrs. Wm. Lee, Mrs. Garfield, and Comte de Germiny, lovely winter and spring, nay, almost perpetual blooming things, with charming white and rose veined sweet scented flowers are very fine. Mrs. B. S. Williams is also a charming variety. But not alone does the fame of the Amaryllis rest on these grand novelties and their immediate predecessors, the ordinary strain as exemplified in the varieties well known in our gardens, are much prized for their easy culture and the beauty of their flowers.

For forming groups by themselves, for mixing with other plants in bloom, the Amaryllis is very effective, and of it in its decorative capacity we are glad to be able to give an illustration prepared from a very clever water-colour sketch, made by an occasional contributor to our columns, Mr. J. Udale, Shirecliffe Hall Gardens, Sheffield, and which includes A. Johnsoni, A. vittata, and one of the hybrids of A. aulica.

The Amaryllis is very easy to manage, if only given fair treatment and a comfortable place in the house, when either growing or resting, but too often, after they have done flowering, they stowed away in sheds or under stages where nothing but the great store of vitality in their bulbs enables them to live. After blooming and making their growth, and when the time for a little rest is shown by the loss of the leaves, it is best to put the bulbs away on a shelf in a cool intermediate house, where water can be entirely withheld from the deciduous kinds until the flower spikes appear; but where the evergreen or partly deciduous kinds, such as the hybrids of A. reticulata, A. aulica, &c., can be given water now and then. The kinds requiring such treatment readily show themselves by retaining their leaves or reluctantly losing them. During flowering and growing, the Amaryllis require water in the usual way, and, where convenient, a gentle bottom heat helps them while making their growth.

But now there is still further hope for their more extended culture out-doors in favourable localities, as the experiments made by Messrs. Kelway & Son, of Langport, Somerset, who have often exhibited specimens of their strain of Amaryllis, and had them much admired. With respect to their culture, Messrs. Kelway say:—"We have about 50,000 Amaryllis of all ages, and in every stage of growth, 5000 of which were planted in open borders in June, 1884, they appeared to do well in the autumn of the same year, and last winter we covered them with straw-chaff only to the depth of about 4 ins. They did well during the summer of 1885, and many of them bloomed well; we have covered these again this winter with straw and chaff, and we expect next summer to get a good lot of bloom from them. We have also about 20,000 that were planted in the ground in frames unheated in 1882-3-4, they have bloomed well during the past two

Group of Amaryllis. From a water-colour sketch by Mr. J. Udale.

or three summers, and are now looking as strong as we can wish, with leaves varying from 9 ins. to 2 ft. in length; we cover these with leaves inside the frame, and with mats outside in severe weather." The fine varieties, Juppa (deep crimson), St. Gatien (crimson), and Hogarth (scarlet), which Messrs. Kelway exhibited in their group at the Royal Horticultural Society in June last, bore evidence of the quality of their strain; and the remarks which they kindly favour us with prove that a certain class of Amaryllis, at all events, may be grown without heat, and thus their usefulness may be extended to those who do not possess stoves.

POTATOS AND FLAVOUR.

It is one of Nature's secrets which has yet to be discovered, "What gives flavour?" Of course when one gets sublimated—to the pitch of a connoisseur in wines—one would put the question differently, and say, "Whence comes aroma or bouquet?" But what holds true in wine of the rarest vintages, is true also of all fruits and vegetables. In both of these departments of earth produce, there is something in the soil, which evolves, or refines, flavour to a very curious extent.

Of course, it is admitted that there is a great deal in variety and also in respect of sites. Yet sunshine and rain—and the action and reaction of each upon the other—do not originate flavour; for not all the sunshine and rain in the world will ever make a Sweetwater Grape taste like a Muscatel, a Beefing Apple like a Ribston Pippin, a grey Pea like a marrowfat, or a loaf made from any red wheat as light and sweet as if the miller had ground Talavera, or any one of the American bred Potatos like a Yorkshire Regent or Fluke. Allowing all the distinctions which the subtle consequences of something antecedent to the ripening of the first seed whence a variety sprung, why does a variety of fruit or vegetable taste very differently from different soils.

No one can deny that this is so. Let us dismiss all the general question; let us forget fruits, get out of greens, cut cereals, and place all our attention upon the most remarkable of roots, the *bête noir* of Cobbett the crux of political economists, the darling of Paddy, and of every mutton chop eater in the universe—the indispensable Potato.

If one reads the market reports of the districts wherein Potato growing is a prominent part of the farmer's business one is at once met by the acknowledgment of the influence of soils. One sees, no doubt, that there is a wide discrepancy between the price of Regents, Champions, Victorias, and Magnums. Still, it is also claimed that soils, too, make variations of value. The Scotch talk of the superiority of "the red soil" Regents. What are the special characteristics of those red soils; and what is the peculiar merit which they confer upon the Potatos grown within them?

The present writer has, in a humble way, experimented with Potatos for above forty years. He has tried almost all the old kinds, and continued to try the new ones until American sorts came in upon us like a flood, and all the old familiar names were submerged. In Potatos—as in so much besides—"shows" exercise a distracting influence. We have to submit to show Potatos as to show poultry; and to see every kind of peculiarity held up to honour—except the homely one that "they bile well" and "eat like a nut." Of course the last simile has regard to flavour only. The charm of a nut is that it takes some biting. The perfection of a Potato is that it melts in the mouth and requires no mastication at all.

Now, what must a soil have to induce this peculiarity—this co-existence of the filbert flavour, and the consistency of whipped cream? It is very easy to point out what prevents these peculiarities in the Potato, which, even more than Mr. Stiggin's butter-toast, deserves the phrase of "agreeable comestible." Possibly, if one had to make one's living wholly out of Potatos, the quick melting in one's mouth would not be altogether so desirable. But where the Potato is taken as an adjunct to a broil, the flesh of the tuber cannot well be too tender, or resemble too much that biblical standard of the *ne plus ultra* of good eating—"the finest wheat flour." How do soils bring out this peculiarity in the Potato? for it is an accepted fact that they do.

Having noticed how much the vital force of the earlier vatieties of Potato was increased by taking up the seed when not half grown, roasting it in the full heat of a midsummer sun, preserving it in a dry light store during the winter months, it was determined to find if seed so invigorated yielded a produce of higher flavour. Of course it would not do to take up Potatos for cooking in the same premature condition which renders them the best of seed. It is with Potatos, as with Apples—the longer they are allowed to mature where they have grown, the finer the flavour. But would the same seed produce the same flavoured crop on all soils? If not, on what kind of soil would the finest flavoured tubers be obtained?

Now it is an ascertained truth that the influence of a soil upon the quality of a Potato increases as the natural vital forces diminish. A vigorous young seedling is like a wilful lad or lass. In the heyday of youth it will take its own course, and be waxy in consistence and strongly tasted, let the soil be what it may.

It is when youthful vigour is declining that the Potato becomes ameuable to discipline. Varieties—which when first sent out as seedlings were tough and rough flavoured—break up as they get age, and grow of finer quality year by year. This truth has been widely exemplified in the Champion sort. It is now, on favourable soils, almost as mealy as the Regent, only inferior because its deep eyes will always make it a kind which involves not only waste in peeling, but requires some skill not to pare away the best flavoured portion, *i.e.*, that which is nearest to the skin. It would now seem the same law is fulfilling itself with the fine Potato called Magnum Bonum. Big it always was, but never good till recently; and it has found tenderness and flavour, where so many other varieties have achieved these excellencies before, *i.e.*, through being planted, when in declining vigour, upon a "red soil."

This is the sum of the experiments by the present writer in 1885. He has made the Magnum as tender a flesh as was the Fluke, and with as admirable a flavour—or perhaps it would be better to say "absence of flavour." Perfection in a Potato is, not that it should leave a distinct taste upon the tongue, but that it should enhance all other flavours taken with it. Magnum seed, specially saved and treated, was planted in 1885 upon three different soils—A, on a drained peat morass, *i.e.*, black soil dressed, after the water had been cut off, with sand. The crop was large, the tubers handsome: when cooked, detestable. B, on a rich deep loam on a brick earth. Here the dry season arrested growth too soon. The plants made a second growth when the rain fell in August and September, and the crop is very uneven; the best are fair-flavoured only, and the worst are as bad as a Potato can be. C, was on the red gravel, which has with it a certain amount of vegetable matter, having been dressed with decayed quick-grass.

Not a particle of manure of any kind was applied, natural or chemical; the seed tubers were entrusted to the soil as it was when broken up from two-year grass. The experiment is in all respects a success—a crop of moderate bulk of medium-sized tubers only has been secured, all of which boil to perfection, whereform it is inferred that "flavour"—so far as Potatos are concerned—is to be found in a thin crop, planted with wide intervals on a dry "red soil," uncontaminated by strong manures.—*A. P., in The Field.*

PLANTS FOR TABLE ORNAMENT.

(Concluded from p. 268.)

Crotons.—The numerous varieties that are now cultivated render it somewhat difficult to make a selection, as all are more or less beautiful, and a good deal will depend upon individual taste. Many of the varieties vary considerably under different treatment, but the older forms may be considered as the most useful, as they are not so liable to sport, and are more constant in their variegation than some of the newer sorts. C. angustifolius, although it seems to have been somewhat neglected, it is, under good cultivation, one of the most elegant and useful of all the genus; C. Johannis, and C. elegantissima, are both useful sorts belonging to the same section; C. majesticus, is also one of the best old sorts; and C. Youngi, is another good variety of similar habit; C. Earl of Derby, C. Queen Victoria, C. undulatus, C. Evansianus, C. Weismanni, C. massangeana, C. Comte de Germany, C. Warrenii, C. gloriosum, are all useful sorts and will furnish a good variety.

In growing Crotons on for table decoration it is a good plan to propagate good sized well coloured tops, with a little care these will root very freely, and good plants may be had in a very short time with well developed foliage down to the base of the plants. To obtain well coloured plants they must be grown where they are fully exposed to the sun, and soot-water may be used liberally as soon as the pots are filled with roots. Red spider and thrips are great enemies to Crotons, and if not kept well in check they will soon prove very injurious to the plants, and when they get a good hold it is very difficult to eradicate them, especially in the sorts with twisted leaves.

Ferns.—There are not many Ferns that will do much service for table decoration; as, although, many are very beautiful, yet it is only a few that will stand the dry atmosphere that table plants are usually subject to. The tall growing varieties of Pteris serrulata are among the most serviceable; P. cretica, is also very useful; P. tremula, P. argyrea, this is very useful, especially when grown in combination with such sorts as P. hastata, P. cretica, P. serrulata, or any of the hardier sorts of Adiantums. Many other combinations may be made which will be equally serviceable, the choice of which may be made according to individual taste. If Ferns are grown where they are well exposed to the light, it will give the foliage a more pleasing hue, besides which the plants will stand exposure better. —*A. Hemsley.*

THE DELL, EGHAM.

Those who have had the good fortune to see the collection of Orchids at The Dell have no doubt been as much gratified with their visit as I was with mine on Dec. 23rd. I had the great pleasure of being shown round by Baron Schroder and Mr. Ballantine, his able gardener, and a more agreeable time I never spent, as both are well versed in Orchid culture, and knowing the pedigree and history of most of the plants, their observations were specially interesting. The Baron is a great enthusiast in Orchid culture, and his superb collection is in grand condition, and contains many choice things that it would be difficult to match. Many of the rarest and finest varieties of the most valuable Orchids are here to be met with, and, what is more, in good healthy plants, and, in some instances, fine specimens also. The Baron has done a wise thing in buying the very best varieties of each individual class that it is possible to procure, as he has none but what are really good, and the gratification and pleasure derived from such a collection is thereby greatly enhanced. Again, both the Baron and his gardener are ever willing to enlighten anyone interested in this beautiful family, or to learn from anyone who may be in a position to give practical hints.

To enumerate all the gems at The Dell would occupy too much space; but it may be of interest to many to hear that the following are now amongst the many in flower in the collection:—Lælia anceps alba, a pure white form of anceps, a very fine plant with two spikes; this is a grand acquisition, quite distinct and very rare. Lælia anceps, sold at Stevens' Rooms as a white Lælia, and imported by Shuttleworth, Carder & Co., is in flower in fine masses. L. anceps Dawsoni, is also nicely in flower, one plant carrying six spikes with four flowers on each.

Lælia autumnalis and Lælia autumnalis venusta a fine variety, are also in flower; and Cattleya triophthalma, a Chelsonian hybrid with six flowers, proves its claim to be considered a valuable winter-flowering Orchid. Cattleya Percivaliana, C. Dominiana, C. Trianæ Dodgsoniæ, fine plants and very fine varieties indeed. Of Cypripediums in bloom I noted insigne, insigne punctatum, insigne Maulei, Leeanum superbum (very fine), Spicerianum (several and very fine), vexillarium (rare), Harrisianum superbum, Haynaldianum, and concolor. These are all represented by grand varieties and nice plants of each. Angræcum eburneum carried four fine spikes. Of Dendrobium bigibbum there are many fine varieties, and conspicuously amongst them was bigibbum album, while the lovely sweet-scented D. heterocarpum filled the air with its perfume.

Bollea Lalindei is a very curious Orchid and not often seen, especially in such good condition. Of Odontoglossums the collection contains many extraordinary fine forms of Alexandræ, grand plants, good spikes, and such grand varieties! O. Wilkeanum Godefroyii, a perfect gem, is in flower, with seventeen blooms on a spike. It is of the Alexandræ type, with a background of pale yellow evenly spotted with very bright brown, fine shaped flowers of grand form and substance, and perfectly distinct. Many plants of O. Pescatorei are throwing up fine spikes, among them the finest form yet seen, O. Pescatorei Veitchianum. Those who have seen this in flower cannot but agree with me that it is the best in cultivation. Of Oncidium varicosum, many fine spikes are conspicuous; the bright Sophronitis grandiflora is represented in many

fine forms; the curious Restrepia antenifera is also nicely in flower; Odontoglossum Roezlii, also suspended in a basket, is in flower and doing well; Vanda Cathcarti and Angræcum sesquipedale are showing fine spikes.

Those mentioned are only a few of the many here to be seen; there are hundreds of Cattleyas showing sheaths, likewise huge specimens of Cymbidium Lowianum, Cœlogyne cristata, Dendrobiums in variety, including many very fine plants of the leading sorts. For instance, D. Ainsworthii, nearly 3ft. through, will give some idea of what is to be seen. A grand show is in store for the ensuing season, and I trust the Baron will be well rewarded by getting amongst the importations some novelties of sterling merit, for one so much interested ought to be well rewarded.

Another striking floral feature at The Dell, just now, is a house of well-grown Poinsettias, a grand sight; and in one of the stoves is a magnificent specimen of the noble Anthurium Veitchianum, its grand bold foliage standing out majestically. A house devoted to Nepenthes is also interesting, and many rare and valuable forms are noticeable. Nerine Fothergillii, and all the fine forms belonging to this family, are grown very extensively at The Dell; the grand collection must make a fine display when in flower, for there are hundreds of them, and some of the finest specimens I have ever met with are here to be seen in splendid condition. Imantophyllums are well cared for, a span-roof house being full of all the leading varieties in fine specimens; many hundreds of seedlings are also raised, and something good I hope may be the result. All-round gardening is well carried out, and a visit to The Dell is worth a long journey. Baron Schroder is to be congratulated on the possession of so valuable a collection; and to his able gardener, Mr. Ballantine, great credit is due for the admirable condition in which all departments of the garden are maintained.—*Alfred Outram, Victoria and Paradise Nurseries, Upper Holloway.*

LADY CORISANDE'S GARDEN.

In answer to "Llougborth," I send you an extract from Disraeli's *Lothair*, which gives the description required. "As they were at breakfast in that bright room with its little round tables, which Lothair always admired, looking, as it did, upon a garden of many colours, 'How I hate modern gardens,' said St. Aldergonde. 'What a horrid thing this is, one might as well have a mosaic pavement there. Give me Cabbage Roses, Sweet Peas, and Wallflowers, this is my idea of a garden. Corisande's garden is the only sensible thing of the sort.' "One likes a mosaic pavement to look like a garden," said Euphosyne, "but not a garden to look like a mosaic pavement," "The worst of these mosaic beds," said Madame Phœbus, is, "you can never get a nosegay, and if it was not for the kitchen garden we should be destitute of the gayest and sweetest of creation." "Corisande's garden is," said the Duchess to Lothair, "no flowers are admitted that have not perfume. It is very old fashioned, you must get her to show it you." It was agreed after breakfast they should go and see Corisande's garden, and a party did go—all the Phœbus' family, Lord and Lady St. Aldergonde, Lady Corisande, and Bertham and Lothair.

In the pleasure ground of Brentham were the remains of an ancient garden, of the ancient house, that had long ago been pulled down when the modern pleasure grounds were planned and created. Notwithstanding the protest of the artist in landscape, the father of the present Duke would not allow this ancient garden to be entirely destroyed, and one came upon its quaint appearance in the dissimilar world in which it was placed as you might, in some festival of romantic costume, upon a person habited in the courtly dress of the last century.

"It was formed upon a gentle southern slope, with turfen terraces, walled in on three sides, the fourth consisting of arches of golden Yew. The Duke had given this garden to Lady Corisande, in order that she might practice her theory that flower gardens should be sweet and luxuriant, and not hard and scentless works of art. Here in the season flourished abundantly all those productions of Nature which are now banished from our once delightful senses; huge bushes of Honeysuckle, and bowers of Sweet Peas, Sweetbriar, and Jasmine clustering over the walls, and Gilliflowers scenting with their sweet breath the ancient bricks form which they seemed to spring; there were banks of Violets, which the southern breeze always stirred, and Mignonette filled every vacant nook. As they entered now it seemed a blaze of Roses and Carnations, though one recognised in a moment the presence of the Lily, the Heliotrope, and the Stock; some white peacocks were basking on the southern wall, and one of them as the visitors entered moved and displayed his plumage with scornful pride. The bees were busy in the air, but their homes were near, and you might watch them in their glassy hives. 'Now is not Corisande quite right,' said Lord St. Aldergonde, as he presented Madame Phœbus with a garland of Woodbine. All agreed with him, and they sauntered and rambled in the sunny air amid a blaze of butterflies, and the ceaseless hum of bees."

I do not know whether Corisande's garden had any existence in fact, or whether it existed only in the imagination of the great politician; but at Hughenden Manor, where he resided, there are bowers and Yews, aye, and Primroses, too, and the peacocks used to be there.—*A Reader.*

FRUITS, FLOWERS & VEGETABLES.

Eucharis Amazonica at Newstead Abbey.—The Eucharis-house at Newstead Abbey, Nottingham, is a sight which once seen can never be forgotten. A few days ago the total quantity of flowers in this little house was about 2,500, and Mr. Belliss informed me that was the third crop in one year. A path cuts the centre of the span-roofed house, and on each side is a bed 24 ft. long by 3 ft. 6 ins. wide, and in these beds the Eucharis is at home planted out—a perfect jungle of health and beauty. From the trellis above the Eucharis, Mr. Belliss told me that he had cut an excellent crop of Melons in August; they were planted in drain pipes in front, to get them above the foliage of the Eucharis, and to afford shading at the same time. At the present time, another or second shading hangs over them in the form of Poinsettias, the stems of which are as thick as one's wrist, with a good crop of fair-sized bracts hanging all over the roof of the house. These also are planted out in front of the beds next the pipes, and afford another capital shading. The Eucharis were planted out three years ago, and every year turn out the same, indeed, an old-fashioned grin comes over Mr. Belliss' countenance when you name Eucharis disease.—*J. D.*

Apple, Dr. Jules Gaudy.—The November number of the Belgian *Bulletin de Arboriculture*, &c., contains a good coloured plate of this handsome Apple, which was raised by Mr. Hermans of Herenthales, and has been much admired by continental Pomologists. It is a variety of good size, shape, and quality; the ripe fruits being of a lovely blood-red, orange and yellow colour. It is named in honour of the learned President of the "Societé centrale d'arboriculture" of Brussels. The December issue contains an equally good plate of the Beurré Baltet Père Pear, a very fine hardy and free-bearing kind.

Yellow Self Pansy, George Rudd.—I think if I was asked the name of the best Yellow Self Pansy in cultivation, it would be this variety. I am not quite certain who raised it, but I think the late Henry Hooper, of Bath. It is a large stout flower of thick substance and fine form, with a large dense and well defined blotch. It is so smooth and flat as to make an excellent exhibition variety, and there is another good point about it, it is an excellent hot weather variety, for it stood better during the hot dry summer months than any other variety I know, and it kept on blooming. It is a fine, free, vigorous growing variety, and as such can be well recommended. If I grew a select six show Pansies, George Rudd would be one of them.—*R. D.*

Gros Guillaume Grape.—Mr. McKenna is to be congratulated on his success in growing this Grape to such noble proportions. The bunch figured in THE GARDENING WORLD for December 12th is truly a splendid one, and is something to be proud of. The total weight on the cane which bore this fine bunch seems, from the notes published with the engraving, to have been 45 lbs. This, from a two year old cane, is really first-rate. Gros Guillaume generally fruits more freely on young rods, and cultivators should always endeavour to keep a succession of them, so that the disappointment sometimes experienced in connection with the growing of Gros Guillaume may be avoided, and a regular crop of bunches obtained year by year. The writer has seen fine vigorous growths on canes of Gros Guillaume which had attained a few years' age, but alas! the bunches were few and far between. Long spur pruning sometimes assists in maintaining a regular crop from old rods of Gros Guillaume, but even this mode of treatment is not always rewarded with entire success. Undoubtedly Gros Guillaume is a good keeper, a handsome Grape, and a very good eater when partaken of in January and later on. Long may Mr. McKenna continue to grow this Grape to the perfection he has attained this year, and may he often have the honour and satisfaction of having some of his bunches not only placed before a Prince, but also before his Sovereign.—*J. T.*

Christmas Roses.—I am overflowing with respect for my old friend Richard Gilbert, and I can assure him he need be in no fear of "treading on dangerous ground" when he criticises any remarks of mine; and as he is, in the fullest sense of the word, an experimental gardener, I am always willing to sit at the feet of such a horticultural Gamaliel and learn of him. My method with Christmas Roses is governed by the circumstance that I have a cold house, which it is my aim to keep as gay as possible during the autumn and winter months. I find Christmas Roses one of the best things I can use for the purpose, and so I have a series of nice large clumps, one half of which I lift in October and put into pots, and place them in my house, and they yield me a large quantity of lovely flowers at the Christmas season. You will perceive that the roots are lifted once in two years only, and after they have done blooming I lose no time, but avail myself of the earliest opportunity of planting them out in the open ground again. This will, I hope, reply to your correspondent "Somerset" also. I am again keeping the plants in pots; they suffer too much during the hot dry weather of summer. My idea of growing Christmas Roses for their flowers would be a bed of rich deep loam in the open air, planted with strong specimens, and covered with a cold frame during the winter time. The plants would have a good mulching with short manure every season in early summer.—*R. D.*

The Edinburgh Apple Congress.—I am glad to learn from "One who was there" (as if to suggest that I was not), that the Congress has resulted in the gathering together of a mass of useful and interesting matter which is in process of "digestion." I hope when the "digestion" is complete, that the nutritious food which remains will be speedily given to the public, so that the benefit may be general. But in spite of "One who was there's" assertion, that much "practical good will result from the meeting," I venture to repeat that the Congress was more a mere spectacle than a means of much real practical good. As a spectacle it was very fine, and as I really was there I enjoyed the sight amazingly, but the question is, "was the game worth the candle"? The "candle" has been an expensive one for the society, and they will have cause to remember the Apple Congress for some time to come. Regarding my remark about jurors in a "maze," I may say that when speaking to one of them during the proceedings, he expressed himself as completely "at sea," and wished he were well out of the job. I have no desire to throw cold water on any attempts to promote horticulture by "congresses," but too much stress should not be put on the value of the getting together of some 50,000 Apples and Pears, and then having them looked over in a necessarily perfunctory manner by men, who, however anxious and able, are not infallible, and are sure to be reduced to something akin to a "maze" by the bewildering numbers of the subjects before them.—*X. Y. Z.*

Chinese Primulas.—In addition to what "J" has said about Primulas in your issue for December 19th, it would be well to add that when potting, the soil should be sloped from the centre to the edge of the pot, and while watering, as "J" advised, care ought to be taken to see that the ball is wet or saturated right through.—*A Young Gardener.*

Abutilons as Winter-blooming Plants.—I was ushered into a small conservatory adjoining the rectory-house of a neighbouring clergyman two days before Christmas. It was gay with late-blooming Chrysanthemums and several other flowering plants; but I was most interested in two plants of Abutilon growing upon an allotted space on the back wall, which

was the dwelling. They were flowering freely. One was the white variety, Boule de Neige, and the other a bright-coloured one, probably one of the more recently improved varieties of A. striatum. I knew Abutilon striatum over thirty years ago as a continuous bloomer growing in a roomy border trained up the back wall of a large lean-to Vinery. Its large shiny leaves were used in winter for dishing-up fruit. This species is a native of Brazil, and was introduced into this country about fifty years ago.—*T. W.*

Stephanotis floribunda, Fruiting.—I have read with interest all that has been written upon this subject, and I well remember seeing its egg-shaped fruit hanging on a plant trained over a balloon-shaped trellis in a plant-stove at Ash Grove, Flintshire, about the year 1850. It would be interesting to know whether it fruits freely in its native country of Madagascar, and if any use is made of them. It was introduced into this country about the year 1839.—*T. W.*

Vines Bleeding.—Having tried a great many so-called remedies for preventing Vines from bleeding, such as Thomson's styptic, wax, &c., and found them of no use when once the Vines started bleeding, it may be useful to others to know of a cheaper and simpler method. It is to take a Kidney Potato, cut it in two, and press it over the cut. I tried it the other day, and it proved effectual at once. If any of your readers will try this plan they will soon prove its efficacy.—*John Fraser, Geddes Gardens, Nairn.*

Asparagus plumosus.—This elegant South African evergreen climber may be seen in all its grandeur in the large conservatory at Clifton Hall, Nottingham. Mr. Anderson, the able gardener there, procured the original plant six years ago, and after gowing it in a pot for about two years, decided to make up a border for it at the bottom of the back wall of the conservatory. The border is composed principally of lumpy sandy loam, a little peat, leaf soil, and a dash of sand. This exceedingly handsome specimen seems to thoroughly enjoy this compost, as well as the shady position it occupies behind or partly under large specimen palms and tree ferns, etc. As a matter of curiosity, I ran the tape round it about one foot from the ground, and found it to measure 6 ft. in circumference, and about 30 ft. high by 12 ft. wide, trained up the back wall to the top of the house, and its pretty feathery growths are not only ornamental to the conservatory but most useful to cut for table decoration. Mr. Anderson does not go in for handfulls but generally for a bushel basket full at a time, and to fully prove its lasting qualities; I enclose a specimen which I have had in a cold room for the last three weeks without water. I have omitted to say there are two of those fine plants in the conservatory, which is a fair sized house, measuring 127 ft. long by about 40 ft. wide, and both plants seem to enjoy their positions immensely.—*J. D.*

Rhus Cotinus.—I first saw this most uncommon plant last August in the beautiful grounds surrounding Gunton Hall, Norfolk. It was planted—or was growing in the centre of a bed of other shrubs, in an open situation, and I felt rivetted to the spot when first I beheld the most peculiar inflorescence borne in profusion all over the plant. After seeing this specimen, I can quite realise all your correspondent "*R. D.*" said about it in your issue for December 26.—*T. W.*

FLORICULTURAL LORE.

At p. 252, for "Miss Putt" read "Miss Patt," this error was not observed by your correspondent, Mr. J. Knight, or I have no doubt he would have corrected it. I visited the Battle Nursery in September last, but the Dahlia is not cultivated there now as in the days of auld lang syne, at which time Mr. J. Knight says, if he mistakes not, that there was but one gardening paper, and in this he is quite correct, as the first number of the first gardening newspaper was published on the 7th of January, 1837, and I became a subscriber in the following autumn. I well remember the rigorous winter that followed, known perhaps to some of your readers as "Murphy's winter," he having predicted the coldest night, I think the 10th of January, 1838, when the Royal Exchange was burnt, and thousands of shrubs were killed to the ground, and many absolutely destroyed.

The paper was called the *Gardeners' Gazette*, and it was edited by the late George Glenny, a man who, in my opinion, was one of the pioneers of floriculture, and a leading promoter of florticultural societies; and of whom I may almost say with the poet, that "even his failings leaned to virtue's side," for I am convinced that the good he did, in a variety of ways, to the cause of floriculture was immensely in excess of his failings in other respects. I knew him well, few perhaps who have survived him knew him better for a long series of years, and I often recall to mind the time between 1840 and 1850, when I never failed to attend his anniversary dinners, mostly at the "Crown and Anchor," Strand. It was at these gatherings that Dahlia growers were met from almost every county in England; and, although, never an exhibitor of the Dahlia, from attending most of the shows, I became acquainted with nearly all the raisers of seedlings and growers for competition, and was on friendly terms with a great many of them. Alas! for the most part, they have quitted the stage for ever, leaving an undisputable legacy behind them, viz., the present race of improved Dahlias and other florist flowers.

I cultivated the Dahlia as a decorative garden plant, and I give you a list of those so grown by me in early days, 1839. I have, as a matter of course, substituted improved varieties from time to time as circumstances necessitated:—Battle Rival (Knight) golden yellow; Beauty of Dulwich (Fleming), fine yellow, spotted; Beauty of Lullingstone (Salter), fine dark; Bride of Abydos (Elphinstone), white, spotted; Conqueror (Harris), fine scarlet; Criterion (Douglas), white tinged with lilac, fine; Dodd's Mary (Dodd), white shaded with lilac, fine round petals; Cedo Nullii (Widnall's), yellow and red; Calypso (Willmer's), pink blush; Hon. Mrs. Harris (Squibb's), carmine, white, and purple; King Otho (Dickenson), fine bright rosy crimson; Lilac Perfection (Harding's), deep lilac; Lovely Anne (Dickenson), fine blush; Paris (Widnall), light purple; Perfection (Widnall), rosy crimson; Picta formossissima (Chandler), orange striped with scarlet; Sir H. Fletcher (Richardson's), rosy purple, fine; Solomon (Wells), yellow; Springfield Rival (Inwood's), deep rosy crimson; Sulphurea elegans (Jones), pale yellow, fine; Calliope (Spencer), scarlet, beautifully cupped; Granta (Widnall), claret cupped petals; Rival Queen (Barnes), blush tipped lilac, good form; Star (Brown's), bright scarlet; Suffolk Hero (Girling's), maroon, habit equal to Springfield Rival, and took 1st prize at Twickenham, October 8th, 1835, and four prizes 1836; Lewisham Rival, Meade (white), Hope and Neville (rose).

I do not for one moment attempt to lay claim to the possession of much personal Dahlia lore; the thousands of seedlings that have been named and passed into oblivion in my time being almost beyond calculation, let alone remembrance. Doubtless this is as it should be, we must keep going on ahead, we cannot stop, because we have succeeded in obtaining one good thing, we must be ever trying to get a better; thus is kept up a healthy action, mentally, physically, and commercially considered, all conducing to infuse new life into those that take pleasure in the cultivation of lovely flowers, be they what they may. Happy are those that so seek enjoyment; and I esteem it no mean privilege to be able to take upwards of half a century's retrospective survey of the products of the earth of which anon we shall form a part.—*George Fry, Lewisham.*

ORCHID NOTES AND GLEANINGS.

Lælia anceps varieties: Establishing Imported Plants.—The arrival of the good importations of white and other varieties mentioned in the last issue, reminds me that imported pieces of these plants are not always so well managed as they might be, and that a few remarks on their management may be a help to some. The present is the flowering, and so far as the growth is concerned, the inactive season with the varieties of L. anceps, and therefore the proper and safe method is to trim over, remove the dead pieces, and crock the plants as soon as received either into baskets or pots, and place them in a good light situation in the coolest and airiest part of the intermediate house, where sufficient water should be given them to keep them in a plump condition. The advantage of crocking up over potting, when the fresh imported plants are in a resting state is obvious, as when in crocks only, water may be given frequently without any risk as it drains quickly away; whereas, if peat and sphagnum is used, the stagnant moisture around the plants, which are not furnished with imbibing roots, cannot fail to be harmful.

Being placed in crocks, or crocks and charcoal only, until the plants start to grow and root freely, also provides that the new roots, when they come, shall have fresh stuff to run into, whereas, if potted up long before the starting time, the material becomes stale, as well as doing mischief before the plants start to grow. Fresh sweet stuff is eagerly laid hold of by new Orchid roots, but they often get crippled by coming into contact with bad. With fresh imported plants, in any stage of growth or rest, my plan is always to place them in crocks, if only for a fortnight, until they get acclimatised to the house, as I generally find, that when first received and placed for treatment, a kind of sweat comes over them, which is frequently followed by fungus in those parts from which the air is excluded when potted up at once, but which either does not appear, or, if it does, can easily be seen and dealt with when the plants are in crocks.

With the varieties of Lælia anceps, fresh imported, good results may be obtained in getting them to break freely by simply placing them, without pots, between the other plants on the stages, and this course is infinitely preferable to potting them up at once; but as each plant is worthy of its place, it is better crocked up at once, as when so arranged it is more under the eye. A pure air, but not too moist, plenty of light and even sun, and a free supply of rain-water when growing, are the chief essentials for the good culture of L. anceps varieties. They are by no means tender, I have frequently had them do well in a house as cold as the ordinary Odontoglossum-house, but not so moist, and fine specimens are often met with in vineries and mixed plant houses in many old gardens; but in general practice their place is in the coolest and lightest part of the intermediate-house, and there well up to the glass. I should advise all who have fresh importations to pot them, and wait until the strong growth and coming root tells that they are ready for potting or basketing permanently. Baskets or half-pots suit them well, and if in baskets they need not be suspended if not convenient to do so. For potting material a good fibry peat of Fern root alone is best.

Some excellent illustrations and descriptions of fine varieties, taken by the kindness of Baron Schroder from specimens grown at The Dell, Egham, appeared in The Gardening World, vol i., pp. 47, 501, 533.

The Temperatures for the Month of January should be:—Warm-house: 65° to 70° by day, 60° at night. East India, Cattleya, or intermediate-house: 60° to 65° by day, 55° at night. Cool or Odontoglossum-house: 50° to 55° by day, 45° at night.—*James O'Brien.*

Syringing Orchids.—I think much may be said for and against the use of the syringe amongst Orchidaceous plants. I first learnt to value the judicious use of it some seventeen years ago, at Pendlebury House, Manchester, under the late Mr. Geo. Toll, who was a very successful cultivator of Orchids in his day. For instance, Vandas and Ærides, 6 ft. high, feathered to the pot with healthy foliage, would compare favourably with any that are grown now a-days. Well, those plants had their lower leaves syringed frequently more or less throughout the year, even in winter they were "touched up" when hard firing was necessary to keep up the desired temperature. Mr. Toll always used a jet in syringing, not a rose, and he could handle it so cleverly as to distribute the water at right angles from the syringe in the form of a fine spray, upon all blocks that were suspended from the roof, so that any water which fell upon plants "not intended," was more like a natural dew and not sufficient to do any harm. Rain water was invariably used.

Now I come to my own practice here for the past eight years, and I think if I had no other water to use than that of a hard limy nature (which disfigures and coats over every leaf it comes in contact with, almost enough to stop up all the pores and respiratory organs, which is not easily sponged off) I should discontinue syringing altogether and be content with smaller bulbs of Dendrobiums, and battle with red spider and thrips as best I could with sponge, brush, and tobacco smoke. But with a good supply of rain water I should be sorry to give up syringing some Orchids overhead. That horrible pest yellow thrip is not killed by water, but is certainly kept in check. In the growing season we

syringe all the Cypripediums of the barbatum section, but none of the C. Lowi type; Epidendrum bicornutum is well syringed; Odontoglossum Roezlii is syringed lightly now on bright days; also Dendrobium Wardianum coming into flower, and just starting into growth. Nearly all the Dendrobiums in the growing season are syringed as much as Crotons, there are some exceptions, two of which I can name just at this moment, D. Bensoniæ, and D. crystallinum, are very apt to rot if water is allowed to lodge on their young growths, unless they are in a very high temperature; D. formosum, and D. Falconeri, I fail to see how they can be grown thoroughly well unless they are syringed; neither of them will thrive in pots upon the stage for any length of time. It is painful to see D. formosnm lingering and starving in a pot beneath some other Orchid far less beautiful. Instead of such an unnatural position, place it upon a block and hang it up close to the roof glass and syringe it two or three times daily, then see what returns it will give.

I have a note by me written by someone resident in India, who says that this plant requires 300 ins. of water yearly!. How is it to get it in our hothouses except by syringing? D. Devonianum is subject to red spider, but no red spider will thrive if you can ply the syringe about them freely. I think for Dendrobium culture, the syringe and rain water are indispensable. There are few things in the Cattleya house we syringe; Thunias and Sobralias get as much as the Dendrobes when in active growth, and enjoy it; Masdevallias also enjoy a "dewing" overhead every hot day; as to Disa grandiflora it is simply drenched with water. There is one other Orchid I had nearly forgotten to mention, as being subjected to the overhead shower baths with very good results, that is Cattleya superba. In closing these notes I may say that there is a kind of syringing that I would put my foot upon very firmly, which is that of an inexperienced or careless youth who chooses the coarsest rose he can find, and considers that the quicker and harder he can hit the plants above aud below, the better and more effectual it will be.—*Thos. Simcoe, The Gardens, Lake House, Cheltenham.*

Syringing Orchids.—I am glad to see Mr. O'Brien's remarks on this subject (p. 268), as I think many will be tempted to give the matter more consideration than formerly. For my own part, although previously a little prejudiced in favour of the syringe, I have worked the matter out, and find it can well be done without, and that doing without it relieves one's mind of many a care. Over two years ago when starting a house of cool Orchids, the bulk of which were composed of very miserable fresh imported pieces of Odontoglossums, bought in lots of twenty-five each, Mr. O'Brien advised me not to syringe, and I followed his advice so far as never to take a syringe into the house summer or winter. My plants, although from such poor beginnings, are in grand order, clean, shiny, thick leaved, and well furnished with spikes, and I attribute much of their good health to the fact of their being grown without syringiug, for if when first starting from the weak and often decayed bulbs they had got moisture overhead, I am sure the majority of them would have died. My Masdevallias are also grand, and do not exhibit the slightest trace of the too many inexplicable black spots on the leaves, but which I believe in most cases to be the result of watering overhead. I need hardly say that I have done with syringing my Orchids, but of course I always take care that there is nothing in the houses to draw vitality out of the plants by keeping up an even but not excessive moisture.—*F. King, The Gardens, Kenton Grange.*

Lælia purpurata.—A richly coloured form of this, with a curious formation seeming to bear traces of Cattleya lobata, comes from Mr. J. Cypher, of Cheltenham. Its sepals are white, washed with mauve; petals very broad, white at the base, but almost wholly washed and veined with violet; the lip is commonly elongated, dark maroon fading to mauve towards the fringed front. It is very bright, pretty, and distinct.

Management of Cool Orchids.—I have a few Odontoglossums in a cool house, and Cattleyas, etc., in an intermediate house, but cannot keep the sphagnum green and growing like it was twelve months since when bought, and shall be glad to know the cause. The cool house has been fumigated a few times, and by mistake the plants had manure water once or twice. They are watered with rain water, and have plenty of water and moisture. Those in the intermediate house are watered with warm spring water, and there has been sulphur on the pipes. The moss looks brown and decaying, and, though some plants are showing for bloom, had I better repot or will they do all right as they are?—*Amateur.* [Your statement discloses several probable causes for the decay of the Sphagnum Moss. The manure water most likely helped, the fumigating might have done so, and the sulphur could not fail to be injurious. Watering with warm water is unnecessary and bad. The best water is rain water, and it needs nothing but to be applied direct from an unheated tank. See at once to get some good living Sphagnum and fibry peat, and carefully repot all which do not show cause that they had better be left until later on. In an early number we shall remark on potting. Be careful to ventilate freely and observe our prescribed temperature.—*J. O'B.*]

Pilumna laxa.—The flowers of this species though by no means equal to the more prized P. fragrans and P. nobilis, is, nevertheless, a pretty object, especially when suspended, in which position the flowers being naturally of a pendulous habit are shown to the best advantage, as they are formed loosely all along the stem and not in a cluster, as is the habit of its congeners. A small plant has lately produced from one growth two spikes of flowers, one having eight, the other ten flowers on it, so that when strong, it may be looked forward to as a most floriferous Orchid.—*E. D.*

THE GARDENERS' CALENDAR.

THE KITCHEN GARDEN.

Peas and Beans.—Next week will be a good time to make an early sowing of Peas in 3-in. pots, three parts filled with light garden soil. Put about nine Peas in each pot, covering them with soil, and afterwards putting the pots into a forcing house; and when the plants have made a couple of inches of growth remove them to a cooler and airier house, where they must be gradually hardened off before being planted out on a warm border later on. Day's Early Sunrise, Ringleader, and William I are the best varieties to sow to yield gatherings of Peas towards the end of May next, in warm districts.

Concurrently with this sowing there should be one made out of doors in a well-prepared piece of ground of the following varieties, in rows running north and south, and from 6 ft. to 10 ft. apart, viz.:—Sutton's Ringleader, Dickson's Favourite, Laxton's Supreme, and Carter's Telephone. The space between the rows of Peas can be planted with two to four rows of Cauliflowers in February, weather permitting. In reference to early Peas I should advise a sowing of the American Wonder and Sutton's Bijou Peas, to be made in 3-in. pots, either for planting in pits or shifting into 8-in. pots later on, for yielding early gatheriugs of Peas. These varieties being only 12 ins. to 15 ins. high are, therefore, very suitable for pot or pit cultivatiou.

A sowing of Seville Long-pod Beans should also be made in boxes for transplanting in a favourable situatiou out of doors, when it is considered safe to do so. At the same time there should be a sowing made in a south border, at 3 ft. between the rows. These, like the Peas, will make a succession to those raised in pots and boxes. Peas, which were sown out of doors the end of October or early in November, will now require to have a little soil drawn up to them; after which they should have some short spray sticks put close to the haulms on either side to prevent them from swaying, and afterwards be staked in the ordinary way.

Forcing Department.—French Beans, when they have grown a few inches above the rim of the pot, should be top-dressed with soil of the same temperature as that in which they are growiug, and have the points of the shoots pinched out to make them branch, and weak liquid manure should be given at the roots when the plants are podding, which will enable them to produce finer Beans. Damp the plants over-head with tepid water on fiue days, and make successional sowiugs at short intervals, in quantity according to the accommodation for their growth and the demand for the same, so as to maintain a regular supply. Maintain a top and bottom heat of from 60° to 70° in Asparagus frames, aud should it be likely to fall below this, the the linings should be freshened by the addition of fermenting material, a good heap of which should be kept in reserve for this and other purposes, for anything like a stagnant growth would be prejudicial to the quality of the produce.

Ventilate the frames in accordance with the condition of the beds, the stage of growth at which the occupants of each frame may have arrived, and the weather. These remarks are also applicable to pits and frames which have been recently planted with Potatos, and sown with Carrots and Radishes. With these remarks we commence our Calendar for the year 1886, trusting that they may be found of some little service to the readers of The Gardening World.—*H. W. Ward, Longford Castle, Salisbury.*

THE PLANT HOUSES.

Composts, &c.—With the new year we are reminded that the work in the plant department will be on the increase from week to week, and it is therefore necessary to prepare for the busy time, as far as possible, by getting everything put in working order, and seeing that a proper supply of "requisites" are at hand. One of the most important matters is to have a good supply of potting compost prepared for use. Previous to adding leaf-mould or manure to the other soil, it should have a good sprinkling of soot well mixed with it and laid up for a week or so; this will help to destroy any worms or other insects that it may contain, besides which it will be a valuable addition to the compost for most plants. It will be well to remember, however, that while soot used in suitable quantities is beneficial, an over-dose will be detrimental. About a 48-pot full to a barrow-load of leaf-mould or manure will be a fair quantity, though more may be used for some plants.

Bedding Plants.—The stock of these should be gone through, and many things may now be propagated as soon as good cuttings can be obtained. In any case, where the stock of autumn-struck bedding Pelargoniums is insufficient and cuttings can now be obtained, they should be put in as early as possible. Verbenas and Petunias, as the old plants are very liable to go off, the first cuttings that can be obtained should be put in, and if these are rooted successfully, they will provide extra stock, and better cuttings than the old plants will give. Lobelias, the first batch of this should be already rooted, and, if so, the tops may be taken off as soon as they are long enough. Lobelia is often raised from seed, but that which is propagated from cuttings is more reliable, and makes more compact and better plants, especially if a good strain is selected for stock. It is easy enough to get good plants of any soft-wooded bedding plants by propagating later on, provided good cuttings can then be obtained; but, unless the stock plants have careful attention, they get into a bad condition or perhaps die off altogether, especially after such a dull wet season as we have had.

Bouvardias.—Plants that have been flowering through the autumn will now be exhausted, and may be stood by in any position where they can be kept dry, and when sufficiently dried off, they should be pruned back. If a batch can be pruned, say early in January, they will, if put into heat about a week after they have been pruned, soon break out and give a good batch of cuttings; or, some of the free-flowering kinds may be grown on for spring flowering.

FLORICULTURE.

Wintering Dahlia Roots.—The usual rule is to lift Dahlia roots as soon as the first serious frost has blackened the tops and made it dangerous for them to remain longer in the ground. Some growers prefer to take up their roots before the frost has injured them, which is undoubtedly the safest practice, for I have known permanent iujury done to the tubers by reason of the rot which follows on frost striking down the stem and reaching the root, causing it to perish by means of slow decay. I can remember some sorts—I may mention Drummond's Bob as a case in point—that seldom produced sound roots in the ground, aud they invariably perished before Christmas arrived; but they are not so numerous as they were a quarter of a century ago. When the lifting of the roots takes place a drying day should be selected for the purpose, and if some of the more adhesive of the soil clings to them the heavier particles should be loosened by means of a pointed stick, and the root turned upside down on a mat or hurdle to dry a bit. It is a mistake to wash

the roots as soon as they are lifted; I have known it done with lamentable results. Another matter requiring attention is, that the name of each variety should be legibly written on a wooden label and firmly attached to the root by means of flexible wire, but it should be of a character that is sufficiently durable.

The roots being dug up and sufficiently dried, the next matter is where to store them. They will keep well in a dry cellar or any such place where frost cannot reach them, and they should be placed on something raised above the level of the floor, so that they are not in immediate contact with damp, as this will cause the tubers to become mouldy and decay. A bottle-rack, or a stage made somewhat similar, is the best place for them, the necks being turned downwards so that what moisture is left in the hollow of the stem may run from it. I should remark that it is the rule to leave 4 ins. to 6 ins. of the stem when the root is lifted. Further, the roots should be examined once a fortnight during the winter, and any portions that may show signs of decay cut away. This is a very important matter, especially when only one or two roots of each represents a choice variety.

And though in danger of repetition, I must insist upon the importance of properly drying the roots previous to stowing them away. Mind, they should not be dried up so as to present a shrivelled appearance—this is going to the other extreme. What is wanted is merely the surface dried. Then a few weeks after the roots have been stored they should be gone over, and any soil adhering to them removed by a sharp-pointed stick, but no necessity arises for washing them.

Some gardeners are content to place their Dahlia roots under the stage of their greenhouse, but while they are free from danger through frost, the drip from the pots when water is supplied falls upon them and often occasions decay. Besides, they give the house a slovenly appearance, which is not desirable.

For the purposes of sale, it is the custom for growers of Dahlias who trade with them to pot the cuttings singly in large thumb or small 60-sized pots. What of these remain over after the trade is done are allowed to occupy a cold frame on an ash bottom, and they are plentifully watered overhead in dry weather. Late in the autumn these are cut down, and when the soil has become quite dry the roots are shaken free from it, and they are put into large pots or any suitable vessel, the varieties kept separate, and they are then known as dry or pot roots, and are very useful for supplying orders during the winter. Some varieties produce better flowers from "pot roots" than they do from plants struck from cuttings; but that is one of the wrinkles gained by Dahlia exhibitors from the lessons of experience. Pot roots represent an excellent means of sending Dahlias abroad. If each one be bound up in a ball of dry moss, they can be sent to America or Australia; but it is essential that they be secured from harm from frost. And so I advance the Dahlia subject another stage. In my next paper I will deal with the matter of propagation.—*R. D.*

Florist Flowers, Past and Present.—Although I have known your correspondent, Mr. J. Knight, as a contributor to your pages, I had not the remotest idea that he was in any way connected with the, at one time, leading Dahlia growers of Battle, Sussex—a name that has been before my eyes, I may say, during nearly the whole of my gardening career. In the way of garden gossip, I may state that between forty and fifty years ago, in my collection of Pelargoniums I had one named Lady Montgomery, which was sent out or raised by a Mr. Denyer, of Battle. I am writing from memory, but I think it was a much darker shade of crimson and a larger flower than Dennis's Perfection, which was much grown at that time.

I once called on Mr. Dennis when he lived in the King's Road, Chelsea, as also on Mr. Knight at the Exotic Nursery, I think, when I was on my way to see the Horticultural Society's Gardens at Chiswick, and in the palmy days when the late Robert Thompson was to the fore. As regards Battle I am, like Mr. Knight, personally interested in it, my wife being a native of that historical old town. Her late uncle, Mr. John Vidler, was the author of "Battle and its Abbey," and the latter's uncle was also a native of Battle. I merely record these facts to show that since Mr. K. has made himself known to me it seems as if there existed a kind of historical affinity between us.—*George Fry, Lewisham.*

NOTICES TO CORRESPONDENTS.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

QUESTIONS AND ANSWERS.

Libonias and Dipladenias.—Would some of your readers kindly give me a few practical hints upon the culture of the Libonia and Dipladenia amabilis. I have them both, but fail to get any satisfactory results.—*C. W., Doncaster.*

Names of Plants.—*G. W. Gardiner:* A small flower of Dendrobium Wardianum.

Larch.—Can any of your readers tell me whether the thinnings of a Larch plantation can profitably be transplanted on a small scale when the trees are about 8 ft. high? Also whether, in such plantations, it is a good thing to lop the lower branches?—Y.

Communications Received.—J. T.—S. T. B.—M. Ch. Joly, Paris.—C. W. (thanks for the hint, we will endeavour to oblige you).—S. & S.—A. H.—J. P., Paisley.—D. B. & T.—A. F. L.—V. C. & Co.—T. S. W.—W. H. D.—B. L.—Hamilton & Co.—A. O.—M. T.—A. R.—J. W.—D. J. N.

TRADE CATALOGUES RECEIVED.

John Laing & Co., Stanstead Park, Forest Hill, S.E.—Seeds, Novelties, Begonias, and other plants, &c.

Dickson, Brown, & Tait, 43 and 45, Corporation Street, Manchester.—Vegetable and Flower Seeds, and Cultural Guide.

Henry J. Jones, Hope Nursery, Lewisham.—Select List of Chrysanthemums.

J. Cheal & Sons, Lowfield Nursery, Crawley, Sussex.—Descriptive List of Seeds and Garden Requisites.

James A. Davidson, Irvine, N.B.—Choice garden and flower seeds, Gladioli, &c.

LONDON SEED TRADE.

December 30th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance and little business doing at to-day's market. All varieties of Clover seeds continue firm with a fair demand. Canary, Hemp, Millet, &c. sell slowly at prices current last week. Blue Peas and Haricot Beans are dearer, owing to cold weather causing a better demand.

COVENT GARDEN MARKET.

December 31st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 0	3 6	Pine-apples, St. Michaels, each	2 6	7 0
Kent Cobs, per 100 lbs.	22 6	25 0	Plums		
Melons, each			Canadian Apples, brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 3	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Anemone, 12 bunches			Mignonette, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	6 0	9 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	3 0	6 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	1 0	2 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses, Tea, French	0 9	1 6
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, per dozen	3 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Eucharis, per dozen	5 0	9 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.	6 0	18 0	Tulips, 12 blooms	1 0	1 6
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	2 0	3 0
Lapageria, red, 12 blms.	1 0	2 0	— Parma	4 0	6 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, per doz.	9 0	12 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen	12 0	15 0
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21 0
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	8 0	12 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

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CLIMBERS.—Ampelopsis Veitchi (the Ivy Virginian-Creeper), Roses, Honeysuckles (Red and Yellow trumpet), Jasmines (White and Yellow), Hop Plants, Ivies, Cotoneasters, (Evergreen, its graceful sprays are covered with scarlet berries during autumn and winter), Clematises, Wisterias. 6s. per doz., post free; our selection.

STRAWBERRY PLANTS.—Finest exhibition varieties, strong plants—Alpha, Amateur, Black Prince, British Queen, Countess, Crimson Queen, Duc de Malakoff, Duke of Edinburgh, Elton Pine, Frogmore Late Pine, James Veitch, Keen's Seedling, Lucas, Marshall Mac Mahon, President, Sir Harry, Sir Charles Napier, Sir Joseph Paxton. 3s. per 100, carriage free Quantities cheaper.

CURRANTS.—Prolific Black, large bushes, 2s. per doz.; 6 doz. carriage paid in England

GIANT RED CURRANTS.—The largest variety known. 2s. per doz.; 6 doz. carriage paid.

RHUBARB.—(Large clearance; land sold).—Linnæus, Prince Albert, Defiance. Good crowns, 2s. per doz.; strong stools, 6s. per doz.; less for hundreds. *Not* carriage paid.

PAMPAS GRASS.—Good plants of this most ornamental and hardy grass, 1s. each, post free; large plants, 2s.

ASPARAGUS, forcing.—(Large clearance; laud sold).—Fine roots, 2 years, 2s.; 3 years, 3s.; forcing, 4s. per 100. Also 1, 4, and 5 years' planting.

GLADIOLUS.—Dazzling crimson, scarlet, brown, and yellow mixed, 9d. per doz.; 5s. per 100; 45s. per 1,000; all post free.

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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p m., in the Lindley Library, on TUESDAY next, JANUARY 12th.
N.B.—Exhibitors' Entrance, East side of Royal Albert Hall.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
DATES OF THE MEETINGS
OF THE
SCIENTIFIC, FRUIT, and FLORAL COMMITTEES
in 1886.

SCIENTIFIC COMMITTEE.

Tuesday, January 12th	Tuesday, May 11th and 25th
Tuesday, February 9th	Tuesday, June 8th and 22nd
Tuesday, March 9th and 23rd	Tuesday, July 13th and 27th
Tuesday, April 13th and 27th	Tuesday, November 9th.

Tuesday, December 7th.

FRUIT AND FLORAL COMMITTEES.

Tuesday, January 12th	Tuesday, July 13th
Tuesday, February 9th	Tuesday, July 27th
Tuesday, March 9th	Tuesday, August 10th
Tuesday, March 23rd	Tuesday, August 24th
Tuesday, April 13th	Tuesday, September 7th
Tuesday, April 27th	Tuesday, September 21st
Tuesday, May 11th	Tuesday, October 12th
Tuesday, May 25th	Tuesday, October 26th
Tuesday, June 8th	Tuesday, November 9th
Tuesday, June 22nd	Tuesday, December 7th.

National Chrysanthemum Society.
PRIZES are offered for LATE FLOWERING CHRYSANTHEMUMS (Cut Flowers any varieties) to be exhibited at Royal Aquarium, Westminster, on Wednesday, January 13th, 1886 Full particulars on application to Hon. Sec., MR. WILLIAM HOLMES, Frampton Park Nursery, Hackney.

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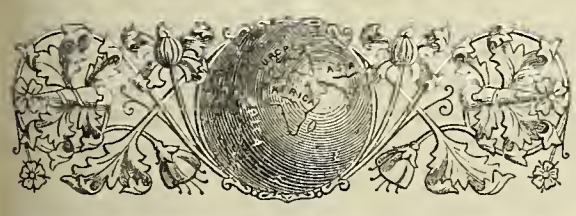


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 9, 1886.

WINTER GARDENING.—No doubt there are a vast number of those who garden in a small way who would be very pleased, if it were possible, to blot out from the calendar the months of December, January, and February; that after a very brief rest from their garden labours and recreation, they might start afresh on the year's round of work and pleasure without halting. Nature, however, prescribes in gardens a long period of rest, and in small gardens that period must also be rest from labour. There is something ludicrous in the adjuration to the amateur who has some half-dozen rods of ground in which to garden to perform this work in December, that in January, and something else in February, for the simple reason that, wishing to leave his garden as tidy as possible whilst nature is at rest, he makes all taut and neat in December, and during the rest of the harsh months of winter he has nothing whatever to do.

Perhaps it is good for gardens that they should have their periods of enforced rest; perhaps it is good for gardeners of all classes that they, too, should have that rest enforced on them, because with rest comes soon the inevitable renewed desire for life and activity; hence the spring labours in the garden always seem the freshest and the most invigorating. But we have many, especially in the amateur class, who find in gardening almost their only recreation, and to these the smoking-room and billiard-table offer but poor substitutes. Gardening gives pleasure not only because it brings into play all the physical attributes, and hence is real recreation, but it has an intelligent and possibly profitable aim. The man who has but one poor Rose-bush is devoutly and gratefully repaid for all the care and attention he may lavish upon it if some pleasing flower-buds are forthcoming for his coat in the summer, or a handful of blooms to decorate his parlour; or if his tastes are of a more prosaic order, he will be equally satisfied if his few rods of ground shall give him an occasional dish of Peas, Beans, or other pleasant edibles, or of a fair crop of Potatos.

These things, simple as they may be, will bring to men, even of the loftiest imagination and intellect, considerable pleasure just because they represent recreation well and beneficially employed. But all the wishes in the world will not enable anyone to get rid of the dead months of winter. They must be endured by those of moderate means, but may be made pleasant to those who have wealth by means of greenhouses, hothouses, and conservatories; indeed, wealth hardly exhibits its luxuriousness more effectively than when it constructs its heated glasshouses, in which winter, with all its intensity and its bitterness, may be changed into summer warmth, and if the electric light be but added, to summer brightness. Certainly it is easy enough now to have flowers gay and plentiful all the winter. Wealth has not been the single instrument producing that, for professional energy and enterprise, and the continuous efforts of earnest workers in horticulture, have done far more to help us to bridge over the gulf which once existed between autumn and spring even in our greenhouses.

We have, in Chrysanthemums alone, a class of plants that carry us florally well through one-half the winter, reaching even to the early Camellias, Azaleas, and myriads of other plants giving life and beauty to the opening, if dull, months of the year. But thanks to good examples, we have Zonal Pelargoniums, Chinese Primroses, Cyclamens, almost Cinerarias, and similar plants with us all the long winter, and these are floral trophies our fathers, with all their wealth, could only indifferently command. Just now there is something of a check, perhaps, to horticultural expansion, especially in the direction of glasshouses; but it is evident that the more we suffer from climatic conditions that are provocative of gloom and discomfort outside, the more must we look for alleviation of our discomforts in the expansion of winter glasshouses and indoor winter gardening.

GARDENING MISCELLANY.

The Royal Horticultural Society's Meetings for the current year are announced to be held on January 12th, February 9th, March 9th, March 23rd, April 13th, April 27th, May 11th, May 25th, June 8th, June 22nd, July 13th, July 27th, August 10th, August 24th, September 7th, September 21st, October 12th, October 26th, November 9th, and December 7th.

Gardeners' Royal Benevolent Institution.—We learn with great pleasure that at the annual general meeting of the subscribers of this flourishing institution, to be held at "Simpson's," 101, Strand, on Friday next, at five p.m., it is the intention of the committee of management to recommend that the following twenty-five candidates be placed on the pension list without the trouble and expense of an election:—John Andrews, Astley Abbotts, Bridgenorth, aged 60; William Elsworthy, Wandsworth, aged 70; Frances Elizabeth King, Salisbury, aged 62; Mary Ann Parker, Southport, aged 70; Jacob Rose, Stoke, Guildford, aged 62; James Snow, Wandsworth, aged 66; Edward Spary, Brighton, aged 82; William Archer, Stratford, Essex, aged 81; Maria Austin, Stourport, aged 68; Joseph Bellis, Whitchurch, Salop, aged 68; Thomas Best, Clapton, aged 70; William Cowles, East Sheen, aged 68; Richard Daphne, Ealing, aged 76; George Dawson, Worcester, aged 73; John Day, Teignmouth, aged 67; Sarah Drummond, East Sheen, aged 65; William Harman, Denham, Uxbridge, aged 60; Elizabeth Howe, Lowestoft, aged 67; Peter Lowe, Cheltenham, aged 67; Edward J. H. MacGuiness, Gravesend, aged 73; Susan Mills, Walthamstow, aged 78; Robert Pryor, Brixton, aged 75; Joan Boyd Rintoul, Manchester, aged 67; Eliza Skinner, Cudham, Kent, aged 73; Sophia Ware, Midhurst, aged 69. These are the whole of the applicants, and their addition to the list will bring the number of pensioners up to 118, viz., 52 men at £20 per annum, and 66 women at £16 per annum. Instead of the usual annual supper, it has been arranged that a friendly dinner of the members shall take place at "Simpson's," at six p.m., when the treasurer, Edward Tidswell, Esq., will preside.

The Birds and Winter Berries.—With reference to a statement in our last issue, Sir Charles W. Strickland, Hildenley, Malton, writes:—"You mention blackbirds and thrushes as eating the fleshy cup of the Yew berry and leaving the stone; on the contrary, the blackbird certainly eats the stone and leaves the fleshy envelope; I cannot answer for what the Thrush does, but I suspect that he too does the same."

The Spring Exhibitions of the Royal Botanic Society will be held on March 24th, and April 14th. Amaryllis growers should make a note of the fact that on the first named date a Veitch Memorial Medal and £5 is offered for twelve distinct varieties, a prize that should bring forward a strong competition.

The Floral Committee Meetings of the Royal Horticultural Society.—"S. H. A." writes:—I believe at the next meeting of the Royal Horticultural Society, the new committees are appointed and the floral arrangements made for the year. It appears to me to be desirable that the council should consider whether it would not be a good plan to hold a Floral Committee meeting every third week during the winter months, instead of having only one meeting in the month. Exhibitors of Orchids are frequently precluded from showing any new or rare species which they may flower at that season of the year, owing to the long interval which elapses between each meeting." The society's arrangements for the season are so far complete that the committees are appointed (see p. 301), and the dates of the meetings fixed, but it may not be too late for the council to take this matter into consideration. Such an arrangement would meet with as much favour among Chrysanthemum growers, as among the special class on whose behalf "S. H. A." makes his admirable suggestion.

The Stoke Newington Chrysanthemum Society.—A special general meeting of the members of this society was held on the 1st inst., at the Highbury Athenæum, Highbury New Park, the chair being taken by Mr. J. Hicks (one of the vice-presidents). The meeting was called to consider the advisability of holding the next exhibition at the Highbury Athenæum. Letters were read from several gentlemen, who were all of opinion that if the next exhibition is held at the above-named place it would be greatly beneficial to the society. The matter was freely discussed, and the following resolutions were agreed to, viz. (1st) that the society should in future be called the Stoke Newington and Highbury Chrysanthemum Society, and that the next exhibition should be held at the Highbury Athenæum; (2nd) that the days on which the exhibition shall be held be the 4th and 5th of November next. Another general meeting will shortly be held, when the rules and schedule will be entirely revised.

Plant Parasites.—The Italian Minister of Agriculture, Industry, and Commerce, in order to encourage the invention and manufacture of implements for the application of remedies in solution, powder, or mixture, against the parasites of cultivated plants, and especially of "milk calx" against the mildew of Vines, has decided that an international exhibition of pumps, watering implements, &c., shall be held in the Royal School of

Vine culture and Oenology at Conegliano, near Venice, when the following prizes will be awarded :—One gold medal and 500 lire, three silver medals and 150 lire each, and 5 bronze medals. The Minister of Agriculture will also purchase implements which take prizes to the value of 1000 lire. Exhibitors must apply for admission to the "Direzione della R. Scuola di Viticoltura ed Enologia in Conegliano" not later than the 22nd February next, and the implements must be delivered by the 1st of March. The trials will take place on the 2nd of March and following days.

The Rainfall of Liverpool.—We learn from Mr. R. G. Waterman, gardener, Roseleigh, Woolton, Liverpool, that the rainfall in that district during 1885 was about the average of the last ten years; October being the heaviest recorded for any one month during the last fourteen years. The monthly fall, as measured by a 12-in. guage, was as follows:—January, 1·65 ins.; February, 2·34 ins.; March, 1·92 ins.; April, 1·97 ins.; May, 2·73 ins.; June, 3·26 ins.; July, 2·00 ins.; August, 1·81 ins.; September, 5·09 ins.; October, 7·30 ins.; November, 2·87 ins.; December, 2·81 ins. Only twice during the year did a fall of over 1 in. occur in twenty-four hours, the heaviest being on December 30th with 1·10 ins., and June 4th of 1·02 ins.; the first half of the year, as the above figures show, was considerably under the average.

The Orchid Album.—The plants illustrated in the December number of this useful publication are:—Aëranthus Leonis, a new, dwarf, evergreen species from the Comoro Islands, with peculiar sword-like falcate leaves and white flowers, "borne in racemes which sometimes consist of as many as seven flowers"; Dendrobium nobile nobilius, the very charming variety in Sir Trevor Lawrence's collection, and which bears blossoms 4 ins. in diameter, with broad sepals and petals richly suffused with rosy purple, which is deepened towards the tips; Odontoglossum Insleayi splendens, a very handsome variety, which Mr. B. S. Williams imported from Mexico a few years ago, and the flowers of which measure 4½ ins. across, the sepals and petals are of a rich shining brown, tipped and edged with yellow, another lip yellow spotted with bright carmine; and Miltonia Warscewiczii, one of the most distinct members of the genus; the sepals and petals are dark brownish purple tipped with white, and the lip velvety brownish purple, margined with rosy lilac, passing to white.

The Ancient Society of York Florists.—The annual dinner of this society was held on Dec. 23rd, at the White Swan Hotel, the City Sheriff, Mr. Samuel Wright, presiding. After the usual patriotic and several other toasts of local interest had been duly proposed and responded to, the chairman presented three silver cups to successful exhibitors at the late Chrysanthemum show. The first—the City Sheriff's prize—was given to Mr. R. F. Jamieson (Hull) for the best thirty-six Chrysanthemum blooms. The next was the officers of the society's prize, awarded to John Fielden, Esq., High Sheriff of Yorkshire (gardener, Mr. H. J. Clayton), for the best six bunches of Grapes, three varieties. The third prize—given by the Lord Mayor of York—was taken by Mr. Robert Baker, of The Retreat (gardener, Mr. J. Doe), for the best group of Chrysanthemums. Mr. Councillor Hornby, in giving the toast, "Prosperity and Success to the Ancient Society of York Florists," spoke of the great interest he took in the institution, whose origin, he had been informed, was "lost in the remote mists of antiquity." The society had had both "ups and downs," and the last show might be numbered amongst the "downs." It suffered financially from what had been called "election fever," people being content to see a show of Chrysanthemums outside rather than spend a shilling to witness an exhibition such as that of the society. The future condition of the society had been referred to, but he thought that as long as they had such an excellent Lord Mayor and City Sheriff to manifest an interest in it there could hardly be any doubt of its prosperity. Mr. Cooper, with whose name the toast was coupled, said that antiquity was generally a token of merit, because they most times found "the survival of the fittest." The society was never so strong and promising as at present. He referred to the value of the cultivation of flowers, contending that it refined vulgarity and had a salutary effect on all who studied it. It likewise tended to peaceful habits, and he intimated that if there was a man who had any evil propensities they had better induce him to join the society, for his sting would be extracted and his cup filled as full of honey as it would hold.

AN ORCHID SOCIETY.

Seeing the extreme popularity of Orchids nowadays in nearly all glasshouse gardens, it is a wonder that a Society specially devoted to these plants has not long ago been organised. "To be or not to be? that is the question." The Rose, the Primula, the Auricula, the Pink and Carnation, and last but not least, the queen Chrysanthemum, are each and all honoured by special societies or committees. Why should not the "royal Orchids," in like manner, have a society to themselves?

An Orchid society in London, under the auspices of the Royal Horticultural Society, might do much valuable work; and its meetings and exhibitions would give an impetus to the culture and admiration of these lovely flowers. If organised on a broad basis, exhibitions could be held in Edinburgh or in Manchester, as well as in London. I say Edinburgh, because one of the lessons taught to us by the really successful "Orchid Conference" was that distance really prevented the northern growers from exhibiting their plants in London. After all, one cannot wonder that amateurs did not risk their rare and valuable plants on a railway journey of 300 or 400 miles.

If "the mountain cannot come to Mahomet," however, we must not forget that "Mahomet can go to the mountain;" for it would be easy for an "Orchid Society" to hold local exhibitions wherever local amateurs and other growers would guarantee to exhibit and support a show of these plants. An "Orchid Society," even if it did not venture to hold any large exhibitions of its own, could do much to further the good work, and to strengthen the hands of any society with which it worked.

The whole question is worth the attention of the trade, as well as of amateur growers, and it is to be hoped that those interested will express their views on the matter.—*F. W. Burbidge.* [Such a Society would be of immense advantage in many ways, over and above the organisation of exhibitions, popular as those would undoubtedly become; and we shall be much pleased to hear the views of other readers on the subject.—Ed.]

CORISANDE'S GARDEN.

Gardens are always beautiful in fiction; still more, they are always very idealistic. No one who really understands gardens would draw in words, much less in colours, a garden of the kind made famous by Lord Beaconsfield with its peacocks (abominable nuisances), and fanciful notions about flowers, all of which reads amusingly if far from being practical. Our modern ideas of a garden certainly combine neatness and trimness, with an absence of the purely formal as found in the old Dutch ideas of statues, clipped trees, and other abominations. We have now preferences for good shrubs in single specimens, and in masses of handsome trees, singly and in groups; of clumps of hardy flowers here, and tender flowers as in season there; of long seasons of flowers that are not centred in the short-lived ideal Stock and Gilliflower; for it is obvious that Lord Beaconsfield, by his reference to the attachment of the latter to walls, that he is referring to Wallflowers—quite a garden error on his part, as we have usually associated that appellation with Stocks.

If Lady Corisande had no other Wallflowers in her garden than the indigenous Cheiranthus Cheirii, she was lacking one of the sweetest scented spring flowers, assuming that in Lothair's day Wallflowers were as good as they are now. It is a long season from March till November, and the guarding of plants to cover all those months was, perhaps, beyond the capabilities of the gardener at Bentham. It is all very well to write in praise of Lavender and Sweetbriar, of Clover and of Stocks; but very many other than sweet-scented flowers are needed to make a garden gay over a long period, as well as for the two or three summer months when flowers are usually abundant. Very much, too, is made of the walls on three sides of the garden, fragrant with the climbing Roses and Honeysuckles; but many things less sweet are usually needed to render walls pleasing throughout the whole year; and some readers of Lothair will, perhaps, think a garden enclosed by banks of the beautiful shrubs would have proved much more pleasing and attractive than one enclosed on three sides with walls, even though covered with climbers.—*A. D.*

COTTAGE GARDENS.

At this season when so many will shortly be commencing gardening operations for the year, it may be of interest and service to some if we set down a few thoughts on cottage gardens, for that many of these are capable of considerable improvement there cannot be any doubt. At the outset one regret may be expressed—the tendency observed in the growing suburbs of London, and in the vicinity of large towns, to erect working class habitations with as little ground in the way of back premises as possible attached to them; and in the country, too, the same circumstances can be noticed, for though the land is of much less value, when new cottages are built less land is allotted to them as gardens than was formerly the case.

Now the character of the dwelling will, in many cases, determine the manner in which the garden is maintained. In the case of new cottages now in course of, and comparatively recently erected, much more regard is paid to sanitary arrangements than used to be the case, and with increased comforts and conveniences, it is pretty certain that a higher value will be set on the home, and a desire to maintain it orderly and cleanly; and this will manifest itself in the cottage garden also. To every country cottage there should be a good garden and a well-arranged pig-stye. The last should be provided by the landlord. We know of nothing better calculated to give a labouring man a sense of comfort and security than these necessary adjuncts to his dwelling.

The garden should be proportionate to the size of the cottage. Too large a garden is often beyond the opportunities of the tenant in tilling it satisfactorily. A man who has to work hard on a farm all day—and make long days in summer, not unfrequently—cannot overtake the work of a large garden in the evenings. The cottage garden should be designed to assist the family and encourage habits of industry; large enough to afford a fair supply of vegetables and some useful fruit, but not to overtax the industry of the occupier. It should grow Potatos, Cabbages, Parsnips, Turnips, Beans, Onions, and other leading vegetables; there should be roots for storing in autumn for winter and spring consumption, as well as growing vegetables for cutting as required.

A cottage garden, like every other, ought to have a liberal supply of manure. The pig-stye can be made of great assistance in this case; but oftentimes a little assistance is needed from outside, and this is not always to be had. Hence it is that the soil, in many cottage gardens, is worn out for want of replenishment. The farmer needs all the manure he can make, and more; and it is difficult for the cottager to obtain anything like an adequate supply. Kind, neighbourly offices may occasionally assist—the helpful principle should be in operation much more potently in country districts where the residents are acquainted with each other, than in suburban districts where they are not. A garden cannot be termed remunerative unless it is fully cropped, and how can it be fully cropped if it is not well manured?

A second thing to be observed is never to grow the same crop on the same piece of ground successively; this is a rule laid down by all practical gardeners. Then, as far as it is possible to do so, allow none of the ground to remain unoccupied; say if a crop of Early Potatos be grown, when this is taken from the ground it should be at once filled with greens—Broccoli, Cabbage, Savoy, and Kale. These things come in very useful at the latter part of the summer, and during autumn and winter; and in addition to ordinary Cabbage, the cottager should always have a patch of Savoy and Cottager's Kale, they are the most useful of winter greens.

The necessary fruit trees ought to be planted by the landlord. A comparatively small outlay would suffice to stock a garden with a select collection of fruit trees, and so add greatly to the advantages of the cottage garden. A cottager with limited means can scarcely be expected to spend money on planting, and the pleasure to be derived from flowers means that there should be a flower garden also. In almost every neighbourhood there are some who can help the Cottager with a few flowers if he has not the means to purchase for himself There are many perennials he can grow, and any choice things that seed supplies him with the means of increase. A road-side patch of garden in front of a cottage gay with pretty flowers is

always a pleasant sight in rural England. The more orderly the garden is kept, the more pleasurable is the effects.

And there should be something on the cottage walls, a Rose or two if the soil and situation are favourable, and Pyracantha, Jasminum nudiflorum, Clematis, Pyrus, Ivy, &c., anything that would relieve the nakedness of bare walls. Here then we should have a cottage garden coming up nearly to one's idea of what it should be. Have we drawn our picture in too highly tinted colours? We hope not. We are disposed to believe that the helpful principle is abroad, and that human sympathies ripen into action, and keep of a nature to make one more and more hopeful of the real improvement we desire to see progressing among human kind.

THE "GINGER-BEER PLANT" UNDER THE MICROSCOPE.

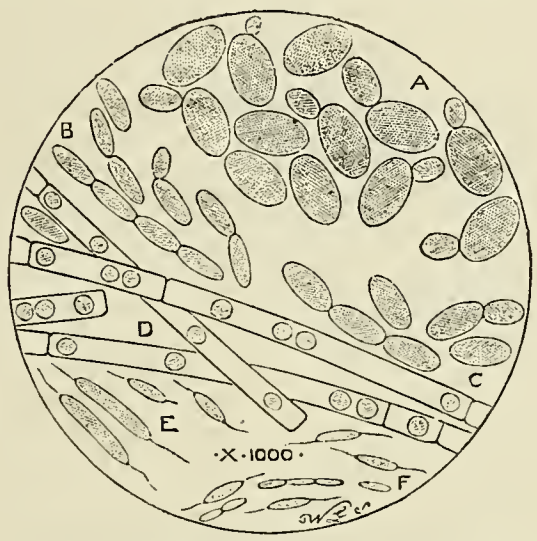
A FACT not generally known is that common ginger-beer, as sold in stone bottles, contains alcohol and is intoxicating. The powerful and often pathetic eloquence of temperance orators is proverbial; the sparkling humour, the unbounded gaiety, the exuberant animal spirits of teetotalers are well known. No one has ever seen a teetotaler with a long pale face, a silent tongue, or a melancholy manner of expressing himself. A temperance man, as far as outward appearance goes, is generally like a walking bottle of the very best champagne with the cork just drawn, his sparkling wit agreeing well with the effervescing nectar from the bottle. The overflowing gaiety and high spirits of the temperance man is, we are afraid, too often due to the abundant alcohol he imbibes in his daily ginger-beer. We have been told that when a man comes home cold, and, perhaps, wet through, on a boisterous and rainy winter's night, nothing is better to drink, or more certain to raise his spirits and ward-off a cold or a dangerous illness, than a bottle of ginger-beer. Some abstainers are said to prefer half cold water; but we never implicitly believe in all we hear.

We are often asked about the "Ginger-beer Plant," its "regular" name, and the appearance it presents under the microscope. The very highest authorities have been asked to investigate the nature of this "plant." According to the *Proceedings of the Essex Field Club*, vol. iv., p. 44, one of the botanists at Kew had then been long studying this "plant," and in September, 1883, he was then "trying it under various conditions." Whether the "plant" or the botanist was being tried "under various conditions" the report does not clearly say, and up to this time we have seen no further report. The "various conditions" are, perhaps, not yet exhausted, or perhaps the authorities at Kew are too busy, and have not at present discovered the real native name of the wood of which the niggers of Jamaica make sugar-barrels, or that other subject even more abstruse and portentious, viz., the name of the wood used by Yankees for making walking-sticks. When these momentous botanical subjects have been elucidated, perhaps the "Ginger-beer Plant" will be again taken in hand; or perhaps a Fellow of the Royal Society will read a paper on it, with an illustration to match the wonderful picture given with Mr. Plowright's paper on Corn Mildew, *Proceedings, Royal Society, Nov.* 15, 1883. This astounding work of art bears no artist's or engraver's name. The engraver was no doubt afraid to give his name, or he would have been inundated with all the engraving work in Britain, possibly go mad, and perhaps poison himself with an undiluted "Ginger-beer Plant."

The "Ginger-beer Plant" is little more than a cheesy mass composed of German yeast, or compressed "low" or sedimentary yeast. When placed in water with sugar and ginger, it decomposes the sugar, produces alcohol, and sets free bubbles of carbonic acid gas. The sugar, ginger, and yeast is all that is required for ginger-beer. The "Ginger-beer Plant" is probably prepared with syrup, after the occasional manner of preparing the common yeast of brewers. In this condition it does not readily turn putrid, but will keep good for several weeks. It will be seen from the above remarks that the "Ginger-beer Plant" saves nothing, for the housewife has to buy everything necessary for ginger-beer except the yeast, and the "plant" is a mere simple ferment and a "plant" in more senses than one.

Herewith we append an illustration of a very small fragment of a "Ginger-beer Plant" enlarged 1000 diameters; this high magnification is quite necessary, as the constituent parts of the "plant" are extemely minute. The oval bodies at A. are cells of German or low sedimentary yeast (the Saccharomyces cerevisiæ of botanists); B, C, and D, are different forms of the "mould" found on fermenting fluids as beer and ginger-beer (the Saccharomyces Mycoderma of botanists); D is the tubular form of the mould, the latter fungus, unlike the first, does not excite alcoholic fermentation; it is a pure surface and not a submerged growth. E, is Bacillus ulna; F, is Bacillus subtilis. These two fungi are much alike, and intermediate forms occur. They both grow in various infusions, as white of egg, &c., and they have the power of sailing about in fluids by means of their fine thin tails or *flagellæ*. The two Bacilli, E and F, are not injured by a moderate amount of boiling. A short boiling, indeed, appears to do them good, they enjoy the bath, and come out fresher than they go in. They, however, cannot stand too much boiling, two hours is sufficient to either make them feel very seriously indisposed, or to cause them to die altogether. The bodies seen in the "Ginger-beer Plant" entirely belong to yeast and fermenting solutions.

Some temperance advocates keep watery solutions of ginger and sugar in large stone bottles, and into these bottles they now and then drop a fragment of the "Ginger-beer Plant." This of course excites a modest fermentation. A good deal of this variety of ginger-beer (?) has been (alas) produced about here this



THE "GINGER-BEER PLANT" UNDER THE MICROSCOPE.

Christmas, and has been brought round the Christmas fires in wine glasses, in place of brimming tumblers of hot Elder wine and toast, or strong port wine negus, or stiff Scotch whiskey and water, with a slice of lemon, and rusks. Some people prefer the flat and cold home made ginger-beer at Christmas time, not so the writer, for the material gets into his head and causes delusions and strong mental excitement. It is to be hoped that friend "W. M." (THE GARDENING WORLD, Dec. 19th, 1885), will not again say that there is no fun left in fungology.—*Worthington G. Smith, Dunstable.*

LIBERTON MAINS NURSERY.

NOWHERE better than when scanning the glorious landscape from the Queen's Drive, just beyond Samson's Ribs, is the visitor reminded how recent municipal extension has brought more prominently into notice historic localities far apart from the erst single street and surrounding closes of old Edinburgh, but inseparable links in its civic history. Craigmillar Castle and Blackford Hill, despite modern villas built around them, will always speak of a Queen Mary or King James. Citizens' trim lodges are massed close in the valley towards the New City Park, which will soon be thus environed; and, indeed, the pedestrian must all too soon have to travel another mile south ere he skirt the country; Liberton appears to stand even now on one of the hills constituting the special beauty for situation of the northern metropolis. Yet, amidst all this building extension, sylviculture has contributed a living leafy testimony of the past, once thought by old Edinburgh residenters to be amongst their buried memories associated with Craigmillar Castle. Queen Mary's Sycamore, as well as her Thorn, have disappeared during the last forty years. But young seedlings from the Sycamore now thrive in Liberton Mains Nursery, on the slope of that hill, close to where, on its summit, stand the old Castle ruins.

Mr. Gladstone added fame to the system of market gardening pursued on the farm, when exhorting distressed agriculturists to begin strawberry culture. And now it has to be entered in the notabilia of the arboriculturist during an Edinburgh visit, as the site of a new point of departure in the progressive practice of the art, by a firm dating previously to 1770. Messrs. Dickson & Co. have added this new establishment to their other nurseries at Redbraes, Logie Green, and Bonnington Farm. They have thus enhanced their old reputation as educational horticulturists. For Loudon worked in their old Leith Walk Nurseries. And despite the non-establishment of the Scottish Forest School, young arborists will find at Liberton what is practically an experimental station, where, like young engineers, ere cared for by University professors, they may learn by practical example.

Liberton Mains comprises nearly 400 acres, only part of which are occupied by the nursery. But this cheap rent and large area allow features of arboricultural practice being expressed in a larger and more effective manner than, say, at Bonnington, where Edinburgh nurseries most do segregate. Seed-testing, usually confined to a few yards, is here done in plots of several acres. One such compartment of cabbages had in summer the appearance of a large field of healthy stock, but so carefully had plants for true seed been selected that not one-tenth remained at the time of our visit.

Further, the firm find here scope and verge enough for the system so long practised in their Pilrig and other Edinburgh nurseries, of planting new breaks of forest trees and other seedlings on land which has been first under some cereal or other green crop, and never previously under trees. Liberton Mains is at least 300 ft. higher in altitude than the nurseries in the Leith Walk district of Edinburgh, and its temperature is at least 3° to 4° more extreme. But Arthur Seat and the other monuments of the Cyclopæan earth-throes, which originated the hills on which Edinburgh is built, and scarped the romantic landscape which roused Scott's poetic fire, act as protecting walls against those east and north winds, the bane both of delicate plants and invalids in Edinburgh. The site has thus been found specially suitable for rearing Roses whose stocks could only previously be obtained from England and Ireland. The Apples raised on it were exhibited at the late Edinburgh Congress, and indicated an amount of sunshine which compared favourably with the fruit grown in the south of England and Ireland.

In time the arboriculturist may rely on plant growth prognostications just in the way the sanitarian consults the vital statistics of our great cities. Such records, in their connection with weather changes, have been diligently studied at more than one centre on the northern slopes of Edinburgh; but scientists appear only to agree on the unreliability of the yet imperfect observations in forecasting plant growth. It may suffice, meanwhile, to note that while the Glory Pea (Clianthus puniceus) sickens around Bonnington, it luxuriates at Liberton. The clear air of the latter locality carries no stratum of city smoke, which is all too evident in scanning the northern horizon of Edinburgh. Its high exposed situation and sharp sandy soil satisfy the conditions postulated some years ago to the Botanical Society by the late William Gorrie as necessities for the healthy growth of forest conifers. So this nursery presents the two unique features of a training place for orchard trees, or fruit-bearing hedgerows, as well as future tree covers of highland mountains.

The fruit tree and forest tree departments of the nursery constitute its two divisions, apparently affording attractions to distinct classes of purchasers. But a thorough inspection of both demonstrates closer bonds. Thus the perfecting of a market garden system of agriculture must always interest foresters who are usually estate improvers. Then seed growing true to stock must always be a burning question in such a connection. And what more pressing question than improved hedgerows, at once affording shelter, profit, and beauty?

The rows of young Apple trees, 6 ft. or 7 ft. high, planted some 60 yds. apart in the Strawberry breaks, attract passing travellers in the Dalkieth omnibus in the early summer by the novelty of their mass of blossom. Why should not the reproach of high walls shutting out the landscape from the passing visitant, and grievously complained about as specially discordant to the surroundings of this neighbourhood by more than one Canadian, be thus pleasingly done away? Has the moral training of British homes and School Boards yet to be distanced by the known practice of Japanese and German urchins who walk daily through such rows without touching the fruit? But the object of thus exhibiting such hedgerows is to show that shelter and profit may be thus simultaneously attained even now in the more secluded parts of an estate. The Apple plants were mostly pyramids, of the best hardy growing sorts, at six years' growth of a corresponding height, and so richly laden with fruit last summer that some of the branches broke. Indeed, the display of the yield of fruit exhibited at the late Apple Congress in Edinburgh was thoroughly true to nature. Of course, the orchardist may also here consult his taste, though that be finical, as to species and varieties as well as shape in the six acres or so devoted to young stocks, which are here reared true to seed, and usually then taken to a larger collection at Pilrig and elsewhere, so that cordon and wall-training may be practised. But even here standard Apples alternate with pyramids, while Victoria Plums and other different varieties are interspersed.

Pears are not so thriving a crop as in Lanarkshire, though lines of the "Fair Maggie," a Clydesdale favourite, are grown in this orchard. Amongst other notable fruits observed at Liberton were three acres of Raspberry-canes, six years planted, including the Prolific, Fillbasket, and Baumforth; many thousand true Gooseberry stocks interspersed with Currants of various sorts; Celery and Rhubarb, besides the Strawberry plots from which the place has gained political fame. Amongst other seed tests of field crops, some acres of Gibson's Drumhead cabbages looked very healthy; but the display of Rose stocks, of which there are nearly 26,000 budded and unbudded, will always be a prominent attraction to the visitor. Plants of varieties which, when brought from the south of England, sickened and died in Edinburgh in severe winters, if reared in this nursery stand well through our northern winters.

In the forest tree department the larger available space allows interlining to be prosecuted with great benefit to the growing seedlings. After a first year's planting, from seed or otherwise, only every second row of plants is taken out, thereby allowing those left freely to develop root-growth, which is further hastened by agitation of the surrounding earth by the spade so as to give thorough aëration. Next season they are again transplanted, or they may be left for two years, when they are again interlined so as to encourage stout roots and clean healthy plants. Purchasers may thus see that it is more profitable to buy forest seedlings by age rather than height. In the same field were strong one year old transplanted Tyrolese and native Larch, 4 ft. high and over, and large breaks of Scotch Fir five years old, thrice transplanted, not higher than 12 ins., but with greater root-growth, admirably adapted, as shown by their present site, for steep hill slopes. A large area of Oaks, over 1 ft. high, raised from a ton of acorns, testified to the seed-raising capabilities of the spot. So, too, did great breaks of young Larches, native Highland Pine, Spruce, Oak, Sycamores, Beeches, as well as various kinds of recently introduced varieties.

The other nurseries of the firm, specially that of Redbraes, are replete with novelties worth attention during the planting season. Amongst the specialties in ornamental shrubs and trees may be noted fine specimens of Prunus Pissardii, the rich leaf-coloured Acer Hookeriana, a golden Weeping Ash, and several Japanese novelties which appear well suited to our northern climate. The large breadths of Hollies, Rhododendrons, Tritoma, and Mahonias afford an admirable selection for game covers. The relations betwixt Bonnington and Liberton thus help towards the full development of sale plants, enabling the purchaser to obtain ornamental and forest supplies from the same establishment. The central warehouse in Waterloo Place has telephonic communication with all the nurseries.—*A. T., in Forestry.*

Scottish Gardening.

Hardy Flowering Plants.—Any who have old walls to cover, and who wish to have the benefit of cut flowers from them, should plant extensively the beautiful Garrya eliptica, and Jasminum nudiflorum. These do well in nearly every locality, and in some southern and favoured districts they do without the aid of a wall, but in northern latitudes they do excellent when trained on buildings, especially facing south. The soil which we have found suit them well is sandy loam, but they are not fastidious with their food, as they are found in some places doing well planted in holes cut out in gravel walks, with a spade full or two of good earth placed with the roots at planting time. The Jasmines do well with strong shoots trained uprightly, and the growths of the current season allowed to hang loosely. They often flower from November to spring, the severest weather never affecting them. A young tree now flowering here is very handsome, and its dense mass of yellow flowers may be seen at a considerable distance. Both of these plants have been much in favour with us (for decorative purposes) for many years. —*M. T.*

Trial of Potatos.—As localities vary in the production of Potatos, and the nature of the soil affects the tubers very materially both in keeping and quality, we have subjected a number of kinds to the cooking test. Among the best of our own growth are Dalmahoy, Grampian, and Schoolmaster; these are of the finest quality and of good appearance. A great favourite in this locality, where many acres are cultivated, is Paterson's Victoria, and some growers keep this kind in good condition till late in July. It cannot be denied that Potatos properly cooked are very different articles from the tubers which have been prepared by inexperienced hands. Some kinds also require a different process in cooking to others, some valuable sorts being discarded because they do not turn out well after being cooked under the usual system, while in skilful hands they are all one could desire. We had a kind sent us lately by a gentleman who purchased a quantity to prove them. A few were given us by the vendor, who wished us to have them cooked, and his recommendation was of the highest order. A few were boiled in their jackets—a system often practised in Scotland—then peeled and dried a little, and in our opinion they were as near perfection as anything which we have seen with the quality of Potatos. Others, cooked after being peeled, were also excellent, and one only was baked in an oven, which was equal to the others. The kind is a white, of fine shape, with an extra rough skin, the eyes are shallow, the flesh very white, and the flavour something like that of the Regent class; it is said to be a good cropper. It is seldom that such a distinct Potato with such uniform good qualities has come under our notice. It is named the Village Blacksmith, and we understand was raised by one following that profession some miles from here. The sample purchased and sent to us was from a stock in the hands of Mr. Don, Florist and Fruiterer, Falkirk.—*M. T.*

Winter Management of Fruit Trees.—Apricots.—Notwithstanding the great amount of caution that has been given from time to time as to keeping fruit trees (especially trained ones) from being crowded with superfluous growths, the evil is still very often met with, and cultivators wonder why the buds drop off just as the flowers begin to expand during spring. It is more than probable that the buds might have set fruit had the treatment of the trees during the previous season been such as would have allowed free action of sun and air among the foliage and young bearing-wood to mature the buds. Instead of the growth being green and "pithy," it should have been brown and hard. No fruit tree suffers so readily from unripened wood as Apricots; disease follows closely after gross growth, crowded and undeveloped foliage.

Root-pruning.—It may be necessary to go to the roots to reverse the habit of the trees, and if they are growing in rich sloppy soil, lifting—wholly or partially—may be done before growth commences. Young trees may be lifted altogether, and re-planted above the level of the surrounding soil, using good clean loam mixed with a quantity of calcareous material thoroughly rammed before the roots are re-placed in their permanent quarters. Old trees, which may have spread their roots far outwards and downwards, are more safely dealt with by the piecemeal system of lifting. It is much better to cut the bottom roots clean off than allow them to destroy the fruit-bearing properties—or, may be, the health—of the trees; but before taking such a course, it is necessary to examine the upper foot or more of soil, and see what amount of roots are there for the support of the tree, and remove the mischief-working feeders downwards accordingly. The old soil removed from a portion of the surface, and replaced with healthy loam made firm, then coated with 2 ins. or 3 ins. of rotten manure, will do much to improve Apricots. A firm bottom for old trees, as recommended for young ones, is of primary importance. No trees are more impatient of damp cold soil than Apricots.

Pruning need not be done hurriedly, and on well-managed trees it should be of minimum extent, as summer disbudding and stopping, followed by autumn thinning, is the proper system to insure success. The less cutting of wood there is during the winter pruning, the more likely are the trees to escape disease which is so prevalent mostly everywhere. As Apricots bear their fruit on the young growths of the previous season, also on spurs artificially formed, or what are known as natural spurs—shoots very short, stiff, and full of fruit buds—a careful selection of those should be retained, those which are close to the walls and regularly placed being the most preferable; all tiny and worthless sprays should be cut away, and every snag and bit of dead or dying wood be removed. All outward growing shoots which may have been inadvertently left, should be removed, and rather err on the side of thinness of bearing wood than otherwise. Wood which has been left long, and cannot be advantageously laid in without crowding the tree, should be well-shortened back. Leading branches trained regularly over the walls, and the small side-shoots and spurs kept equidistant and close to the walls, renders the general management very simple.

Fan Trained trees are generally preferred, but those horizontally trained and spurred are very satisfactory. We know of an immense tree managed in this way, and it produces great quantities of fruit, small but very useful, especially for jam and culinary purposes. We think this is the Breda Apricot; the tree is of great age, and has next to no attention in a cultural sense. The kinds which we find most generally cultivated are Moorpark and Shipley's (Blenheim), which is good for northern districts, as it comes in early, and ripens well in most places; the first named comes to perfection only in favoured localities in Scotland, except where portable glass protections are afforded. Glass left on Apricots all the year round, however well ventilated, induces the growth of spray, and the trees degenerate. We are not sure if this is applicable to the small early kinds. When fastening the shoots to the walls they should be tied to the nails or wires, so that they do not touch the metal, giving the ties a twist to keep the shoots clear; plenty of room to let the shoots increase in bulk should be allowed. We always have objected to the use of shreds, as being slovenly in appearance and causing the drawing of nails.—*M. T.*

Scottish Horticultural Association.—On Tuesday evening this association held its tenth meeting of the session at No. 5, St. Andrews Square, Edinburgh—Mr. Milne, of Messrs. Dickson & Sons, in the chair. A paper on "Vine Borders—Inside *versus* Outside," contributed by Mr. William Priest, gardener, Eglington Castle, was read by Mr. Munro, the secretary. Mr. Priest gave it as his opinion that, for early forcing, Vine Borders should be entirely confined to the inside, whereas for intermediate and late-growing Vines he preferred an outside border. He also gave a practical exposition of Vine culture and the formation of borders generally. The paper was afterwards discussed, and a vote of thanks awarded to Mr. Priest. The exhibits on the table included a fine fruit of Stephanotis floribunda sent by Mr. Mackinnon from the county of Galway, which received a cultural certificate; a number of hardy flowers grown in the open air, and forwarded by Messrs. Dickson & Sons as showing the mildness of the present season; some specimens of dried plants gathered by Mr. Redmond, banker, Antrim, which were awarded a certificate of merit; and a large and well-conditioned spray of Chrysanthemum Elaine, from Mr. Sinclair, East Linton. Votes of thanks to the chairman and the exhibitors closed the proceedings.

THE POTATO EXPERIMENTS AT CHISWICK.

The following summary of results of experiments made at Chiswick in 1884 and 1885, for the purpose of testing the efficacy of the system of "earthing-up" advocated by Mr. Jensen, was read by Dr. Masters, on behalf of the sub-committee appointed to carry out the experiments, at the last meeting of the scientific committee of the Royal Horticultural Society on the 8th December:—

The experiments made at Chiswick for the purpose of testing the value of the Jenseuian plan of moulding Potatos as a preventive of the Potato disease were carried out in the present year in essentially the same manner as in the preceding year. A few slight modifications were adopted to facilitate the making of the record, and the tubers were placed at rather wider distances, the rows being now 4 ft. apart, but these changes did not in any way interfere with the fair comparison of the results of the two years, the number of plants in each row being the same. The chief differences in 1885 consisted in the longer time the Potatos were left in the ground. Thus in 1885 the longest duration of moulding was 118 days on section i. of each row, as contrasted with 83 days in 1884. The shortest moulding period in 1885 on section v. was 62 days as compared with 27 days in 1884. The Potatos were examined on March 31st by the committee previous to planting, and all diseased and "suspicious" tubers eliminated. During growth they were inspected at stated intervals, and their condition noted. The season was for the most part warm and unusually dry, and no appearance of disease was noticed at any time on the haulms. On the 10th of October, the weather for some days previously having been wet, the tubers were lifted and carefully examined by Mr. Shirley Hibberd, Dr. Masters, and Mr. Barron. Two unmistakeably diseased tubers were noted during the uplifting on row 3 (Adirondack), and three on row 2 (Recorder). Others that appeared suspicious were sent to Mr. George Murray, who after adopting appropiate methods of cultivating the fungus, reports that only one was really diseased. It should be remarked that the peculiar red spots in the substance of some of the tubers noted the previous year were not observed at all, though carefully looked for.

As the immediate object of the experiments has again failed in its fulfilment, owing to the slight development of the fungus, a detailed report seems unnecessary, though the documents are at hand for preparing it if thought desirable. A few general remarks, based on the results of the two years taken together, may be of interest.

1. The amount of produce under the varied conditions of the experiment.
2. The effects of long or short periods of earthing-up, and of not earthing-up at all.
3. The consequences of bending the haulms in the manner recommended by Mr. Jensen.
4. The results obtained from planting whole tubers and cut sets.

1. The Aggregate Produce from all the rows of Recorder in 1884 was 257 lbs.; in 1885, 254 lbs. 8 ozs.; showing a decrease of 2 lbs. 8 ozs. in 1885, and a total amount for the two years of 512 lbs. 8 ozs. The corresponding figures in the case of Adirondack are 455 lbs. 9 ozs. in 1884, 434 lbs. 12 ozs. in 1885, showing a decrease of 20 lbs. 13 ozs. in 1885, and a total amount for the two years of 890 lbs. 5 ozs. Thus the actual produce of all the rows of each variety was so nearly alike in the two years as to be all but practically identical. On the whole, there was a decrease in 1885, in spite of the tubers having been allowed to remain longer in the ground than in 1884. This decrease may, perhaps, be accounted for by the prolonged drought, but the close approximation in the amounts of produce in the two years respectively seems to afford an indication of the success of the method employed in carrying out the experiments.

2. Effect of Earthing-up on the Amount of Produce.—When the results of the two years are combined it comes out clearly (in the case of Recorder), under all conditions of growth, that the greatest weight of produce (irrespective of quality) was obtained from those sections which were earthed-up for the shortest time. Some of the largest tubers were met with in these sections, but mixed with a largs number of smaller tubers, while their general quality was uneven and relatively bad.

The same general remarks do not, however, apply to Adirondack, which shows more variation in this respect, and in which the largest, as well as the best and most even, tubers were frequently found in those sections which had been earthed-up for the longest time. It may be suggested that the results obtained show the probability that the process of earthing-up differs in its effects materially in the case of different varieties of different habit of growth, texture, &c. At any rate, it may be useful to call attention to this subject with a view to future experiments, the more so as little or nothing is known of the relative effect of earthing-up on different varieties.

Potatos Grown without Earthing-up.—In both years four "control rows" were planted, two of each variety, the object being to afford a comparison between the Jenseuian system of moulding and the natural condition of growth, in which no "moulding" at all occurs.*

The total produce for the two years on row 5 (Recorder, whole), amounted to 100 lb. 4 ozs., an amount considerably in excess of the yield from any of the moulded rows of this variety (row 2, 48 lbs. 6 ozs.; row 8, 91 lbs. 13 ozs.) On row 11 where cut tubers were planted, the yield for the corresponding period was 87 lbs.—also somewhat in excess of the crops on the corresponding two rows subjected to moulding (row 1, 68 lbs. 1 oz., and row 7, 80 lbs.) The tubers on row 5 and row 11 were noted as much mixed in size, some of those on row 5 being much coarser and larger than on the other rows of the same variety, while many others found lying on the surface were green and small. They had also been the subject of insect attack and injury by slugs and millipedes to a much greater extent than the tubers in the other rows.

Of Adirondack left to itself the total produce of the whole tubers (row 6) for the two years was 186 lbs.—an amount greatly above the quantity on the corresponding moulded rows (row 4, 129 lbs.; row 10, 150 lbs. 14 ozs.). In the case of the cut sets (row 12), the total amount for the two years was about the same, viz., 182 lbs. 14 ozs., and also largely in excess of the corresponding moulded rows (row 3, 113 lbs. 5 ozs.; and row 9, 128 lbs. 6 ozs.) The same remarks as to quality apply to the unmoulded rows of Adirondack as to those of Recorder.

It is clear, then, that under all circumstances, the actual produce was greater in the unmoulded rows, but that, while some excellent tubers may be grown in this way, the general bulk is much mixed, comprising numerous tubers unfit for consumption, but which might possibly have some advantage (so far as the plant is concerned) in point of physical health over those moulded up. The small green tubers, for instance (if not affected by disease), might furnish stronger plants than those grown beneath the surface, while their noxious flavour might repel rather than attract predatory insects, &c.

3. The effect of bending the Haulms or otherwise.—In each year two rows of each variety were allowed to grow without interference, while in other two rows of each variety the haulms were at regular intervals of time bent downwards. There was no opportunity afforded in either year of testing the value of this practice as a preventive of disease, but the average amount of produce in the two years from the erect and the bent tops respectively shows the effect of the check to growth occasioned by the bending. The average produce of the two years on rows seven and eight (Recorder, erect tops) was 81 lbs. 6 ozs., on rows one and two (bent tops) 76 lbs. 2 ozs.

The corresponding figures in the case of Adirondack are 139 lbs. 10 ozs. for the unbent haulms (rows 9 and 10), and 126 lbs. 1 oz. for the produce of the bent tops (rows 3 and 4).

4. The Effect of the Employment of Whole Tubers or of Cut Sets.—In the central rows, as before stated, the greatest weight of produce of Recorder in both years was obtained from the whole tubers, the totals being 100 lbs. 4 ozs. on row 5 (whole), and 87 lbs. on row 11 (cut).

In the case of Adirondack, the total produce in the case of the whole tubers (row 6) = 186 lbs., shows only a slight excess over the yield from the cut tubers (row 12) = 182 lbs. 14 ozs. In 1884 the produce from the cut tubers (95 lbs. 10 ozs.) was slightly in excess of that from the whole tubers (91 lbs. 4 ozs.); in 1885, however, the balance is much in favour of the whole tubers, *i.e.*, 94 lbs. 12 ozs. as against 87 lbs. 4 ozs.

The whole tubers of Recorder subjected to moulding in various degrees, yielded in the two years a total crop of 176 lbs. 3 ozs., *i.e.*, 91 lbs. 13 ozs., from erect, and 84 lbs. 6 ozs. from bent tops.

The cut tubers of the same variety for the same period supplied 148 lbs. 1 oz. = 80 lbs. from the erect, and 68 lbs. 1 oz. from the bent tops.

The whole tubers of Adirondack pooduced a yield of 279 lbs. in the two years, of which 150 lbs. 14 ozs. were yielded by the erect, and 129 lbs. by the bent haulms.

The cut tubers of the same variety yielded during two years a total of 241 lbs. 9 ozs., viz, 128 lbs. 6 ozs. from erect, and 113 lbs. 3 ozs. from bent haulms.

In general terms it may be stated as a result of these experiments that (1) earthing-up produces a crop of more uniform and of superior quality, though less in actual quantity; (2), that bending the haulms occasions a diminished yield; (3), that a larger aggregate produce is derived from planting whole tubers than from the employment of cut sets.

* It may here be noted that no special rows of Recorder or Adirondack were set apart and moulded in the ordinary way, because for the immediate object of these experiments such a course was unnecessary, the experimental rows being contiguous to a large area devoted to the cultivation of numerous kinds of Potatos in the usual way, so that had the disease appeared, ample means of testing the effects of the ordinary, as compared to the Jenseuian, system would have been afforded.

The Amateurs' Garden.

THE GREENHOUSE.

Washing Plants.—There are few occupations more useful, or attended with greater benefit to the plants at this season, than that of washing them with a sponge and soft soapy water, in the case of those which are simply dirty and not affected with scale or other insect. For the latter strong Tobacco-water, Nicotine-soap, or some other insecticide must be used first, and the plant then washed with clear water. Strong leathery-leaved plants, such as Camellias, Aralias, India-rubber plants, which in the neighbourhood of towns in the winter months soon get coated with a deposit of soot and other abominations, should be sponged as often as convenient, and Palms delight in the same treatment. Small Orange-trees, which are good amateurs' plants, often get infested with scale, and there is no better time than the present for ridding them of this pest. A small moderately hard brush, used with care, is the best thing for dislodging this enemy, and if the plants are looked over again in about a fortnight, those which escape the first operation may then be got rid of. If any of these plants are found to have the soil in the pots soddened and sour, they should be carefully turned out of the pots and have the drainage examined, as that is the seat of the mischief.

THE VEGETABLE GARDEN.

Walks and Edgings.—Next to ill-cultivated crops nothing looks worse in a garden than badly kept untidy edgings of whatever they may consist. If they are of Box, and not very old, yet requiring to be patched in places, the present time affords a favourable opportunity for doing it; but if there are many gaps it is always more satisfactory to re-make than to mend, and often very little more trouble. Take up the old Box with a fork, then divide it into suitable sized pieces, trim the roots a little, chop out a straight trench with the spade, re-lay the plants, treading them in firmly, and the work will be complete. For our own part we are not enamoured of Box edgings, preferring what is generally called a dead edging—that is to say edgings of bricks set on edge, tiles if of a good colour, or stones—on the border-side of which we can plant many small neat-growing things, such as Mossy Saxifrages, Aubretias, Thrift, Gentians, and other low or prostrate-growing plants that will to a great extent hide whatever material is used for the edging. There is a charm about edgings of this character that is entirely wanting in edgings of one uniform pattern; and there is another great advantage, we can apply that famous weed killer, Smith's, with more freedom and less risk of doing harm.

HARDY FRUIT GARDEN.

Pruning and Training.—The amateur who has only a limited number of fruit trees in his garden has little excuse for neglecting them, as we are sorry to say so many do, presumably from a want of knowing what to do, and a consequent fear of doing harm rather than

good should they attempt to use a pruning knife. But this need not be so if they will reason the matter out a little. One of the first things to bear in mind when pruning is in hand is that fine quality fruit cannot be expected from trees that are over crowded, and with the general run of amateurs a good average sample gives more pleasure than a heavier yield of inferior quality fruits. Any tree then that is over crowded in its branches, should have them judiciously thinned, and in the case of branches of trees that are too densely set with fruit spurs it is advisable to thin those out also, for many a promising crop has been lost from weakness and exhaustion brought about by over flowering.

The next thing is to consider the shape of the tree, which may be what their owner fancies to make them, but as a matter of good taste it is always best to let them assume their own natural form, merely restricting them to the size desired. In shortening them back some knowledge of the bearing habits of each particular sort, especially of Apples and Pears, as some bear on the tips of the young shoots, and to cut these off is to deprive oneself of a seasons crop. Some may say, which sorts are they which bear in this way? well, the answer to such a question is to be found in the appearance of the trees themselves, if they have any bearing-wood on them. Another thing we like to see in trees growing in a well ordered garden is the branches arranged at tolerably regular distances apart, and it is of great advantage in allowing the sun to act on all parts alike. Sometimes shoots too close together may be got into position by means of forked sticks placed between them for a season; and in the case of branches that want bringing down, it can be done by means of a piece of string and a stone suspended as a weight. This will answer the purpose admirably, and though some may laugh at this notion, as some "clever" people have done before, never mind them, it will answer your purpose, without hurting anyone else.—*Scolytus.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—III.

Continuing my remarks from p. 246 I may now say that the plants will, early in April, be ready for another potting, this time into 6-inch pots. If the weather is favourable they can then be stood in a sheltered position out of doors, and they will soon make nice plants. Do not over water any, but when watering is required do it thoroughly, and let the plants get dry (but they must not be allowed to flag) before again watering them. They should at this time be carefully looked over, and if there is any trace of green-fly give them a slight dusting with tobacco powder.

Early in June they should be potted into their blooming pots, and 24's or 8½-in. pots will generally be found large enough for most of the varieties. The soil for this final potting should consist of three-parts good loam and one-part well-decayed manure, with a good sprinkling of sand. A handful of bone dust and a little soot to each pot will be of great benefit. Great care should be exercised over this final potting; well crock the pots, and in potting ram the soil down very firm. Care should also be taken to procure the *best loam possible*, as that will be found cheapest in the end.

The plants should now have stakes put to them and be stood on ashes in a sunny position, and as they grow they should receive plenty of clear water and be syringed overhead at least twice a day during hot weather. The plants will (early in July) throw out side shoots, and from three to six (according to the variety) should be retained, and all others be pinched off. On these shoots the flower-buds will appear about the middle of August, and if good exhibition blooms are desired, they must be disbudded, *i.e.*, there will be seen at the end of each stem a cluster of buds, and the best one (generally the centre one) should be left, and all others be taken off with a sharp knife; by so doing, the strength of the plant will be thrown into the buds left, and large blooms will be the result.

About the beginning of August the plants should have an occasional watering with clear soot-water, and as soon as the buds appear they should receive their first watering with manure-water, as to which directions will be given in a future issue. Having now given directions for growing specimen blooms, it may not be out of place here to give the names of a few varieties suitable for amateurs to commence with:—

Incurved: Alfred Salter, Beverley (white and golden) Cassandra, George Glenny, Lady Hardinge, Lord Wolseley, Golden George Glenny, Mrs. Rundle, Prince Alfred, Prince of Wales, Refulgence, Rifleman, Sir Stafford Carey, St. Patrick, Venus, White Venus, and Virgin Queen.

Japanese: Brise du Matin, Colibri, Fernand Feral, Frigon, Madame de Sevin, Bras Rouge, Comte de Germiny, Dr. Macary, Elaine, Flambeau, James Salter, L'Africaine, Lady Selborne, Le Chinois, L'Or du Rhin, Mary Major, Madame C. Audiguier, Mons. Crousse, Mons. Moussillac, Red Dragon, and The Cossack.

Reflexed: Annie Salter, Christine (peach and golden), Cullingfordii, Heloise, Julie Lagravere, King of the Crimsons, Mount Etna, Progne, and Mrs. Forsyth. Full descriptions of the above will be found in most of Chrysanthemum catalogues that are now issued.

After the amateur has had some experience in cultition he will be able to extend his collection, and also grow varieties that are seen on the prize-boards at the various exhibitions. An excellent selection was given by Mr. Molyneux in The Gardening World for December 5th, p. 213. In my next I will give a few hints upon training.—*W. E. Boyce, Yerbury Road, Holloway.*

THE CARROT CROP.

No vegetable crop has given us so much trouble and anxiety as the Carrot. We have sown on ground made firm by treading, and on that left moderately loose, and the surface has been covered with soot and forked over a few inches deep. Lime has also been tried before now, applied in a similar way, and in other instances sand; but I cannot admit that any relief was derived from one or the other, for what little improvement there might be must be credited to the season having been more favourable than others, and I very much doubt if anyone has succeeded in producing perfect crops annually on ground that is reputed to be bad Carrot ground. If anyone has, I should, in company with others, be very glad to learn how they obtained such success.

In 1884, out of 4 ozs. or 5 ozs. of seed I did not get a single dish (which has been our worst experience), and the deficiency was made up by sowing Early Horn and James' Intermediate on every disused hotbed, where, strange to say, they escape the attacks of the Carrot louse, and that worst of all pests, the Carrot fly, the larvæ of which produces a cankered appearance all over the roots. "Why this perfect immunity?" was the question that occurred to me. It could not be the soil, for on more than one occasion I have conveyed soil from the garden for some of these sowings, and found no difference in the quality of the crop. Though we have a large extent of frame-ground, we could not spare a great portion of it for a Carrot garden without curtailing the production of other things. We therefore resolved to wheel a portion of the old hotbeds on to what we regarded as the worst piece of ground in the garden for Carrot-growing.

Here we threw out a bed 5 ft. wide and 18 ins. deep, and nearly filled it with the above material, which, after being trod, would be about 1 ft. thick, and on this the bulk of the soil was thrown but not trodden, and as the operation was conducted in January, it had become properly settled by the time we wanted to sow. To guard against the bed getting dry by being unduly elevated, the spare soil and the rakings preparatory to sowing were levelled on each side. Drills were drawn about 6 ins. apart, and sown alternately with Early Horn and James' Intermediate; the former being drawn as soon as they were fit, allowed more room for the latter to develope, which, I am pleased to say, they did, and were also thinned for use in their turn, and at taking up time we had a fair crop of roots to store, free from rust or other blemish, which will go a great way towards supplying us till the frame-sown roots are ready at the end of April or early in May.

These are sown the first week in November on a bed of leaves with litter round the outside to keep them in their place. The interior of the frame is filled with the decayed portions of older hot beds, to within 8 ins. of the glass, and trodden well down, and the remaining space is filled with soil. We fix the frame at a sharp angle, so the the sun may strike directly on the surface of the bed, and so prevent the plants being drawn. Should the material inside the frame not sink sufficiently to allow head room for the plants, we raise it by placing bricks under the corners. This autumn sowing only comes in about fourteen days earlier than those sown in February, but the Radishes that are sown among the Carrots come much earlier and finer than we can get them from those sown earlier in the year. They should be protected from frost, but there should be no attempt to coddle them and air should be admitted on all favourable occasions, and on fine days the lights drawn off. From February onwards, with more light and sun, they will bear a little forcing by closing the the lights earlier in the day, and not drawing them off unless on exceptionally fine days.

As soon as all danger from frost has passed, the frames are lifted off the beds and utilized for other purposes, and to prevent the sides of the beds falling outwards, we first pack a lining round the frame to the level of the soil, which is easily pressed to the sides to close the gap left by the sides of the frames. If supplied with water during dry weather, it is surprising the weight of Carrots that may be secured from a few lights, and we cannot point to any crop that gives such satisfactory returns for the trouble bestowed on it.—*W. P. R.*

CHRYSANTHEMUM, BOULE DE NEIGE.

The new white variety Boule de Neige, of which we to-day give an illustration, is a plant which deserves, and, moreover, is certain to receive, a large measure of popular favour, as a late-flowering decorative variety. It was raised on the continent, and is there classed as a pompon, but according to our ideal it is too large for that group, and more properly belongs to the hybrid pompons. Be that as it may, and to growers generally it is not a matter of much consequence, it is, undoubtedly, a fine thing, and all the more valuable in being naturally a late bloomer. The flowers are pure white, and freely produced in clusters of good size, on comparatively short stiff shoots, so that but little, if any, staking is required. If stopped twice during the summer it grows only from 18 ins. to 2 ft. high, and has good foliage down to the pots. It was exhibited by Mr. R. Owen, Floral Nursery, Maidenhead, at South Kensington on December 8th, and on the following day at the Aquarium, and on both occasions received First Class Certificates.

ON STORING POTATOS.

The keeping of all kinds of Potatos—but especially of early kinds—presents this winter more than usual difficulty owing to the open nature of the weather and its exceeding changeability. But this difficulty has been much helped by the premature ripening of many second early and even late kinds last year, created by the drought checking growth, and ripening off the tubers largely before they were fully matured. Hence there has been found more than the customary readiness on the part of the tubers to burst into growth long before the proper season. Those who have a cool shed or store, and in which a fairly equable temperature can be maintained, are well off; but only few can have so desirable a place for keeping Potatos.

I find a shed built on the north side of a wall, and somewhat protected by overhanging trees, to present a place that if never unduly influenced by sudden changes of temperature, especially in the winter, is on the other hand not subject to extreme cold, as the trees present a valuable buffer to the influence of the weather, even though the aspect be a north one. In such a place first early kinds for seed, laid out on shelves with straw beneath, and easily covered up should the thermometer indicate danger, are easily kept in a restful condition, whilst later kinds and any needed for eating are well kept in boxes, tubs, or bins, with the advantage that they can be overhauled, turned, and replaced at any time.

A long shed or store of this kind, especially if the front wall be of 9 in. brick or concrete, and the roof battened and stuffed with straw, will exclude a lot of frost and give space for the storing of several tons of Potatos. Those whose vast breadths of tubers renders it needful that they should store their crops in pits out in the open, find keeping tubers this winter much more difficult, for if pitted with ever so much care, still the heavy rainfall will penetrate into the soil and straw, and moisture is generated which, with the warmth induced by the Potatos lying in bulk, soon creates growth. If pits could be protected by means of

shutters or other covers, no doubt Potatos would keep in them far better. The best thing to do now is to take advantage of every available dry day when the weather is open, and overhaul the stocks in the pits and re-cover them.—*A. D.*

EARLY VEGETABLES.

The season has now arrived when it is time to be thinking of these and making preparations for their sowing or planting, the first deserving attention being Potatos, which may be brought on readily in any ordinary frame, as all that is necessary is a little bottom heat to give them a start. The material most suitable for affording this is dung and leaves, as a mixture of these may be built up so as to form a bed, but if a pit is made use of tan is preferable, as it ferments gradually and holds its heat longer. To sweeten them and render either more fit and lasting, they should be sweated by putting the whole body in a heap, and after it gets hot turning it over, which will let out the rank steam, when the bed may be made, and the soil laid on ready for planting. This should be light and rich, and in depth about 8 ins.; the proper distance for the rows of Potatos being about a foot, and 6 ins. or 8 ins. from tuber to tuber. The best sort for frame culture is the good old Ashleaf, and next to that Myatt's Prolific, which, though a little later, is almost equal in quality and bears many more at a root.

As the Potatos will not be through the ground for some time, advantage may be taken to get a crop of Radishes, or to prick out young Cauliflower or Lettuce just raised, as, with the warmth under, no better place can be found for getting them on. The kinds of Radish that will turn in quickest are the Red and White Turnip, Wood's Early Frame, and the Olive-shaped, all of which are very nice-looking and good. Those who cannot spare a frame may get Potatos long before they can be produced in the open by digging a wide deep trench in some sheltered sunny spot and filling it with hot dung, or the same mixture as that for the bed, and planting in the same way, and, after the Potatos are through, protecting them with mats or other covering laid on hoops and rails placed over the tops. Managed in this way, I have had splendid crops, and the spaces between the rows are available for making use of in the same way as they are in the frames.

French Beans also do remarkably well after this, in pots where they can get bottom heat, as having more root room they bear double or treble the quantity they do when confined to the limited area of a pot, unless the pots they are grown in happen to be of unusual size. The preparation necessary for the Beans is the same as that for the Potatos, and the distance apart from the rows is about 15 ins. for such kinds as the Liver-Coloured, Fulham, or Long Sword, which are fine dwarf prolific kinds; but if the Canadian Wonder be made use of, that being stronger, must have a little more room.

Sea Kale and Rhubarb may be forwarded considerably by turning any spare large pots over the crowns, and covering the same with warm manure and leaves, or even without the aid of this mixture the sun will make quite a fortnight or three weeks difference, as when it strikes against the sides the heat it affords is conducted in and bottled up, as it were, for the night. To make the most of it, and keep it in, the holes in the bottoms of the pots must be tightly blocked, which may be done by pieces of clay pressed well down when they are damp, as then it will stick and keep the air as close as if they were sealed. Even old chimney pots, with a piece of slate laid on the top, help materially to bring on Rhubarb, and not only that, but by blanching it, it is much more delicate eating and of superior flavour.

To get Cauliflower to follow closely on the late Broccoli, a little seed should be sown at once in a box or pan, and then placed in gentle heat, where it will soon germinate, immediately after which the box or pan ought to be elevated near to the glass to prevent the plants drawing, and when they are large enough they may be pricked out between Potatos in the way

Chrysanthemum Boule de Neige. flowers white.

already touched on. Lettuce and Celery ought also to be sown and treated in precisely the same manner; the best kinds among the first-named being the Bath and Paris White Cos, and the latter the Sandringham, which is a very dwarf stocky variety of a sweet nutty flavour. Young plants of Cauliflower or Lettuce that have been wintered in beds should be got out at once, the Cauliflower in drills drawn 20 ins. apart, and the Lettuce on a warm sunny border, or in a row close under the foot of a wall.

Turnips are sure to be in request as old ones will soon be over, and the best to sow now is the Extra Early Milan, which bulbs quickly and is fit for use quite a month before Snowball and others are ready to pull. The most suitable place for Turnips is a border sloping south, and the same for the first batch of Carrots, the soil for which should be light and sandy and free from manure. For frame culture, or growing outside to draw young, the French Horn is the best, as it comes short and thick and a very good colour. If Peas and Broad Beans are not in, the way to gain time is to sow in boxes or pots and transplant, and this, where birds or slugs are troublesome during the winter, is the better plan, as those sown during the autumn often get spoiled. The Mazagan used to be considered the earliest Bean, but the Seville Long-pod beats it, and a good Pea for first picking is the American Wonder, to succeed which none are equal to Day's Sunrise and Advancer till the second earlies come in. Winter Spinach will soon be running to seed, and a bed or border of the Round or Summer should be sown at once on rich soil in a warm situation, and when up thinned out, leaving the plants 6 ins. apart.—*Alpha.*

FRUITS, FLOWERS & VEGETABLES.

Protecting Pot Strawberries during the Winter.—Many good gardeners have treated us with numerous articles on the above subject, the majority being of opinion that stacking them with coal-ashes in ridges is not the best plan. I have now for forty years been an extensive forcer of this delicious fruit, but bearing in mind the good old proverb, "Self-praise is no recommendation," I will not say whether I have been a successful grower or not; but leaving that for others to determine, I will now try and describe how my good and worthy old master, George McEwin, late of Arundel Castle, used to winter them. George McEwin grew Strawberries in his day at least as well as any man in the three kingdoms, and I may here note that the following four varieties were then grown: Keen's Seedling, Trollope's Victoria, Eleanor, and, lastly, British Queen; the latter variety being a special favourite. Something like 5,000 plants were grown at Arundel annually. About the first week in October, when the foliage puts on that beautiful autumnal hue, we began stacking them in ridges; but I must here remark only Keen's and Trollope's, leaving British Queen and Eleanor until the middle of November. Every pot was duly examined, and if the least dry, it received a good watering. In conclusion, permit me to say that I was George McEwins first foreman, and during the three years I spent with him, this was the identical system which he practised.—*R. Gilbert, Burghley Park, Stamford.*

Hedychium coronarium.—The most fragrant member of the family, this white-flowered Hedychium, which can vie with the Gardenia or Tuberose in the richness and sweetness of its powerful perfume, should find a place in every collection of stove plants. Of the easiest culture, requiring only plenty of root-room and copious waterings whilst in full growth, this delightful plant, with its terminal heads of snow-white curiously-formed flowers, with a pale green spot on the upper divisions, needs only to be known to become a favourite and be thoroughly appreciated. I have found the blooms to last longer in water when gathered just as they open than they do when left on the plant. So powerful is the perfume that two or three flowers will scent a room. Though they are of but short duration, there is a good succession of bloom, lasting for a considerable time from large well-grown heads.—*J. T. Pöe, Riverston.*

Planting out Poinsettias.—I saw this plan of managing Poinsettias in summer recommended, and in a few favoured places it may answer very well, but in low lying cold districts where we get early and late frosts, I would warn gardeners to be careful not to trust the whole of their plants outside. I know Poinsettias can be grown well under cold treatment, but only a few degrees of frost soon settles them. At least, I should prefer a cold pit where the lights can be put on in case of frost setting in as it did last September, and terribly cut some Poinsettias, Callas, and Bouvardias that were planted out in the open quarters. I have grown the old stools much in the same way as Pelargoniums are cut back and grown on from year to year with success.—*G. Merritt, Kimpton Hoo, Welwyn.*

Potting Palms.—About this season of the year we like to go through all the Palms, giving them a thorough good sponging; and repotting any that require it. It should be remembered, however, that if the soil is in good condition Palms will thrive well in comparatively small pots, and they are also more serviceable for decoration than when grown in larger ones. It is important that the compost used for potting should be moderately dry, and the plants should be potted firmly, keeping the stems well above the surface of the soil. The compost should consist of good fibrous yellow loam. If really good loam is to be had, a good sprinkle of sharp sand is all that should be added for potting the small plants; but for the larger plants a liberal addition of well-rotted stable manure may be made, or if the loam is close or heavy some peat should be used.—*A. H.*

Vines Bleeding.—The plan of employing halves of Potatos in staying the bleeding of Vines is a very old one. It was a practice in vogue some forty years ago, as I well remember, and seemed to be successful if not elegant. It is not a plan which needs a patent or a score of testimonials to make it profitable, neither does it bring in much cash to the promoter of it. We are so much the creatures of fashion, that use often rejects the simplest and cheapest remedies because they have the merit of being simple and cost nothing. Vines used to bleed after being pruned years ago as now, and cut Potatos answered admirably. Mr. Fraser has done well to recall attention to a remedy which is always at hand, and may be employed at any moment.—*D.*

Preparing for Spring.—The time will soon come round for the sowing and planting of the various crops, and those who are best prepared will stand the best chance of success. So far the weather has not been very favourable for getting on with the preparation of seed beds, but still we must do the best we can. Where the few frosty mornings were taken advantage of for getting manure wheeled on to land intended for Peas, Beans, and Cauliflowers, this can now be dug in, even though the ground is rather wet, the dung will keep the workman's feet from coming in direct contact with it. In fine weather we prepare our quarters for Onions, Carrots, &c., by forking in a good dressing of burned refuse with a little gas lime mixed with it. The Onions follow Celery, and the Carrots come best on land that was well dressed for Cabbage. The refuse and lime not only kills insects but keeps the ground open and free, and is the best dressing for Potatos. On wet days the hands may be employed in looking over the Seed Potatos and other stores. Early Peas should be sown in pots, to be subsequently potted on or planted out in frames or warm borders; there is nothing gained by sowing outside just yet, except in very favourable localities. Now is a good time to plant Horse Radish and Sea Kale.—*G. M. W.*

Aspidistra lurida variegata.—Although this plant will live under almost any conditions, yet it will well repay a little care and attention, especially while in a growing state; the present will be a good time to repot, or divide any plants that require it. Any good rich compost may be used for potting, and if the pots can be plunged where there is a little bottom-heat the plants will soon begin to throw up fresh leaves now; the variegation will be better if the plants can be well exposed to the light.—*A. H.*

Fruit Congresses.—I am not surprised that "X. Y. Z." should think the Edinburgh Congress with its many thousands of dishes of Apples and Pears was a wearisome maze, and incapable of producing any great good. Even at Chiswick, were a less number of dishes were staged, and some tangible effort was made to evoke order out of chaos, it was but too evident that not one-half could be accomplished which was looked for and that in the matter of revising nomenclature alone myriads of fruits could not be fairly sworn to, for the simple reason that diverse places and methods of culture produces even of the same kinds samples very diverse in appearance. It is without doubt the case that jurors, however expert, find that any practical revision of naming or other beneficial result is almost impossible in the face of the difficulty which is presented when exhibitors refuse to permit their samples to be arranged under sorts instead of under collections. There is in these congresses too much desire on the part of those who exhibit to make the finest show of fruits, and too little regard to the interest of pomology, which would be best served if the promoters of a congress were at full liberty to arrange the respective kinds in sorts so far as practicable; further, in no case should any exhibitor be permitted to send at any future congress more than his best fifty Pears or hundred Apples as giving all that was needful; were that rule adopted, we should not see so much rubbish henceforth at fruit congresses.—*A. D.*

Libonias.—In reply to your correspondent (C. W., Doncaster) respecting the cultivation of Libonias, I would advise him to treat them in the following manner:—We will suppose the plants to be at present in the conservatory, and after doing service there they may be moved into a pit or greenhouse, from which frost is excluded, where they may remain till April or May, when the straggling shoots may be shortened and the points of others pinched so as to preserve the plants in shape. They may then be turned out of the pots and have the balls reduced, so that most of the plants will go back again into the same size pot. The soil we use is three-parts loam and one of leaf-soil with a sprinkling of sand. Immediately they are potted they should be well watered, and moved into a pit or frame, where they can be kept close and shaded for a week or two till they get hold of the fresh soil. We like to plunge the pots, in order to guard against dryness at the roots and lessen the demand for water, and for this reason we prefer a frame on a gentle hot-bed to a pit for them till the end of September. After this they are best in a temperature of not less than 45° at night; but they will expand more rapidly if, later on, they are provided with more heat. We have grown L. floribunda and L. Penrhosiensis; but as the latter answers our purpose the best, we have discontinued growing the first-named. We do not exceed a 6-in. pot, as we are satisfied with bushes about 15 ins. in diameter.—*W. P. R.*

Isolepis gracilis.—This is such a useful plant as an edging that it should be grown in large quantities by those who have much decorating to do. The present will be a good time to increase the stock by dividing any old plants. If potted in good light soil, and given a position where they get a fair amount of light and a moderate temperature, they will soon make good plants.—*A. H.*

Panicum variegatum.—This is also a very useful plant for staging, but it will not thrive well except in a stove temperature. It may be propagated at any season, and good pots may be had in a short time by rooting about six cuttings in a small sixty pot, and potting them on into 48 sized pots after they are well started; light sandy soil should be used. —*A. H.*

An Error in Celery Growing.—The usual manner in which Celery is grown will admit of a very considerable improvement. The present system of moulding up for the purpose of blanching is based upon an injudicious foundation. It is not necessary to bank Celery with a good and productive soil; moreover, it is a waste of good material. The contention of the writer is, that instead of earthing it up in the usual manner, viz., by the use of the soil by which it is surrounded, a much better and cleaner growth is obtained by the use of dry litter to form a fairly compact bank to the required height, and covered by some of the most dry material at hand. In a vast number of cases Celery is dwarfed in its growth by having the soil, which is frequently in a very wet state, massed too tightly around it, besides being more or less cankered and rotted on the outside from the overpressure and dampness combined. Whenever a dry loose material is used to mould it, Celery will invariably grow, not only to a greater degree of perfection, but more rapidly and far cleaner. Like many other plants, Celery does best when it is liberally treated with manure, but in the

majority of cases this is applied in too shallow a manner for the roots to derive the full benefit of its properties. In applying stimulating agencies to soil the first consideration should be the nature and root-growth of the plant, for the use of which the application is made. Celery roots to a considerable depth; it is, therefore, essential that in all cases manures should be worked well down into the ground before planting. An admixture of cow-manure and well-rotted stable-litter will produce excellent crops.—*C. F. W.* [The difficulty in many gardens would be to get the dry litter.—Ed.]

Flowers for Perfuming Tea.—A Chinese "Materia Medica" affords some information regarding the flowers used for perfuming Tea. The principal ones appear to be those of Gardenia radicans, Jasminum Sambac, Aglaia odorata, Ternstræmia japonica, Camellia Sassanqua, and Olea fragraus; those of the last-named shrub being especially esteemed for the purpose. The leaves of Salix alba, and many other species of Willow, are employed in making a kind of Tien-cha, and are said to be openly mixed with the Tea intended for exportation at the Chinese ports.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Most of the Chrysanthemums will now be past their best, and must be removed from the greenhouse or conservatory, and, while doing so, it will be advisable to look over the stock of cuttings to make sure that each variety is struck or calloused, so as to keep up the stock; and in case of failures, a fresh batch of each sort put in before the old stools are subjected to the elements outside. It will also be advisable to give these late cuttings some warmth, but care should be taken that they do not flag; placing them under hand-glasses is a good preventative.

Stove plants of all descriptions will now very shortly need attention in the way of potting and surfacing, and it will be necessary, if not already done, to prepare the compost. This may readily be done when work outside is not practicable. Peat can be broken up and the leaf-mould carefully looked over to remove objectionable matter, such as sticks, &c. Let each be then placed in a separate bin or heap under cover, and as each subject is brought to the bench a little of each may be added more or less, according to its recognised requirements. This will be far better than mixing a whole bench full and potting indiscriminately.

Now will be a good time to look over the stock of Fuchsias, let them be brought to the light and carefully pruned and cleaned, do not give any water for some days, simply when weather permits syringe, which will cause them to start into growth; after which they may have a good soaking. Take off a good batch of cuttings of the sorts required, these will make good plants for staging in front of the larger ones, and need not get beyond a 7-inch pot, which is a very handy size for decorative purposes.

Keep all the occupants of the houses as clean as possible, removing all dead and decaying foliage, be particularly careful in the watering, and to all plants that have been forced give tepid water, open the valves in the greenhouse for half-an-hour in the morning to dry up the damp, and make the house feel comfortable.

THE FRUIT HOUSES.

In the case of Vines started at the beginning of last month, care will now be necessary not to maintain too high a night temperature, or a spindly growth will be sure to follow, and that sickly transparent look in the foliage so much to be avoided, will be apt to cause uneasiness. 50° is quite high enough, allowing it to run to 65° by day, but after once the Vines have started into growth, always have a chink of top air on, night as well as day when weather will permit; this morning within the outlook was rather dreary, the ground being covered with about a foot of snow.

We are just now finishing the tying in the late Peach house, after which the border will receive a good soaking of water and air left on night and day for the present—the house being quite empty of plants for that purpose. We have not yet bottled our Muscats, which are keeping well; but, of course, must do so now. For my part I do not agree with the bottling if it can be avoided, of this Grape, it deteriorates to such a great extent. Of course, one does not look for Muscats after February, and ours will last well till then without much ground for complaint as to flavour.

THE KITCHEN GARDEN.

With the ground covered with snow all digging and planting operations are suspended; but still, as the ground is not frozen the staking and tying of Raspberries, where not already done, can be looked to; pruning, of course, is best avoided until a change in the weather takes place, but fermenting material can be turned over, leaf soil heaps looked to, and, where practicable, the refuse heap be attended to. Our soil being heavy with a marl sub-soil, I find nothing so good for it as burnt refuse, consequently, we annually burn all up, putting it chiefly upon the squares which are devoted to Potatos.

As the weather permits, it is wheeled out before the ground is dug, and as the digging proceeds the burnt refuse is kept scattered on the surface. When planting time comes the ground is forked over, consequently the refuse is tossed on to the sets, and by the crops we secure I am confident it is of the greatest benefit, added to which they lift remarkably clean. The refuse also has a decided effect on the subsoil, apparently eating, as it were, its way into it, and giving us a greater depth of workable soil. Trenching is quite out of the question, but double digging I find of the greatest benefit, particularly in such summers as we have lately experienced. The squares which were double-dug last season scarcely showed any signs of the effect of the long-continued drought.

Where not already done, it is necessary to look to the patching and relaying of turf in the shrubberies and elsewhere, so that it may become well knit before the March winds set in. We only yesterday completed a very big job of levelling and relaying, this will have ample time to set before being used for cricket or lawn tennis. We are busy to day looking round the Cedars, Yews, and so on, and relieving them of their heavy burden as much as is practicable. That being done, all hands will be placed inside roof washing and cleansing. —*Walter Child, Croome Court, Worcestershire, Jan. 5th.*

ORCHID NOTES AND GLEANINGS.

Orchids at Oswald Road, Edinburgh.—There are always some beautiful Orchids in bloom at Mr. Buchanan's, and on the occasion of my visit (Dec. 30th) there were a number of fine things in flower. Among them may be mentioned an Odontoglossum Pescatorei, with three spikes and one hundred flowers, open or just opening—a very fine plant and a good variety. There were also a very large number of O. Alexandræ flower-spikes in various stages, proceeding from plants which looked the picture of health; one had 140 flowers on it, nearly all fully expanded—a fine sight. A variety of O. Alexandræ, with flowers of a deep yellow colour [O. crispum aureum], was a conspicuous feature among the Odontoglots. It will be very fine in a year or two if it attains to the vigour of most of the others and retains its present rich yellow colour. Another notable plant is O. Hallii superbum with six grand spikes and splendid bulbs.

Mr. Buchanan has been very fortunate in his purchases of Lycaste Skinneri. Some time ago one flowered in a lot purchased in London, and proved to be the variety alba, and now another, obtained from a different scource, has turned out to be alba also, and Mr. Buchanan is naturally not a little pleased at his good fortune. Among other fine plants may be mentioned Cœlogyne cristata, represented by huge specimens bristling with flower spikes; about 200 spikes are computed to be on one plant, and others appear equally thickly covered. A Cypripedium Stonei, 3½ ft. across, with splendid leaves of a dark green colour, which seems to tell that the treatment it receives is appreciated, forms a striking feature in the collection.

The Vandas, of which there is a large collection, are all in grand condition, dark green foliage of a sturdy growth, and clothed to the bottoms of the stems in all cases. A very pretty thing, and much appreciated by Mr. Grossart for button-hole work, is Lælia albida, one fine plant of which had eight spikes, with eleven flowers on a spike; Lælia purpurata alba is represented by a very fine plant, 4 ft. across, with sixty bulbs, all with leaves; Cattleya Sanderiana by a very grand plant with glossy dark green leaves, telling of perfect health; Oncidium sarcodes, a fine plant with strong spikes, and bulbs 6 ins. long; Oncidium Phalænopsis, represented by a nice plant in bloom, a beautiful thing which should be in every collection; Cymbidium eburneum and E. Dayana are represented by grand plants in perfect health. Cymbidium Lowianum, 6 ft. across, with eleven spikes, and twenty-four flowers showing on a spike, with many strong growths coming away, and leaves of the darkest green, forms a very fine feature in the collection. Angræcum sesquipedale is in good condition, and showing strong flowers.

Space forbids a more detailed account of this fine collection, which has already been written about in various gardening papers; but it may be said that there is at the present time a great show of flowers in nearly all the houses, the number of Odontoglossum spikes alone being at least 200; and many other things are showing in proportionately great abundance. Altogether, the present aspect and the future promise of Mr. Buchanan's collection of Orchids is such as all who know him and his generous support of, and regard for, horticulture, will be glad to see or hear of, and is well calculated to make his love of Orchids increase as years pass on. All lovers of horticulture are made welcome at Oswald Road, and will not only see a fine lot of Orchids, but also a general collection of plants which amply repay a visit.—*J. T.*

Lælia anceps grandiflora.—A flower of a variety which may well bear this distinguishing name comes to us from Mr. F. Bridger, Penshurst Place, Kent, and being so very showy, we take the actual measurement, that any of our correspondents may tell us how it compares with others now in bloom. The petals are nearly 6 ins. across, and close on 1½ ins. in width, the lip 2 ins. in length, and in these three segments the chief attraction of the flower is situate. The petals are bright rosy magenta and the middle and front lobes of the lip an indescribable glowing dark violet-crimson; the throat is yellow veined with red, and the whole flower appears to us to be one of the finest of coloured L. anceps.

Orchids at Priorwood, Melrose.—I was very much pleased on visiting this place the other day to see such a grand display of Vanda cœrulea in bloom. Some plants over 2 ft. in height, with leaves to the bottom, were sending forth two spikes each, the flowers being of a size and colour that were all that could be desired. One often sees it recommended to grow a certain Orchid in the Cattleya house, and another in the East Indian house, and so on, but at Priorwood you find Vanda cœrulea rubbing shoulders with Angræcum sesquipedale, Dendrobium Jamesianum side by side with Cattleya amethystoglossa, and making growths which I have seldom seen equalled; you will also see Odontoglossum vexillarium growing splendidly beside a Phalænopsis. So much for hard and fast lines in Orchid culture.—*W. Thomson, Jun., Clovenfords.*

Dendrobium formosum.—Your correspondent Mr. Simcoe's experience with this beautiful Dendrobe, are very similar to my own. I once saw a batch of plants starving and lingering in pots, but which, when put on teak blocks grew vigorously and flowered freely; they were suspended near the glass in company with D. Wardianum, D. crassinode, and several others, and the syringe was freely used during the growing season. In the hands of a careless operator this is, doubtless, a mischievious instrument in Orchid houses, but when used with care and judgment, in my opinion good rather than harm will be the result, especially among the Dendrobes. I might also mention that D. eburneum with the same treatment as formosum giganteum thrived equally well, the only difference being this, that it was grown on charred blocks.—*J. S. B.*

Odontoglossum Alexandræ.—I have often wondered how many of your readers have noticed how poorly this Orchid often flowers the second time it does so in this country. I bought a lot of O. crispum in 1883 said to be the very best varieties, and those which bloomed in 1884 fully maintained the character given them, being fine broad petalled flowers. I marked the labels accordingly, and as they made extra strong growths I looked forward to some good spikes in 1885, instead of that, however, I have not had a really good one open out of the lot, some marked in 1884 as extra fine, being small puny things in 1885.

When going through one of the London nurseries last year, I remarked, on passing an Odontoglossum that was in flower, that it was rather a poor form.

"Yes," said the owner, "that 'poor one' cost me twenty-one guineas in Stevens's Rooms last year, and now it is not worth as many pence." He then went on to remark about the way that Odontoglossums flowered the second year after they were imported. I could give numerous instances of the same thing, but I daresay those given will suffice, I shall be very pleased to hear the opinion of some of our leading Orchid growers on this subject. I maintain that if the first spike made in this country is a good one, that it will come so again; but if the first spike is of a narrow-petalled form no amount of cultivation will ever alter it.—*W. Thomson, Jun., Clovenfords.*

Sweet-scented Orchids.—Your correspondent at p. 285, mentions Pilumna laxa, but does not notice that it is extremely sweet-scented after dark, even sweeter than P. fragrans or P. nobilis, but has no scent at all during the day. Another Orchid which is remarkable for its extremely rich powerful scent at night, is Epidendrum ciliare, which is just coming into flower with me. It remains in flower for several weeks in my drawing room every winter.—*C. W. Strickland, Hildenley, Malton.*

SYRINGING ORCHIDS.

Mr. James O'Brien's paper calling attention to some of the evils attending this practice will possibly do some good, but in condemning it at all seasons, in any form, and in the sweeping and unequivocal way he has done, he will possibly not only neutralize that good, but very probably do some harm by inducing those who have hitherto succeeded in the judicious use of the syringe to abandon it altogether, and so fail. In condemning the use of the syringe, he appears to have imitated the example of a "special pleader" rather than that of an impartial arguer, by using such arguments only as are most damaging to his adversary, but in discussing a question of this nature, the pro and con would have been the fairer method and the one best calculated to elicit the truth. If instead of quoting and discussing the acknowledged *wrong* methods of using the syringe only, he had also discussed and combated the better and very generally approved methods which many, if not most Orchid growers believe to be advantageous and even essential to the health of the plants, his arguments would have appeared less prejudiced and therefore less objectionable.

Mr. O'Brien in quoting from a paper read by him at the Orchid Conference, says, "syringing a house of Orchids should never be done." "When used on plants the operator *cannot tell* what he is doing, and in the hands of a thoughtless person the syringe is the most mischievous instrument ever introduced." "There can be no rule for its use among Orchids for distributing water, and certainly no benefit can be set against the loss of young growths and decayed flower spikes which must follow an indiscriminate use of it." I am quite unable to see why the operator cannot see as clearly what he is doing with a syringe in hand as with a water pot. As to putting either into the hands of a thoughtless person in an Orchid house, well! I would rather not! but of the two instruments when in such hands commend me to the former as being the least likely to lead to bad results.

There truly can be no rule, no absolute rule for its use, nor, I imagine, can there be for the use of any other instrument, nor scarcely for any other of the many delicate operations required in the management of Orchids. That the loss of young growths and decayed flowers will follow its indiscriminate use none can deny, but omit the prefix here, and all is well. "Syringing is supposed by some to be a means of keeping up a moist atmosphere, but as to the benefit to be derived from it in that capacity, in my experience it defeats itself by producing too much moisture at times." Surely it is not intended here to mean that a supply of atmospheric moisture is maintained by syringing overhead, and if it means only for the purpose of damping walls, paths, and other dry surfaces, it is, perhaps, of all others the most useful instrument; and even Mr. O'Brien does not, in the early part of his paper, object to its use for this purpose.

We are not informed what means Mr. O'Brien would advocate in the arrangement of the houses for the supply of a proper and "equable" amount of moisture; but as he appears to infer that the method is uncertain and hurtful, we may, perhaps, safely conclude that he would adopt some method of evaporation of moisture from the heating apparatus, or from conveniently situated fermentiug materials. Each of these methods has its special advocates, and, as far as I have been able to judge, each of them appears to answer well when carefully and intelligently carried out. My experience has led me to believe that moisture evaporated from the heating apparatus or from open tanks (except in the driest and hottest weather), although the least troublesome to obtain, is the most dangerous because the most difficult to regulate, and consequently in cold weather the most conducive to the loss of young growths and decayed flowers. The method of obtaining atmospheric moisture from fermenting materials is also, unless managed with the greatest skill, irregular, dangerous, and too cumbersome and laborious for general adoption.

Another method, and the one now very generally practised is by syringing dry unheated surfaces only; and although somewhat laborious, it has this special advantage—the moisture can be regulated to the greatest nicety by repeating or discontinuing the process as required. Evaporation from heated surfaces does, no doubt, produce a constant—more "equable"—and a greater amount of vapour than the other methods, but in sudden changes of the weather it is very conducive to condensation and drip, which are the most fertile causes of injury to young growths and flowers. But I would ask, is an "equable" amount of vapour desirable in cultivating Orchids? If we look to the conditions of climate which exist in their native habitats, or if we take as examples the varying states of moisture which are permitted in the houses of our most successful orchidists we shall, I think, conclude it is neither desirable nor safe. It is true, that in the tropics there are not those extreme changes of temperature or humidity that we sometimes experience, but the continued and daily repeated evaporation there is infinitely greater than that which occurs in our orchid houses, where, for months together in the dull seasons of the year, the humidity of the air is too "equable" and much too near to saturation to be conducive to the permanent health of the plants.

To rely entirely on the syringe for keeping plants clean, either from insects or dirt is no doubt wrong, but when properly used it is convenient and suitable for either purpose; I fear there would frequently be an accumulation of filth in the most "out of the way" plants if the syringe was not occasionally used, and if the sponge was entirely relied on. It is, unfortunately, too true that unsightly deposits remain on the foliage after repeated syringings, even when the purest water is used; for even soft water drained from the roofs carries with it a slight solution of white lead, and this is, perhaps, the strongest argument which can be urged against the use of the syringe; but if an occasional sponging with water, in which a very small quantity of the best soap is dissolved, be also practised, there will be but little cause for complaint in this respect. If, however, the plants are permitted to remain for weeks unsponged, such deposits will undoubtedly disfigure the foliage.

Mr. O'Brien says, "syringing is done to imitate nature," what operation in nature is it supposed to imitate? Is it rain? The plain answer must be, Yes. Not, however, under the force of a clear, nor a mid-day sun, as this would be neither an exact nor an intelligent imitation of nature, nor is it wise under the artificial conditions we employ, to "deluge everything in the house" very often, but when done by an experienced person, and after a very hot day in summer, it may be occasionally done with excellent effect. Mr. O'Brien says, "nature sends rain down from above falling on the upper sides of the leaves, while the plants under glass find it coming from above, from the earth upwards and from all parts of the compass in a few minutes." Nature does undoubtedly send rain from above, but in the tropics it is frequently accompanied with storms and hurricanes of such tremendous force, of which we have but little conception here, and in comparison with which the rain from our syringe must be like a "Scotch mist." Located, as many of the plants are, high upon the trees, and subjected as they sometimes are to a horizontal storm force of from 30 to 50 lbs. avoirdupois on the square foot, or a speed of from 80 to 100 miles per hour, it is rather a stretch of fancy to imagine that the rain "descends gently on the upper surfaces only." What dreadful shocks must "cruel nature" inflict on those delicate stomata which Mr. O'Brien would have us regard so delicately and tenderly when using the syringe, but who is not against harrowing their surfaces with a sponge, as I presume this is what he means by the "ordinary way" of cleaning them. No doubt much harm is sometimes caused by the inadvertant and "indiscriminate" use of the syringe, but this is scarcely sufficient cause for discarding it altogether, especially as some excellent examples of cultivation can be seen where it is occasionally and judiciously used.

Mr. O'Brien and other skilful cultivators may be able to grow orchids successfully without it, but their labour must be infinitely greater than those who do use it. Many of us have still great respect for this good old instrument, I therefore trust Mr. O'Brien will not let a "careless boy's example," nor the fact that a stray shot from it may sometimes hit the under, instead of the upper surface of a leaf, nor even that everything in the house may occasionally, on a warm summer's eve, be deluged thereby, be sufficient cause to induce him to wield his powerful pen against its use.—*T. Challis.*

I am glad to see that the subject of syringing Orchids is in a fair way of being thoroughly ventilated in your columns. I think myself that all observant Orchid-growers are prepared to vote for restriction in the use of the syringe to something like the limits which Mr. O'Brien mentions in his clever article at p. 268. Had anyone advanced such an argument to me seven years ago, I should certainly have taken the other side; but since then I have, like Mr. King, worked the matter out for myself, and I find that the less syringing there is the better, if all other requisites are attended to. My experience is that anyone can do best by using it only for special work; but even Mr. Simcoe's remarks prove that it requires a very clever practitioner to define the proper limits in which it may be used. According to all authorities the growing season is the only one in which the syringe should be used; but in my opinion that is the most risky, as the immature growths are the most susceptible to injury by water in their centres. With respect to the heavy rainfall in the tropics, I, too, have advice, and it tends to show me that the plants, sheltered as they are by the leaves and branches from the rain, generally only get it second-hand by evaporation, and this is the great point to provide for. I shall have some further remarks to make on this subject later on; but in the meantime I hope your correspondents will give us the benefit of their opinions pro and con, as it is a matter of vital importance. For my own part, I cannot speak too strongly against the thoughtless use of the syringe, which, to too great an extent, obtains in plant culture generally, and I think that one of the reasons why plants which are often badly done in gardens are well done by the market men is that the latter are very careful with the syringe, and in most cases do not use it at all, unless for special work, such as Mr. O'Brien mentions.—*A. Clarke*, 66, *Belsize Park Gardens.*

I think the remarks made on this subject by your correspondents will be read with interest by many Orchid growers. I had the pleasure of hearing Mr. O'Brien's paper read at the Orchid Conference, and believe what he said of the syringe in the hands of a thoughtless person. If anyone were to allow water to lodge in the sheaths of Cattleyas, or in the centre of Phalænopsis, most of us know the results would be rotten pseudo-bulbs in the first case, and loss of leaves and plants in the latter. But I have found the syringe a useful instrument in the hands of those who study its use, and I can give one or two instances where it may be used to advantage.

Last summer we had a thousand plants placed in the open air, and during August and the early part of September I particularly noticed in the early morning, when there was any dew at all, that the plants were quite wet, both on the surface and under-sides of the leaves (I am speaking of the cool section of Odontoglossums and Oncidiums); at the same time plants of the same species growing indoors under the ordinary treatment were quite dry. I have heard some travellers say that heavy dews are what many Orchids get in their native homes. When there has been no dew overnight I have gently syringed the plants both indoors and out with the best results, but only a gentle spray, and not sufficient to run down the leaves to settle in the young growths, always using clear rain-water, and after the plants have been carefully watered. I discontinue this early in October when the plants are altogether again in their winter quarters.

Saccolabiums, especially S. giganteum, throw out long roots above the pots, &c. ; Vanda Sanderiana, V. cœrulea, and Cattleyas, root over the sides of pots and baskets, and are out of the way of the spout of the water pot, and these we syringe all the year round at intervals, as also Vanda teres, Vanilla, and Dendrobiums, rooting in the same manner during the growing period, but after damping walls, staging, &c., we have no other use for the syringe in our Orchid houses.

A plant cannot be thoroughly cleaned with the syringe where it stands among others, either of insects or dirt, but must be taken out and washed properly with sponge and water. I make these remarks because I think the syringe may be used where the water pot cannot be. I would advise all interested, to study Mr. O'Brien's article on p. 268, from which much good will be learnt.—*G. W. Cummins, The Grange, Hackbridge.*

ROYAL HORTICULTURAL SOCIETY.

The Fruit and Floral Committees for the present year are constituted as follows :—

Floral Committee—Chairman, Geo. F. Wilson, F.R.S., Heatherbank, Weybridge Heath. Vice-Chairmen, James O'Brien, West Street, Harrow-on-the-Hill ; J. Shirley Hibberd, 1, Priory Road, The Green, Kew ; B. S. Williams, Victoria Nursery Upper Holloway ; Secretary, Archibald F. Barron, Royal Horticultural Society, Chiswick. W.

Baines, Thomas, Fern Cottage, Palmers Green, N.
Ballantine, H., The Dell Gardens, Egham.
Bealby, William, The Laurels, Roehampton Park, Putney Heath, S.W.
Bennett, H., Shepperton, Walton-on-Thames.
Cannell, Henry, Swanley.
Dean, R., Ranelagh Road, Ealing.
Dominy, John, 11, Tadema Road, Chelsea, S.W.
Douglas, J., The Gardens, Great Gearies, Ilford, E.
Duffield, G., The Gardens, Bamford Lodge, Winchmore Hill, W.
Herbst, H., Richmond Road, Kew, Surrey.
Hill, E., The Gardens, Tring Park, Tring.
Holmes, H., Frampton Park Nurseries, Hackney.
Hudson, James, The Gardens, Gunnersbury House, Acton.
Kellock, W. B., F.L.S., Stamford Hill, N.
Laing, John, Stanstead Park, Forest Hill, S.W.
Lendy, Major, Sunbury House, Sunbury-on-Thames.
Low, Hugh, The Nurseries, Clapton, E.
Lowe, Dr. N. H. Woodcote, Lower Park Road, Wimbledon.
Noble, C., Sunningdale Nursery, Bagshot.
Paul, George, "Old" Nurseries, Cheshunt, N.
Perry, Amos Isaac, Stamford Road, Page Green, Tottenham.
Pollett, H. M., Fernside, Bickley, Kent.
Turner, Harry, Royal Nursery, Slough.
Walker, J., Whitton, Middlesex.
Wilks, Rev. W., Shirley Vicarage, near Croydon.

Fruit Committee.—Chairman, Robert Hogg, LL.D., F.L.S., 99, St. George's Road, S.W. ; Vice-Chairmen, R. D. Blackmore, Teddington, John E. Lane, Berkhamstead, T. F. Rivers, Sawbridgeworth ; Secretary, Arbhibald F. Barron, Royal Horticultural Society, Chiswick, W.

Bunyard, George, The Old Nurseries, Maidstone.
Burnett, J., The Gardens, Deepdene, Dorking.
Crowley, Philip, Waddon House, Croydon.
Denning, W., The Gardens, Londesborough Lodge, Norbiton, Surrey.
Ellam, Joseph, The Gardens, Cliveden, Maidenhead.
Ford, Sydney, The Gardens, Leonardslee, Horsham.
Godman, F. du Cane, F.R.S., 10, Chandos Street, Cavendish Square, W.
Goldsmith, G., The Gardens, Floore, Weedon.
Haywood, T. B., Woodhatch Lodge, Reigate.
Mason, Major F., The Firs, Warwick.
Miller, W., The Gardens, Coombe Abbey, Coventry,
Miles, George T., The Gardens, Wycombe Abbey, High Wycombe.
Norman, G., Hatfield House, Hatfield.
Paul, William, Waltham Cross, N.
Roberts, J., The Gardens, Gunnersbury Park, Acton.
Ross, Charles, The Gardens, Welford Park, Newbury.
Rutland, F., The Gardens, Goodwood, Chichester.
Saltmarsh, T. J., The Nurseries, Chelmsford.
Silverlock, Charles, 412, Strand, W.C.
Smith, James, The Gardens, Mentmore, Leighton Buzzard.
Sutton, Arthur W., Reading.
Veitch, H. J., F.L.S., Royal Exotic Nursery, Cholsea.
Warren, H., Worton Gardens, Isleworth
Weir, Harrison, Henwick Lodge, Lansdowne Road, Tunbridge Wells.
Willard, Jesse, Holly Lodge Gardens, Highgate, N.
Woodbridge, John, The Gardens, Syon House, Brentford.

FLORICULTURE.

Propagating the Dahlia.—At the Royal Nursery, at Slough, and at the Castle Street Nurseries, Salisbury, where Dahlias are propagated to a very large extent, the work has to commence early in the year so that a sufficient number of plants might be provided. At Slough the work was done in a lean-to propagating house, with a level bed in front, and a passage way behind next the house, and having hot water pipes beneath the house. Previous to commencing the roots were all gone over very carefully and closely examined, then those selected for the purpose were placed in the bed in the propagating house and partly buried with soil, but keeping the crowns well above the surface ; the points from which the cuttings would proceed would then be above the soil, and they can be taken off with greater surety and safety. The tubers soon begin to push into growth, and when the shoots are 4 ins. or so in height, they were taken off, and four or six of them inserted round the sides of a large sixty or forty-eight sized pot, using a very light sandy soil, and the same pressed firmly about them.

But in front of the Dahlia propagating house, and in immediate contiguity to it, were some lines of brick frames with pits round them, and holes for the heat from the hot dung to pass through to the bed within. At a necessary time this dung to be used as lining, was prepared for the purpose by frequently turning it over, so as to get it thoroughly heated, and then it was placed round the frames. When quite ready to receive the cuttings, the pots of these were placed in the bed, and in the brisk moist heat they struck. When fairly rooted they are repotted singly in thumb pots, and again returned to the dung heated frame, and kept close for a few days till established, and next taken to a frame that was a little cooler, and so gradually hardened off, until they could be placed in a cold frame, and air given when the weather was mild, but kept close when it was cold, and carefully covered up when there was danger from frost. This kind of work went on for weeks at high pressure, and during that time thousands of cuttings were struck, and so gradually hardened off until ready for sale.

In those days it was an inflexible rule not to send out Dahlias until the 1st of May ; all packing of other plants was got through, so that as soon as May commenced a start could be made with Dahlias. But a week or two previously all plants had to be got into their sorts ready for the quick selection of orders, for it is obvious that during the process of propagation, cuttings were taken off as soon as ready, and no attempt at classification of sorts could then be made. Advantage was taken of a mild morning towards the end of April, a strong active party was set to work, the lights were removed, and a commencement made at one end of the frame to sort the plants, all of which were kept under numbers, and they were placed in the open in batches, commencing with the lowest number and going on to the highest until all were sorted. Then the the plants were returned to the frame, and arranged in the order of their numbers, so as to be available for ready selection ; a sprinkling of tepid water was given overhead as each successive light was filled, the light placed over them and a slight shading given. In a few hours the plants were as stiff and fresh as could be desired, and air was given, hardening them off as gradually as possible, sprinkling them overhead as required.

The plants, except in special cases, were sent out in thumb-pots, and the earliest struck cuttings had filled the small pots with their tuberous roots. Orders were then made up, the plants taken into the packing-shed ; two men would place a slight stake against each plant, but a trifle taller ; they were passed to two others who firmly tied the plants to the stake, placing a small piece of cotton wool on the top tie when the plants were a little weakly ; sometimes, but not always, a little moss was placed on the surface of the soil and tied down with matting, and then they were passed on to the packer. In those days the plants were packed in oblong hampers made of strong Willow-twigs, and capable of bearing a journey of many miles without injury. The plants were laid down on their sides and firmly packed in soft moss. This was procured in very large quantities from the neighbouring estates, and beaten fine ready for use for Dahlia packing, all the coarser parts likely to injure the leaves of the Dahlias being removed. It was marvellous how many plants a careful and experienced packer could place in one of these hampers, and when the package reached its destination the plants were taken out, placed in a frame, and sprinkled overhead, kept close for a time, and in a few hours were little, if any, the worse for the journey. This kind of work went on for many days at high pressure. I have known as many as twenty persons engaged in packing Dahlias, and working fourteen hours per day.

Amateur cultivators of the Dahlia, who require only a select number of plants, can do all the propagation that is required in an ordinary dung-bed. March will be soon enough to make up a bed of this character. The cuttings can also be struck in this bed, and returned to it for a time after they are potted off singly into small pots, but it is necessary they be looked after with care that they do not become drawn.

I should have stated that when Dahlias are propagated in a propagating-house in the manner above mentioned, heat should be applied with caution at first, as I have known cases where roots have rotted through being subjected to too great a heat at first.

But there is such a thing as excessive propagation, that is to say, taking too many cuttings from a single root ; the experience of Dahlia cultivators teaches that a certain amount of derterioration results in consequence. "There can be no doubt," wrote one eminent cultivator, a few years ago, "that a weekly and attenuated progeny is the result of excessive propagation ; it is in fact one of the immutuable laws of Nature." This has been confirmed many times in the past. The growers of old were adverse to cheap Dahlias, in consequence, they held, that in order to sell cheaply, a great many plants were taken from one root, to the certain deterioration of many of them.

Thus I have advanced the Dahlia another stage ; but I hope that other readers of The Gardening World will take up the subject, setting me right where I may be at fault, and supplying any omissions of which I may have been guilty. In my next paper I will deal with selections of varieties with special reference to the new flowers of the past two years.—*R. D.*

CLOVER AND GRASS SEEDS.

Messrs. Hurst & Son in a circular recently issued state with regard to English Red Clover and Cow-grass, that the yield of these crops in 1885 will form a marked contrast to those of 1884. Whereas the crop of 1884 was almost the largest on record, that of last year is below the average. Some lots of "maiden" seeds were saved in different parts of the country, and will most likely produce good coloured and well ripened samples. A considerable breadth of the second crop was left for seed, but the broken weather commenced just at the time of cutting, and continued long enough to injure, and in many cases quite destroy the crops. This presumable scarcity should point to high prices, but it must be borne in mind that there still remains on hand a large quantity of yearling seed to check any extravagant advance.

Of Foreign Red Clover the German crop is reported to be large, and the samples showing good colour, but generally smaller in grain than in 1884 ; they have, however, a few exceptionally fine parcels, better in appearance than any home-grown seed they have seen as yet. The French reports speak of a large crop of South Country seed with a correspondingly small one in the Northern provinces. The former the Messrs. Hurst do not recommend for English use, but the latter, stands our climate well, and if machine-cleaned no objection can be raised against it. American advices report an under-average crop, and it is doubtful if Canada will be able to send us any. Much will depend upon the prices ruling here ; at present, our range of prices offer no inducement to shippers, in fact, considerable quantities of yearling reds have already been shipped to America.

A small English crop of White Clover is reported, but it is expected that some samples of good quality will come to market. The German crop is much less than in 1884, but as there is still a large quantity of yearling seed on hand, a high range of prices is not anticipated. There is also a fair English crop of Alsike, and a good crop in Germany ; France has some to send us, showing good quality also. This article is now much cheaper than usual, and as on

Clover-sick lands it produces heavy yields, a larger sale than usual is expected.

Of Trefoil, the supply of seed has lately proved in excess of the demand, and judging by the quantity held over, much higher prices than the low level it has receded to cannot be looked for. The English crop is a fair average one, of smaller grain than usual; the French crop a large one, of quality equal to English. Lucerne is reported to be only a moderate crop of average quality; while of Sainfoin the French crops are reported good and to have been well harvested. The English crop is much below the previous year's yield. The French crop of Italian Rye Grass is under the average, and fine pure seed is decidedly scarce; the Irish crop is very large, and the weight per bushel above the average.

Of Perennial Rye Grass the crops are reported good, and the seed bright coloured; the large quantities held over bear down the price of new seed. In the absence of these large yearling stocks, all weights of Perennial Rye Grass would have been higher this season, as the average weight per bushel is less than for two years past. Natural Grasses maintain generally a high range of prices; the demand for the last few years has been quite up to the supply, and for several articles in excess of it. Cocksfoot and Timothy are scarcer and dearer than last season. White Mustard, is an average crop of good quality. Rape, a very large crop, and lower prices than have ever been experienced.

Obituary.

Many of our readers, and those especially who have gone the round of the large horticultural exhibitions during the last twenty years or so, will learn with much regret of the sudden death, from the rupture of a blood-vessel on December 26th, of Mr. William Cole, the well-known plant grower and exhibitor, of Manchester. "Billy" Cole, as he was familiarly called by his friends, was one of several sons of the late Mr. William Cole, of the Withington Nursery, near Manchester, all of whom inherit the father's skill as a plant cultivator. In their day, both the father and his son William, who succeeded him at Withington, had some of the finest and best known "Elephants" in the country; and one especially, which many will remember—a gigantic Erica Cavendishiana—was a fertile subject for chaff, which was generally returned with characteristically vigorous language. A few years ago, the establishment at Withington was broken up, and Cole went into service as a gardener, being eventually engaged as plant grower by J. Brooome, Esq., of Didsbury, and that his hand had not lost its cunning by the change, many must have seen, who attended the last Whitsuntide exhibition at Manchester. No man better enjoyed a flower show contest, and it always took a good one to beat him.

A familiar face at the summer exhibitions of the Royal Botanic Society, has also lately been removed by the hand of the great Scythe bearer. We allude to Mr. William Kemp, gardener to the Duke of Northumberland, at Albury Park, who had been in failing health for a long time, and died two days before Christmas, aged 55 years. Mr. Kemp was also a very successful grower and exhibitor of specimen plants, his favourite battle-ground being Regents Park, where for many years he had also been a judge.

Mr. David Parry, gardener at Gwaenynog Hall, Denbigh, died on the 28th ult., after a long and painful illness. A Denbigh correspondent informs us that the deceased was held in much respect in the district.

QUESTIONS AND ANSWERS.

Willows.—*T. S.*: (1) You may plant any time from now to the end of March, when the soil is workable. (2) It is better to plant cuttings than rooted plants, as the former always do best. (3) Basket Willows we should think pay best. (4) About 20,000 cuttings to an acre.

Chrysanthemums.—(1) When the old plants of Chrysanthemums, whilst used for decorating indoors, have thrown up a number of lanky long shoots, should not these be all or some of them cut off when cutting down the plants and transferring them to the cold frame? (2) Should the pots so put out be watered at all or be allowed to get dry?—*L. M.* [(1) Yes, cut away all the lanky and weak shoots, place the pots in a cold frame, giving plenty of air, and strong shoots will soon throw up. (2) Keep the plants moderately dry. When water is given, give it in the morning, and leave plenty of air on all day to dry up the extra moisture. 3 and 4 will be answered in the "notes" in due course.—*W. E. Boyce.*]

Sulphate of Ammonia.—Is Sulphate of Ammonia a good manure for pot plants generally, and is it best used by itself or mixed with other manure? Is it safe to dissolve it in the cans when watering, or should it be mixed with dry soil? At what strength can it be used with safety?—*K. W.* [Sulphate of Ammonia should not be used mixed with the soil, but dissolved in water for watering occasionally. Half an ounce to the gallon is a safe strength to begin with, but it may after a time be given a little stronger when plants are rooting well. At first one watering of Sulphate to three of water is enough. For mixing with the soil any of the Fertilizers advertised in our columns are much safer.]

Gardeners' Calendar.—*Erratum:* By an oversight in the revision of the proofs last week, a statement appears at p. 285 which leads to the inference that our friend Mr. Ward will write the Calendar for the current year, which is not the case, though we are happy to say our pages will still continue to be enriched by contributions from his pen.

Communications Received.—J. T.—J. E.—R. G.—X. J.—R. D.—Decorous—T. B.—H. & S.—J. N.—W. C.—H. W. W.—J. R. P.—N. W. H.—W. S.—T. C.

TRADE CATALOGUES RECEIVED.

R. B. Laird & Sons, 17, Frederick Street, Edinburgh.—Kitchen Garden and Flower Seeds, Gladioli Roots, Implements, &c.

Biddles & Co., Loughborough.—Illustrated Catalogue of Flower and Vegetable Seeds, Dutch and other Bulbous Roots, &c.

William Cutbush & Son, Limited, Highgate, N.—Descriptive Catalogue of Flower, Vegetable, and Farm Seeds, &c.

Dobbie & Co., Rothesay, N.B.—Choice Flowers, and Flower and Vegetable Seeds.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—New, Rare and Choice Flower Seeds, Hardy Perennials, Florists' Flowers, &c.

Barr & Son, King Street, Covent Garden, W.C.—Spring Catalogue of Seeds for the Flower and Spring Garden.

B. Soddy, 245, Walworth Road, London, S.E.—Choice Vegetable and Flower Seeds, &c.

LONDON SEED TRADE.

January 6th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report no change in value of Clover seeds, although a considerable quantity has been sold recently. The new crop of English Red Clover is being slowly marketed, and the quality is unsatisfactory. Alsike is reported dearer, but is still exceptionally cheap; White Clover and Trefoil continue firm. Rye Grasses are firmly held with a moderate demand for finest qualities. Bird seeds and Blue Peas are unchanged.

COVENT GARDEN MARKET.

January 7th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 0	Pine-apples, St. Michaels, each	2 6	7 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples. brl.	10 0	20 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 3	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Margnerites, 12 bun.	3 0	6 0
Anemone, 12 bunches			Mignonette, 12 bun.		
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	2 0	5 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	0 9	1 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses, Tea, French ,,	0 9	1 6
Cyclamen, 12 blooms.	0 6	0 8	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.	6 0	18 0	Tulips, 12 blooms	1 0	1 6
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	2 0	3 0
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
			White Jasmine, bun.	0 6	0 9

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	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.	....		Hyacinths, per doz.	6 0	9 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen	12 0	15 0
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21 0
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	4 0	6 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	6 0	9 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

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ROYAL EXOTIC NURSERY, CHELSEA, S.W.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JANUARY 16, 1886.

Under Snow.—Beautiful as are the various forms seen in a carpeting of snow, it is certain that we soon tire of the novelty. At the first, and notably was it the case with the fall last week, some most picturesque and wondrous effects are produced in field and garden, but especially amongst trees and shrubs, which, for a moment, almost enthral us with their beauty, and provoke enthusiastic admiration. Distressing as are the after accompaniments of a snowfall, we can boast of certain charms and scenic effects in Nature not found in warmer climes; and these pay beforehand for the discomforts that are to follow. Still we soon tire of Nature when dressed in a coating of white, and retaining that garb for several days. There soon comes a longing to see once more the varied greens, browns, and russets which Nature ordinarily displays in the winter season; hence the departure of the snow is welcomed with as much satisfaction as its first effects are hailed with surprise and delight.

Gardeners, however, are naturally disposed to take prosaic views of even the most sublime of Nature's acts, as all their work is dependent upon Nature, and her moods may mar that work, as they may also, if pleasing, help to make it. Thus we may be assured that in their minds a snowfall, if at first evoking some sentiment, very soon brings much care and anxiety. A lazy man, if such can be found amongst the gardening fraternity, may, perhaps, have folded his arms, and accepted the visitation with satisfaction as affording almost compulsory reason for cessation of ordinary garden labours. No doubt many men who have diverse feelings have been sorely troubled, because work was difficult to find, and have found this carpeting a sad encumbrance. In some respects the very fact that it was so, doubtless indicated the way in which work could be found, for the removal of the encumbrance, so far, was work which hands might well perform when more profitable work could not be done.

But greater cause for anxiety than the mere finding of work was to be found in the possible damage to beautiful trees and shrubs from the superincumbent weight of the fleecy ice, which settled on all descriptions of vegetation with the utmost impartiality, covering some utterly, and protecting from the frost, whilst, in too many cases, it weighed down trees and shrubs, doing, it is feared, infinite mischief where not removed on the day of the fall. That mischief was intensified by the additional weight added by the freezing of the snow at night, and the pressure of the wind which could not then easily dislodge the burthen; even where later efforts were made to resume the work very much difficulty was experienced, and ere it could be performed, many a noble tree and shrub suffered damage. An anxious gardener would, therefore, feel that in the case of such a visitation as that of last week—happily somewhat unusual in the southern part of the kingdom—it was his duty to muster all available help and remove the snow from the trees and shrubs as speedily as possible, ere any harm resulted.

It is distressing to find that through lack of care in this direction many handsome specimens have suffered irreparable injury, and have been shorn of their long admired proportions. Those whose care and forethought led them to deal with the visitation, have now ample reason to rejoice. Very many fine trees of the conical form have suffered materially through lack of ordinary care. Had those earlier in the winter, and for the winter only, been girded at intervals with bands of cord or stout wire, they might still have been as beautiful and erect as before. Now, alas, they are all abroad; many branches clean broken out, and perfect wrecks of their former selves. In the case of large Firs, and specially of spreading Cedars of Lebanon, many fine branches might have been saved had some support have been given prior to the snowfall. It is so seldom such visitations as that of last week come to disturb us, that we may be excused if not always prepared for them; still it is obvious that winters may bring us such falls at any time, and it is well to be prepared for them.

Snow is a terrible obstruction to locomotion, hence all gardeners feel the necessity for removing it from roads and paths as soon as possible. When there are considerable lengths of these, a snow-plough drawn by a horse may prove serviceable; but in any case, for a day or two at least, ample work may be found in clearing snow away, as also from house-tops, and anywhere from whence its falling may be productive of danger. As in this special instance the more thoroughly the snow was cleared from roads and paths the more slippery did they soon become, putting on a coating of ice similar to that which the Parisians know to their danger as *verglas*. Forethought was shown by those gardeners who had previously provided a few cartloads of gravel-sand for dressing foot and roadways in such a case. Perhaps, few made such provision prior to the recent snowfall; many may do so henceforth, in case of further trouble.

Naturally snow is such a pest that the more of it which can be removed from our way the better; but still it would be poor economy or employment of labour to remove it from grass or soil where not actually in the way. On the other hand, the more effectually it is cleared away from all yards and gravel spaces the less unpleasant will the results of the inevitable thaw be. When, however, all that can be done in that direction is accomplished, and the ground still remains snow covered, then any head gardener's position merits our sympathy.

GARDENING MISCELLANY.

Royal Horticultural Society.—We understand that a dinner will take place at the Albion, Aldersgate Street, on February 9th, under the auspices of the president and council of the Royal Horticultural Society.

The American Exhibition.—We understand that it has been decided by the Executive of the American Exhibition, that was to have been opened in

May next, to postpone the exhibition till 1887, in order to avoid clashing with the Indian and Colonial Exhibition at South Kensington.

The Floral Committee —The name of Maxwell T. Masters, M.D., F.R.S., Mount Avenue, Ealing, W., was inadvertently omitted in the list of members of the Floral Committee for 1886 sent us last week, and published on p. 301.

The Earliest Daffodil.—From Mr. W. Baylor Hartland, of Cork, we have received some blooms of Narcissus pallidus præcox, the earliest of all the Daffodils, and apparently earlier than usual this season. Mr. Hartland also informs us that N. spurius, an early Irish form, is "neck and neck" with the Italian straw-coloured Daffodils, and that with him the variety "princeps" will be much later than "spurius." We agree with Mr. Hartland that it is a pity such a name as the latter was ever given to such a fine Daffodil; it has a bad signification.

The Manor Park Railway Accident.—We regret to learn that in the railway accident at Manor Park, last week, Mr. Wallace and Mr. Fred. Horsman, of Colchester, were among the unfortunate occupants of the last carriage which was run into. Mr. Wallace had one of the small bones in his ankle broken, but Mr. Horsman, who was badly knocked about, had no bones broken, and both are progressing favourably.

The Annual Dinner to the heads of departments and managers in the establishment of Messrs. Hooper & Co., Covent Garden, was given on Thursday evening, the 7th inst., at "Simpson's" in the Strand. Mr. C. A. Hooper presided, and the loyal toast and that of "the Employés" were given from the chair, to the latter of which Mr. Fuller replied. Mr. Harting then gave "the Firm," after which some other friendly toasts were drank and a very pleasant evening was spent. Covers were laid for twelve.

The Rainfall in East Norfolk during the past year, writes "T.W.," was 31·04 ins.; the fall for 1884 was 20·40 ins.; that for 1883 29·03 ins.; and for 1882, the first year I registered it, 28·89 ins. Thus the last year was the wettest of the four. It was the heavy fall in October that helped to swell the figures, for we had 7·41 ins. in that month, following a wet September, when we had 5·13 ins. The other months are as follows:—January, 2·20 ins.; February, 2·11 ins.; March, 1·33; April, 1·57 ins.; May, 3·13 ins.; June, 1·13 ins.; July, 1·29 ins.; August, 0·83 ins.; November, 3·53 ins.; December, 1·38 ins. The three summer months were very dry, and we still feel the effects of the drought in the small and stunted growth of all winter greens.

The Reading Horticultural Society's Exhibitions for the present year are fixed for June 2nd and August 26th.

The Floral Committee Meetings of the Royal Horticultural Society.—Mr. De B. Crawshay writes:—The suggestion of "S. H. A." in your last issue p. 291, I am glad to see, is another echo to my letter thereon a long time ago. I hope the Council will not think it too late to alter their rule of having the committee meetings once a month only during the winter. This makes the third year that I have been prevented sending up two plants for certificates, owing to frost and the long interval between the meetings; I have as a last resort sent cut spikes, with the result that I do not get Lælia Crawshayana, the original plant, certificated. If the Council cannot alter its ways this winter, it is to be earnestly hoped it will do so for the next. There is one thing which looks bright for Orchid-growers, and that is the proposed society, which, if floated, will save the R. H. S. holding their committee meetings oftener for the sake of Orchids, as I take it that this society would hold meetings for certifying Orchids, as many Orchid-growers would doubtless value a certificate of the committee of the Orchid Society (consisting, of course, *entirely* of Orchid-growers) at a higher rate than the certificate given by the R. H. S. "mixed" committee.

The Lambeth Amateur Chrysanthemum Society.—The annual general meeting of this society was held at "The Albion," Union Road, S.E., on Saturday last, and was fairly well attended. After the general business had been gone through, the meeting proceeded to the election of officers for the present year. The president, Mr. C. Harman Payne, was re-elected, with Mr. Harry Ellis to support him as vice-president; treasurer, Mr. Alfred Ball; hon. sec., Mr. T. Dawson. The following gentlemen were elected to form the general committee:—Mr. Thos. Child, Mr. Wm. Clarke, Mr. C. T. Fill, Mr. T. Hadden, Mr. John Hole. Mr. T. Howett, and Mr. F. R. William. We regret to hear that Mr. Geo. S. Addison has retired from the post of hon. sec. He has been an enthusiastic worker in the society since 1876, and has for the past three seasons held the office of secretary. During this period the society has made great progress in the locality in which it is situated, and many of the improvements are due to his energy.

AN ORCHID SOCIETY.

This matter, mentioned by Mr. F. W. Burbidge, has often been discussed among the Orchid members of the Floral Committee of the Royal Horticultural Society, who only await a more fitting opportunity to put the idea into definite form, with the aid of the council of that society, provided the council see fit to take the matter up. Mr. Burbidge's remarks will no doubt give place to others to say what they think on the subject, and will thus assist in bringing it to that definite issue to which it has long been moving—the Orchid Conference, under the guidance of their respected president, Sir Trevor Lawrence, being the first good move.—*J. O'B.*

THE "R. H. S."

The suggestive letter of Mr. F. W. Burbidge in your last number, anent the formation of an Orchid Society, has set me thinking again, and this time writing too, on a subject that has often crossed my mind when visiting South Kensington—viz., the Royal Horticultural Society: what it is, and what it might be. What it is at present I need not say, its humiliating position at South Kensington being too well known to need recapitulation. As to what it might be, and indeed what it ought to be, there is room of course for much difference of opinion, but there can be none, I think, as to the desirability of the council being urged to drop the "waiting for something to turn up" sort of policy that they have too long followed, and to make a vigorous effort to raise the society from its present low state into a position of power and utility worthy of its title and its past—a Royal Horticultural Society under whose banner all sections of horticulturists can unite themselves for the common good of horticulture and horticulturists—a thriving and powerful institution, instead of as at present a mere plaything in the hands of Her Majesty's Commissioners.

What I should like to see is the Royal Horticultural Society out of its present quarters at South Kensington and established in a house of its own in some conveniently situated part of the West End. The house should contain a large room or hall, in which the meetings of the Fruit and Floral Committees and the ordinary meetings of the fellows can be held, and which, when not in use for these purposes, can be turned into a reading room or general room, where the meetings of all the small special societies that ought to be affiliated to the Royal Horticultural Society can be held. Under the same roof the Lindley Library should be located, in the care of a librarian, who should be regularly present during stated hours of the day. The present position of the library is not creditable to the trustees or the society, and is of little use to the general body of horticulturists, because on those days when it ought to be available—the committee meeting days—it is frequently in use by the council or by the Scientific Committee, and inaccessible to anyone wishing to use it.

Under the same roof also I should like to see the offices of the Gardeners' Royal Benevolent Institution, and of the United Horticultural Benefit Society; and the annual and committee meetings of both these societies might with advantage be held in the hall, instead of as at present at hotels. There should also be a room set apart for the use of town or country nurserymen and gardeners, in which they can, if need be, write a letter or keep an appointment. I should like to see the bye-laws of the society altered in several particulars, for instance as regards subscription of membership or fellowship, if you like. I should like to see the present exclusive rates abolished in favour of Mr. Wilson's, or some similar scheme of guinea membership. I should like to see thousands of members, and from all parts of the country, where there are now only hundreds on the roll.

From the regular members or Fellows I should like to see the council elected, and among the members of this body there should be a fair proportion of nurserymen and practical gardeners. The present method of electing a man a fellow one week, and pitch-forking him into the council the next, savours too much of exclusiveness not to use a stronger term. There are plenty of Fellows who have paid their subscription for years and are quite capable of conducting the business of the society, without other people being called in to do it for them. The management of the society is not such a gigantic undertaking as the present system would lead one to infer.

Again, I should like to see the Society abolish the plan necessitated by force of circumstances during the last year or two of holding small flower shows in London. The day has gone by for this sort of work, and it might now well be left to societies of less importance. At the committee meetings, new or rare plants, or specially well cultivated individual specimens only should be exhibited; the former should be awarded certificates of merit, as at present, and the latter, medals that should be worth gaining. Instead of the small shows, which are held now, I should like to see the society hold one grand exhibition every year in the country, as it has done before, but worked somewhat on the lines of the Royal Agricultural Society. I have pleasant recollections of most of the country shows, I know that they did good in the districts visited, and I know that country nurserymen and gardeners in all parts looked forward to them as a pleasant and instructive outing, and I know that the establishment of these annual shows, again, would be welcomed in the country, and if managed by capable practical men, would undoubtedly pay.

There are many other things in connection with the society and its management which I should like to see altered, but concerning which I will write you again, supposing, of course, the subject is one you care to admit into your columns. There is, however, another point I must touch upon now—the question of finance. Where are the funds to come from? Well, I believe, if a strong effort were made to put the society in its proper position, the difficulty of raising the funds would not be insuperable, and one way of making a start would be by means of an International Horticultural Exhibition. Let the subject be taken up vigorously—the council show us that they mean to set their house in order, and re-organise the society on a popular basis—and there will be no difficulty in raising a guarantee fund for carrying out such an exhibition, the profits of which shall be applied to purchasing a suitable house. There must, however, be no connection with Her Majesty's Commissioners; that gordian knot must be cut for ever. But where can such an exhibition be held if not at South Kensington Gardens, and when should it be held? Well, as to the first question, there is a building in course of erection near Addison Road Station that will be finished ere long, and doubtless the company who have promoted its erection would be glad to let it for such a purpose. As to when the exhibition should be held, the sooner the better, but I do not think it can be done well before the summer of 1887.

There is, of course, a proposition still before the horticultural body for holding an International Horticultural Exhibition at South Kensington, but it does not seem probable that we shall hear much more of that project just yet, for you are no doubt aware that the American exhibition is not to be held this year; and perhaps you have seen the paragraph that has been going the round of the papers during the last few days. There is evidence, I think, in that paragraph that the American exhibition is not unlikely to be held in the Gardens at South Kensington, instead of at Earl's Court, so that the council will have a grand opportunity of throwing off the yoke of the Commissioners, and, in so doing, they will have, I am sure, the support of the entire horticultural community.—*A Fellow.*

Odontoglossum bictoniense with Foliaceous Bracts.—At the meeting of the scientific committee on Tuesday, Mr. O'Brien showed a peduncle about 5 ft. in length, with the upper bracts leafy. He attributed it to a check upon the productive energy which the plant had received, in consequence of which the vegetative system had been encouraged, as seen in the lengthened stem and leafy bracts.

COMMON BLUE FLOWERS.

Though I term these common, I mean by that such things among the hardy and half-hardy annuals, biennials, and perennials that can be easily raised from seeds. I intend the following remarks for amateurs rather than for full-fledged gardeners, meaning thereby those of my horticultural brethren who may be presumed to know as much as I do myself and a great deal more in not a few instances. The learners, like the poor, are with us always, and one excellent feature of The Gardening World is that it is distinctly elementary in its character, though there is to be found in its columns a great deal of information suitable for such of its readers who may be regarded as advanced. My remarks are intended for such amateur gardeners who may be desirous of growing a few pretty blue flowers, and I think all gardeners, great and small, elementary and advanced, are fond of the blue colour in flowers. It is one of the most winsome and attractive of hues. I remember that when Dr. Max Muller who delivered the first series of Hibbert lectures in Westminster Abbey in 1878, spoke of the progressive development of the conceptions of colour, he said, "we divide colour by seven rough degrees. Even those seven degrees are of late date in the evolution of our sensuous knowledge. In common Arabic, as Palgrave tells us, the names for green, black, and brown are constantly confounded. In the Edda, the rainbow is called a three-coloured bridge. Xenophanes says that what people call Iris is a cloud, purple, red, and yellow. Even Aristotle still speaks of the tricoloured rainbow, red, yellow, and green. Blue, which seems to us so definite a colour, was worked out of the infinity of colours at a comparatively late time. There is hardly a book now in which we do not read of the blue sky, but in the ancient hymns of the Veda, so full of the dawn, the sun, and the sky, the blue sky is not mentioned. In the Zendavesta the blue sky is never mentioned; in Homer the blue sky is never mentioned; in the Old and even in the New Testament the blue sky is never mentioned. In the Teutonic languages, blue comes from a root which originally meant *bleak* and *black*. The Romance languages found no useful word for blue in Latin and borrowed their word from the Germans." Now these are curious facts. The Hibbert lecturer, no doubt, believed those ancients saw the blue sky as we do, but they had no word for it, because they had not detached it mentally from dark or bright.

With this digression, now to my task. I commence with Anchusa italica, a very showy blue hardy perennial not unlike the Borage, growing to a height of 4 ft. or so, and being very gay in early summer, it deserves a place in every garden. Seeds of Anemone coronaria yield some charming blue Anemones, but the tints are not so decided as in some other subjects to be noticed. Asperula aurea setosa, one of the woodruffs, is a dwarf growing hardy annual with pretty sweet scented blue flowers, remaining in bloom for a long time. Browallia alata is a charming brilliant blue half hardy annual, and makes a charming pot plant for the greenhouse. Campanula carpatica and C. turbinata, the fine vase Harebells, are of a lilac-blue shade, but very pretty, and among the most useful hardy perennials that can be grown. Collinsia grandiflora is a pretty blue hardy annual of a rather dark shade, but really attractive. The best blue is the pretty C. verna, but then it is necessary to sow the seed in the open air as soon as it is ripe, and then it should be in a light, warm, early soil. I suppose it is because it is so troublesome, that it is never found in catalogues; but it is a neglected beauty notwithstanding. Then there is Convolvulus minor, a rich blue, a lovely blue as one sees it at Dedham, where some acres of it can be looked upon with the morning sun shining royally upon it; there, one realises the rich blue it furnishes. Kaulfussia amelloides is a pretty dwarf blue hardy annual, which makes a capital edging. And this brings me to one of the prettiest of blue annuals, Lathyrus sativus, or perhaps best known as L. azureus, the flowers of a lovely shade of pale blue, what one regrets is that the petals—apparently so soft and delicate, so soon burn in the sunlight. I remember some years ago a gentleman turning up at a flower show with some flowers of this in his button-hole, and though a good many gardeners were present, and some of them well informed, they all believed what he said, that it was a new species recently introduced from Abyssinia; it was just about the close of the Abyssinian war, and this fact lent additional interest to the flower. I ventured to state that it was what is known in this country as L. azureus, and was flatly contradicted. I then obtained some seeds, bloomed it, and sent the flowers to the gentleman, and I heard no more of the new introduction from Abyssinia; but this charming annual is seldom seen in gardens. Lupinus nanus and L. subcarnosus are two dwarf growing hardy annuals of pretty shades of blue.

Eutoca viscida—flowers blue.

Then there are the Forget-me-nots. Three of them are deserving of all praise, as charming and useful hardy perennials, viz., M. dissitiflora, the earliest and largest; M. sylvatica, smaller and later; and M. palustris semperflorens, which, in a moist situation, will flower nearly all the summer through. Nor must I forget the pretty blue Nemophila insignis grandiflora, so dwarf and free. One sees it at its best when the seeds are sown in good ground in autumn, allowed to stand all the winter, and to bloom in spring. I can remember when this was first introduced, or, rather, when it was becoming known, and being sent by my father with some plants to a lady who took a great interest in her garden. Then there is Nigella Damascena, and its double dwarf variety; very useful hardy annuals, of shades of bright pale blue. The former, especially, deserves to be much more generally grown.

Need I mention blue Pansies and Violas. They are so useful for the best part of the year as to be indispensable to a garden. I would advise that a few plants of a good blue variety of each be bought, and the seed saved for sowing another season. A good selected variety of either can be readily propagated by division of the roots, and also by cuttings.

The new Phacelia campanularia is one of the loveliest of blue hardy annuals; it is new and somewhat scarce, but a great beauty. P. tanacetifolia is also blue, but not so fine as the preceding; it is, however, an excellent plant for bees. Another blue-flowered annual, of which the bees are also fond, is the showy Eutoca viscida, which is a most profuse bloomer, and grows about 12 ins. high. And who would not grow Salvia patens? As a matter of course this is a summer bedding plant, and the seeds should be sown in a little heat in early spring. The plant being a perennial, it can be increased by cuttings in spring. Then there is Salvia Blue Beard, a very handsome hardy annual, growing about 18 ins. high, the spikes furnished with a number of deep mauve-purple bracts. It is a capital plant. The seed should be sown in a little warmth in February, and the plants put out in the open air in May. Lastly comes Viscaria occulata cœrulea, with its bright blue flowers, a very good hardy annual; and Whitlavia gloxinoides, a very free-blooming hardy annual also—the gloxinia-like flowers having blue lip and a white throat.

Two things are necessary to be said, and I have done. One is, that in nearly every case the seeds of the subjects named can be sown in the open ground where they are to flower; therefore, sow thinly in good soil, and do not be afraid to thin out the plants afterwards. The other is, when the plants are thinned out do not neglect them afterwards, as some are apt to do—water them, weed them, top dress them, tie up neatly to stakes, or hedge round with small pieces of bushes such as need it; and if they fail to give pleasure it will not, I think, be from any fault of the flowers. Sow early enough to get a good bloom as soon as possible in the summer.—*R. D.*

ROSE CULTURE IN POTS.

There are few plants that submit to pot culture in which there has been such a marked increase in the cultivation during recent times as with Roses. The treatment of certain flowers or fruits, so as to have them in all the year round, is not unusually held up as the highest evidence of cultural skill, where as often as otherwise such out-of-season productions are not wanted and not cared for. But this does not hold good with Roses, which are amongst the few things that people

never get tired of. At the close of the long season during which they are plentiful out of doors, the limited supply available from indoor plants seems even more acceptable.

To do full justice to Roses when grown under glass they should have a house to themselves; yet there are many amateurs who have not the chance of so accommodating them, and still none the less like to have the flowers. A good deal is said nowadays on the forcing of pot Roses; but it is not at all calculated to help those who are wanting in experience in the matter—frequently the reverse. It generally follows that the hardier a plant is naturally the more necessity there is for its being carefully managed when subjected to heat, and Roses more than most plants exemplify this. The young leaves of Roses produced in even such amount of artificial heat as the plants will well do with, are tender to a degree, so much so that they will not bear the cold air coming in contact with them without their becoming a prey to mildew.

Amateurs frequently have not more than one house to accommodate the many things that require heat to grow them. Stove plants of various kinds, Hyacinths, and other bulbs that have to be forced, hardy shrubs that are to be brought on, including Roses, which often come to grief through the effects of the air so persistently advised as necessary to admit even in the chilly winter time. Air is a subtle element that is not easily prevented from getting everywhere, and even in a well-constructed house it gets in at the doors, the laps of the glass, and at the ventilators, even when closed, in sufficient quantity for the requirements of plants of all kinds in a warm house in winter, if the house is such as will admit plenty of light, and the occupants are kept well up to the glass; and where these essentials are not present, the admission of cold air is not the way to remedy the defect. Even later on, when well into March, when the sun gets powerful enough to run up the heat so as to require the ventilators to be opened, this should be done at the top of the house alone, and that only to an extent that will let the superabundant heat out rather than admit much of the cold air.

When Roses are forced in a house where various other plants are grown, the Roses should be placed together at one end of the house, and when it becomes necessary to open the ventilators this should be done at the opposite end to that where the Roses stand. So sensitive are the young forced leaves of Roses, that half an hour's subjection to cold air is quite enough to bring on an aggravated attack of mildew. Even when no air is given mildew often makes its appearance, but only in a mild form, such as can easily be dealt with by dusting with flour of sulphur. It is necessary to keep a constant look-out for the parasite, the presence of which, on its first appearance, after a little experience, is easily detected. When an odd leaflet or two here and there are slightly curled, it is nearly always a sure sign of the enemy's presence, although it is more likely than not to escape the notice of anyone not intimately acquainted with this pest of the Rose forcer until it has so far done its destructive work as to cause the young leaves to fall off in quantity, when there is an end to the crop of flowers.

Everyone who forces Roses should have one of the old-fashioned sulphur-puffs, which are vastly superior to all the newer contrivances that have appeared. I have thought it well to go so far into detail about mildew, with the most frequent cause of its appearance and the necessity for prompt measures to destroy it, as it is the cause more than all others through which those who have had little experience in Rose-forcing fail.

The Teas are much the best for forcing, as they will not only produce flowers at a time in the winter when the hybrid perpetuals and others will not, but through their natural disposition to keep on blooming from all the growth they make, they give a succession of flowers. To enable them to do this, even when the plants are strong to begin with, they must be well and regularly supplied with sustenance, either through the application of surface dressings of concentrated manure, which gets washed down to the roots in the operation of watering, or by the use of manure-water frequently given, as upon the strength of the young growth that is being made depends the number and size of the flowers that are forthcoming.

When Roses are brought on slowly in a house where no more warmth is maintained than is requisite to keep out frost, the leaves, as a matter of course, are much less tender and proportionately less sensitive to the effects of the cold external air coming in contact with them, and amateurs who have a greenhouse can grow Roses along with the ordinary occupants of the structure. In this case, also, the Roses should be kept by themselves away from the influence of a current of air. Treated in this manner, many of the hybrids will be found to answer well; but although managed in this way Roses are much less subject to the attacks of mildew than when forced, still they are by no means exempt from it, and require to have a watchful eye kept on them.—*T. Baines.*

Scottish Gardening.

Winter Management of Fruit Trees.—Cherries.—There are many kinds of Cherries which do well in the northern districts, but which seldom have a trial; but where they have fair opportunities for extending into healthy well-matured trees, with the roots firmly embedded in healthy soil (good loam mixed with lime rubbish is very suitable for them), and the necessary attention is given during the growing season, heavy crops of fruit may be gathered almost every season. We have seen the May Duke, Elton, and Black Tartarian fruit abundantly for many years in succession in districts cold and exposed. The trees were healthy and in fine condition at the roots. When root action is defective, stoneless fruits, which drop off in their early stages, are sure to follow. Cherries, like most stone fruits, are benefitted when a fair proportion of lime is a component part of the soil. When induced to root well to the surface, by mulching liberally with well rotted manure, the benefit to the fruit is soon observed, and the absence of dying shoots and gumming is almost certain. Trees with coarse unripened growth are sure to suffer from disease, and should have the proper remedy applied, viz., root-lifting; piecemeal with old trees may be the safest, doing a portion one season and the remainder a season or two afterwards.

The present season should not pass without an attempt to improve the condition of the trees, if such is necessary, before growth begins to show itself is safest by inexperienced hands; September is always safe. Many trees are ruined by allowing the branches to become crowded, barren wood being thus formed. Some object to the spur system of pruning Cherries, but when branches are of even growth and trained into position full length, they will be studded with spurs of natural formation all along the shoots which are always fruitful. We have seen standard trees (not in Scotland) allowed to make growth of this kind—the knife only used to thin wood of backward growth—and spurs form like clusters of nuts, succeeded by crops all that could be desired. During summer, on walls, the points of the young shoots growing from the main branches are pinched off when about 8 ins. or 9 ins. long. Later in the season, as growth is ceasing, these shoots are shortened further back to let in sun and air to ripen the wood; and when the leaves are shed all that remains to be done is to cut these shoots back to two or three buds, cutting those which are growing outward clean off. If this is not already done, it may have attention as soon as possible. There is no necessity for allowing the spurs to grow long, appear coarse, and get away from the benefit of the walls. Those close to the wall should be retained, and a careful use of the knife will always keep them within bounds. Spurs 1 in. or 2 ins. long may always remain about the same, cut close to the bud, leaving nothing to form snags, which are always ruinous to the well-being of all trees.

A system of training young shoots on one or both sides of main branches, cutting out a few yearly and introducing others to take their place is conducive of a reduction of labour, and trees managed on the spur system give very little trouble; keeping the bark clean by brushing off scales with warm soapy water, and painting afterwards with Gishurst's Compound at the strength advised is likely to meet all wants. We train vertically, fan system, and horizontal, and all do equally well; the latter system causes the least expenditure of labour, and a permanent branch to every two or three brick widths keeps the tree safe from crowding. Cherries are very suitable for cordons, and to secure variety and prolong the season, the cordons have advantages where space is limited.

Morello Cherries require a different system of pruning to the other kinds. They can be reduced to a system of spurring by checking the roots and causing short stiff growths, which do not require the use of the knife; but as they are not easily checked, and bear fruit so well on the previous year's wood, it answers well to thin the young growths well out during summer, and at the present season there is little left to be cut out, except the dead wood which sometimes appears—especially on old trees—and the young wood left full length is likely to bear fruit abundantly; at their points the best fruiting buds are generally found. Morello Cherries often die off piecemeal, but when the roots are well up to the surface of the soil, kept free from stagnant moisture, and not allowed to make gross growth late in the season, there is little danger of cankered wood; where such occurs let it be cut clean out, and part of the tree will have to be lifted and re-trained to fill up the space. Sometimes whole trees have to be untrained and tied afresh.

Cherries are very impatient of being barked or cutting the wood by ties, and pressure on nails or wires. Wires on walls have advantages, but mischief is often done by allowing the wood to press against them. The matting, or whatever is used for tying, should have a twist to keep a clearance of the wires; the latter should be close to the walls and loose enough just to let the ties be pushed between them. We mostly fix nails permanently and tie the main branches to them, and the young bearing wood is crossed slantingly between the branches; this is a neat, simple, and economical method. On north walls Morello Cherries are generally grown, but we have seen them do well on every other aspect, especially on ends of houses, and in Scotland we have purchased them when grown with more sun than they generally get in gardens; the flavour was so much changed that the fruit could be used for dessert. Vermin (black fly especially) is often troublesome during summer. After the growths are thinned off, a basin of tobacco water carried round and the tops dipped in will destroy the Aphis; we found this answer last year. In addition to the kinds already named, we have seen Bigarreau and White Heart do well on Scotch walls.

East Lothian Stock.—Stocks are valued at all times for decorative purposes, but when they can be had in flower during the winter months and onwards to the end of spring they are doubly valued. For some years we have had these in very serviceable condition, and more manageable in Scotland than in England. In the south we have generally sown the seed during the latter part of February and early in March, but here in the north we sow in August, lift them during October, and pot them (with all the roots which they could carry) into good loam (such as old melon soil) mixed with a little sand, and keep them close in frames till they start into growth. A little bottom heat is of much service for hastening root action, and forming flower buds. The quantity of cut flowers obtained with very little trouble in this way is enormous. The beautiful Wallflower-leaved variety is finer than any white kind we have seen, and it is a very manageable plant for the purpose of flowering from late winter to the end of spring. Our present stock were lifted late in October, and treated as already indicated, with the old flower stems cut off, and careful attention given them till the pots were well filled with roots; and in a batch in an early peach house at work, most of the scarlet kinds are showing flower (a few were cut at the end of the year), and promise to be useful. A spurious lot the season before last were left where they had grown during the summer (among a young plantation of shrubs), and last spring they were huge masses of scarlet flowers for ten to twelve weeks, and really excellent for cutting as well as show. Stocks are generally done extra well in Scotland, but true East Lothians are difficult to procure.—*M. T.*

Curiosities of Seed-Testing.

In making tests of seeds the fact must not be lost sight of that the finest-looking seeds, and those which show the greatest proportion of living germs, may not be the most desirable for the field or garden. Much depends on the variety—the choicest strains of some kinds producing seeds of inferior appearance and vitality. I have made some progress, says Prof. Field in an American paper, towards ascertaining the best methods and the most favourable temperature for germinating seeds of Wheat and the Cucurbitacæ.

To aid in finding the best method I used some seeds which were fresh, well grown, carefully harvested, and not subjected to severe trials or exposure of drought and moisture, heat or cold. These reliable seeds were tested, side by side with others whose history was not certainly known. In the different modes of testing, good fresh seeds varied much less in the per cent. which germinated than did those which possessed little vitality. In two trials only a few days apart, at about the same temperature, by one person, in the same room, with the same apparatus used in a similar manner, the same quantity of the lot of unknown Wheat was tested with the following results: In both trials, ten lots of 100 kernels each were placed in saucers of damp sand. Of the first, 81, 82, 84, 85, 85, 87, 89, 89, 90, 96 germinated, an average of 86·8 per cent.; of the second, 56, 75, 75, 76, 77, 78, 78, 79, 82, 89 germinated, an average of 76·5 per cent. Here is a difference in the results of 10·3 per cent., for which I cannot account. In August, on different days, many lots of fresh, hand-picked, hand-shelled red Wheat were tested in several ways at temperatures varying from 75° to 136° Fahr. Excepting one kernel, in one of several lots at two different times, the average was 100 per cent. of germinating seeds; in open ground, 1000 of these seeds gave an average of 94·9 per cent. Side by side with the above, the unknown Wheat varied from 39 to 86·8 per cent. in germination; red Wheat germinated more slowly than white Wheat. Some experiments were made to ascertain whether seeds well dried after once or twice germinating would germinate again. In the case of Wheat, the plumule lived and continued the growth, if any growth was made, but the roots always died when well dried; if any growth was made a second or third time, new roots started out. Of fifty kernels of unknown white Wheat once germinated a little and dried, 96 per cent. germinated; twice dried, 88 per cent. Of fifty kernels once germinated till the plumule became ½ in. long and the roots 1 in. or 2 ins., then dried, 82 per cent. germinated; twice sprouted and twice dried, 48 per cent. Of fifty kernels once germinated till the plumule became 1 in. long and the roots 1 in. to 2 ins., then dried, 38 per cent. germinated; twice sprouted and twice dried, 14 per cent. again germinated. Some tests with new Wheat now under way show still more favourable results than the foregoing. Seeds of Squashes, known as Turban, Boston Marrow, Hubbard or Marblehead, and the common field Pumpkin, tested in several ways at a temperature of 80° or lower showed results which were very variable and unsatisfactory. Tested in a temperature of 100° to 136° Fahr., the results were more uniform and the per cent. of germinating seeds much higher. Seeds of Water Melons and Cucumbers varied but little whether tested at 70° or 136° Fahr.

CORISANDE'S GARDEN.

In your issue of January 2nd, "A Reader" asks if Lady Corisande's Garden had any existence in fact. Yes; it is a vivid description of the garden at Hatfield, the remains of the ancient garden of an ancient house that had long ago become a ruin, which, with marvellous good taste, the father of the present Marquis of Salisbury, when the artist in landscapes planned and created the present gardens and pleasure grounds, insisted on having preserved, with its arches of Yew and old-fashioned Roses, Honeysuckle, and sweet-smelling flowers growing in profusion. After looking on the formal Mosaic pavement-like garden on the other side of the house, the contrast is perfectly charming, and just as Disraeli describes it in *Lothair*.—*One Who Knows It.*

I fully expected, when copying out Lord Beaconsfield's description of this garden, that it would not come out of the ordeal unscathed, and I see your correspondent, "A. D.," has charged, fired, and bombarded the place, shot and shell alike falling on the four corners of it, and apparently it has blown it all to atoms. But I cannot see why "A. D." should not give the author credit for his opinions and inclinations. Ben Johnson also had an opinion in connection with gardening which was that the finest flower that grew in a garden was a Cauliflower, and he was right to a certain extent. "A. D." seems to ignore the point at issue in his criticising remarks. It is quite evident that the grounds at Bentham were laid out in the modern or English style, and that Corisande's Garden was left only as a relic for the sake of auld lang syne, or as a children's garden, for one sees small plots of these in many noblemen's gardens where the younger members of the family may "enjoy the purest of human pleasures."

It is not the modern garden which "A. D." has depicted, with its handsome flowering trees, singly or in groups, clumps of hardy flowers, &c., that Disraeli assailed, but the flower garden on which the breakfast-room window overlooked, with, as he says, its glaring colours, and mosaic pavement-like pattern.

I candidly admit that personally I am very fond of and like to see a good carpet bed; but we know that one swallow does not make a summer, and that there are many employers and gardeners, who, at the present day, are not thoroughly wedded to it, because it is stiff and formal, and because, like Madame Phœbus, they have to go to the kitchen garden, or to other places or borders, for the flowers they want. I am in harmony with "A. D." as to those abominations—clipped trees, peacocks, &c. —*A Reader.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

The heavy fall of snow experienced during the past week in most districts of England, but especially in the home counties, has rendered it necessary to give careful attention to the fires, so as to maintain a suitable temperature to prevent an undue accumulation of damp in the house. There is not an abundance of flowers anywhere, unless the cultivator has a forcing house or pit at command to get the plants in bloom early; but in almost all establishments where a real interest is taken in the greenhouse or conservatory, a few Cinerarias, Cyclamens, Primulas, Ericas of the hyemalis or autumnalis type, Carnations, the paper white Narciss, and others will furnish some attractions. For all these it is undesirable that with a cloudy sky a low temperature outside and a quantity of snow about, there should be an excess of moisture in the atmosphere of the house, for nothing except undue dryness of the soil will so soon injure the flowers. As we write the wind has changed, and a rapid thaw having commenced, will probably give an opportunity for a little ventilation about mid-day; opening the ventilators at the top of the house, and these only to a moderate extent, as where the house has been kept closed for several days the plants soon become weakened and likely to suffer when air is admitted too freely. The temperature should on no account be allowed to fall below 45° and 50° is a much safer minimum rising to 55° in the day.

Preparations will shortly be commenced to provide some additional floral attractions in the greenhouse, and wherever a frame or pit is at command this can be readily accomplished. Even an ordinary manure bed with a deep frame over it will be suitable for forcing such plants as Hyacinths, Tulips, Narcissi, Crocuses, and similar bulbs; while in the pits with moderate heat Lilacs, Azaleas, Deutzias, Rhododendrons, Spiræas, and Lily-of-the-Valley can be had in flower in a few weeks. The last named are favourites with everyone, and as selected crowns can now be purchased so cheaply it is far better to employ these than to pot clumps from the border as, unless the latter have been properly prepared for a season or two, they are frequently unsatisfactory.

THE FLOWER GARDEN.

Trees and shrubs in many gardens have been much injured by the snow, and broken branches have disfigured numerous handsome or valued specimens; the fall was so sudden and quick, that much of the damage was done before it was seen, but some of it might have been avoided if the snow had been shaken off immediately it was seen. Very little work can be done out of doors for the next week, and all operations in connection with the remaking of borders, planting, &c., must be deferred for the present as the soil is so saturated that more harm than good would result. Plans for the spring or summer decoration can, however, be prepared, and propagation might be commenced with any plants of which the stock is small. A selection of such annuals as will be required should also be made, and the seeds ordered at once, for nothing is lost by being early in these matters.

THE KITCHEN GARDEN.

Very little work can yet be performed in this department, all sowing that has not been done must be deferred until the soil has become drier, for to attempt anything of the kind while the ground is saturated and cold would be to court failure. As soon as possible, preparations should be made for the coming busy season. Burn all rubbish and preserve the ashes for mixing with the soil select and trim sticks for peas or beans, and observe if any fresh ones will be required. Where Asparagus beds have not received a dressing of manure they can be done as soon as the frost is out of the ground and the snow has passed away. There need not be any fear in giving a thick layer of short stable manure to such beds, but care must be exercised not to dig or point it into the surface or the roots will be injured. It is customary to recommend an application of salt as an essential for this vegetable, but it can be and is grown quite as well without it. A few frames on a dry warm border can be utilised for sowing seeds of early Carrots, Cabbage, Lettuce, Radishes, and Mustard and Cress, directly the weather becomes a little more favourable. The Mustard and Cress can however be also sown at intervals according to the demand, in shallow pans, and placed in the greenhouse near the pipes or in the forcing pit if that is possessed. The seed catalogues are now in the hands of the majority of purchasers, who can make selections according to their requirements and their experience of the varieties that prove most satisfactory in each particular district. It is wise to rely upon old proved sorts for the main supplies, but if a few novelties are included, they will add much to the interest of the season, and these are sometimes found to be decided improvements upon older types. For beginners who are perplexed by the number of varieties the catalogues describe and which appear from these descriptions so nearly equal in merit, we will next week give a short selection of the most approved and reliable vegetables.—*Scolytus.*

ON PRUNING SHRUBS.

In determining the system of pruning, which may seem the most desirable to carry out at any particular place, there are several points to be taken into consideration, such as the size of the place and its surroundings, and whether it is newly planted or in a neglected condition. The habit of growth of the majority of the occupants of the shrubbery borders must also necessarily largely influence the operations carried out. In small places, if they are to be kept at all as they should be, there is practically but one method available, and that is to go over them annually from the very first, and keep them to shape and within bounds, and this is best done in the winter months and before the borders are dug over. Holly, Yew, Aucuba, Phillyrea, and Portugal Laurels will bear keeping in close; but the common Laurels, including the Caucasian and Colchicum will sometimes, from excessive pruning, become sickly, so that it is well in planting to allow them more room than the others, and in pruning to be content, as far as circumstances will allow, with cutting back the leading shoots only.

Rhododendron ponticum is often largely planted among other shrubs, and if a small portion of peat soil is placed round the roots they often do well for some years and then come to a standstill, the fibre not penetrating beyond the soil especially provided for them. When this occurs they may often be resuscitated by cutting them down to within one foot of the ground, this gives the balls a chance of getting well soaked by rain, and the plants often grow away with surprising vigour after it. This may be done during the winter months, or in summer after they have flowered. Cupressus, Thujus and Junipers with Irish Yews should be allowed to grow naturally; they may be pruned to a moderate extent, but on no account ought the natural habit of these to be tampered with; if judiciously introduced into the shrubbery borders they will seldom require meddling with.

Deciduous flowering shrubs are best dealt with by cutting out a few of the strong growths occasionally. Lilacs, Syringa, Ribes, Viburnums, Spiræas, Deutzias, and Weigelas are much benefited by this treatment, and throw much finer flowers, keeping as well healthier foliage for it. Laurestinus and Arbutus are deservedly very popular flowering evergreen plants, and both liable in severe winters to be injured by frost; the last

time this occurred here was in January, 1881, when some of the Laurestinns, and almost all our Arbutns were killed to the ground, some of the latter had a great struggle for life, but are now fine young looking plants. The Laurestinus came away more readily, and I would recommend cutting them back when they get into a weakly habit of growth, they soon make good plants again.

As in small places the most should be made of all available space, it may be well here to offer a few remarks on wall plants; we will begin with Ivies, these offer such a rich choice in colour, and diversity of foliage, that they may fairly be given the chief place. The best time to trim them is towards the end of April or early in May, when they should be clipped close in, they soon make fresh foliage, which will keep fresh and green till the next season. The only thing after this is to see that they are not allowed to grow behind or over the water gutters. If well managed in this way, they serve to beautify the buildings they are growing against, and to keep them warm and dry, but if allowed to stop the gutters up and the water gets between the Ivy and the walls, the buildings are rendered damp, and the Ivy gets unjustly condemned for its destructiveness.

Euonymuses are frequently used as wall plants, but considering the great trouble they are to keep in order, and the fine choice there is among the Ivies, I think they are out of place against the walls. Of the evergreen wall plants, Magnolia grandiflora stands alone, and for excellence far above any other evergreen and flowering wall plant, and should find a place everywhere where room can be found for it. Another fine foliage plant is Photinia serrulata, which is comparatively scarce, and seldom met with in first-rate condition; when it is, it rivals as a foliage plant even the Magnolia. I have before me a plant covering some 600 sq. ft., and have never met with a better specimen; these two require very little attention beyond fastening the shoots in as occasion may require. Passiflora cœrulea is very common in some localities, requiring cutting back annually, and some slight protection during frost.

Of deciduous flowering wall plants Clematis shows prominent, and require two separate systems of pruning, those of the Montana type flowering from the wood formed in the previous season only require the dead and superfluous growth cutting out, while the Jackmanii, and others of like habit, are better cut down almost to the ground in the autumn. Wisteria sinensis will require going over once a year, and have the long growths nailed in, where there is room for them, and the spurs shortened back if getting too far away from the wall. There is another grand old flowering plant seldom met with—I mean Bignonia radicans major. When seen at its best it will vie successfully with many more recent introductions. It should be spurred in annually. There are two plants often planted against walls on the plea that they require the protection which these afford—both very beautiful in their way, and better seen away—I mean Cydonia japonica and Chimonanthus fragrans; they are perfectly hardy—the one the gayest of all early hardy flowering plants, and the other, perhaps, the sweetest unless, perhaps, Lonicera fragrantissima—one of the sweetest scented of all flowers, and comparatively little known. The small space devoted to these would be much better taken up with some of the better Ceanothus, or other half-hardy shrubs, or Banksian Roses.

These remarks in reference to small places, are applicable also to larger ones, more especially as to the management of the shrubs in them near the mansion and outbuildings; where shrubs are planted against the latter as a screen, they must be persistently kept to their places and not allowed to grow one above the other or they will, in a very few years, become naked at the bottom, and thus become useless for the object for which they were planted, and not unfrequently are eventually grubbed up, and the borders replanted; a heavy penalty to pay for past neglect. Shrubberies that are well looked after and kept close and bushy, stand a better chance against frost than those which are allowed to get bare and naked at the bottom. We will now turn to neglected shrubs, such as Common and Portugal Laurels, which in most instances form the bulk of the shrubs; Portugal Laurels will rarely come away well if cut right down, so that this must be avoided. The common Laurel may be cut close down, but they are much longer in covering the ground than if left some four or five feet high, and this will suit the Portugals. It is a very good plan to go through the borders every two or three years and cut out a few branches, they will break back and render the place less bare than when the whole of the plants are cut back in one season. The common green Holly will bear cutting very close down; variegated Hollies, Phillyreas, and Yews may be cut severely in, but are some time in making themselves again. Lilacs, Syringas, Ribes, etc., are best managed by cutting some of the larger growths out.

Sometimes it is desirable to curtail the dimensions of some of the Arbor Vitæ and Cupressus, this is best done by cutting out some of the large branches and shortening others, then drawing the remaining ones together with strong cords or wire. Flowering Trees, where they have plenty of room, seldom require pruning, but we often notice in small villa gardens Thorns, Laburnums, and the variegated form of Acer Negundo are cut back much as a standard Rose is. It would be far better to take out a few of the stronger branches annually. When from long neglect it becomes necessary to cut down the whole plants in any particular border, it had better be left to the middle or end of February or till all fear of severe frost has passed, as to expose the naked stems to cutting east winds with the thermometer approaching zero, is to run a great risk.—*W. B. G.*

THE TWEED VINEYARDS.

By the kindness of Mr. William Thomson, Jun., we are enabled to include in our present number, an illustration of the famous Tweed Vineyards at Clovenfords, Galashiels, and which will doubtless prove of interest to thousands who have heard of that famous Grape growing establishment, but who have not had the good fortune to pay it a visit. Of the number and gigantic proportions of the houses devoted to late Grapes principally, which Messrs. William Thomson & Sons have erected, or of the splendid character of the crops of fruit which they obtain every year, and which find their way every season into all the leading markets of the country, we need not now stay to discuss, the more especially as our correspondent, Mr. H. W. Ward, has so recently as in our issue for September 26th, 1885, given much interesting information on the subject. But if the Tweed vineyards are best known by the remarkably successful and extensive manner in which Grape culture is there carried out, we must not omit mention of the fact that among Orchid growers the Messrs Thomson's establishment is widely known as the home of an extensive collection of these fascinating plants, and which are cultivated by the firm with rare skill.

The illustration does not show the Orchid houses, which are situated at the back of the main block of Vineries. The building on the extreme right is the railway station, which we believe belongs to the firm, and where they carry on the manufacture of their Vine manure on an extensive scale, so great is the demand for this valuable fertilizer. The dwelling house next the station is the bothy; then comes the residences of Mr. John Thomson, and Mr. William Thomson, Jun., the latter being close to a Lady Downe's house, 200 ft. long and 24 ft. wide, at the end of which is the foreman's cottage. The next house to the left of the foreman's is an old inn, in which Sir Walter Scott resided for some time when he was acting as Sheriff of the county, and whilst Abbotsford was being built. We must add that the mountain seen in the background is over 1100 ft. high, and that the photograph from which our illustration was prepared, was taken by one of the young men employed in "the Vineyard," Mr. Duncan Buchanan, who for several years was foreman to Mr. Murray, at Culzean Castle, and it does him great credit as a photographer.

FLOWER SHOW PRIZES.

At the annual general meeting of the Royal Horticultural Society of Aberdeen, held on December 26th, Mr. A. Grigor, Fairfield, Aberdeen, called attention to the subject of the more equal division of prize money at flower shows. Mr. Grigor asked if it would not be better if the 3rd prize was never less in amount than one half of the 1st, and in the case of the principle prizes, the 3rd not to be less than two-thirds of the 1st.—"If such a system of dividing the prize money would be hostile to the self interests of a few," said Mr. Grigor, "I am confident that it would meet the approbation of the great majority of competitors, for is it not the case, that the first prizes invariably go to those who have the greatest facilities for cultivating the several articles brought into competition." Mr. Grigor contended, that, the man who takes 3rd place with perhaps little less inferior exhibits than the 1st, but who has a good deal less accommodation for growing them, is entitled to more honour than his 1st prize rival, and in such a case it is scarcely fair that the one should be enriched to the extent of sometimes more than three times the amount the other receives. It was desirable, he thought, to know, whether the great number of flower shows that are now held throughout the country, are instituted for the promotion of horticulture in their more immediate neighbourhoods, whence their principle support is derived, or to draw a few enthusiasts from a distance with an entry or two, to the exclusion and discouragement of those who might, otherwise, fill the exhibition hall.

A more equal division of the prize money than is generally adopted, Mr. Grigor considered would better meet the objects of the promoters of all local societies than the plan of giving a few extra large prizes to draw out a few noted exhibitors. Many kinds of exhibits cannot be packed up and driven along a rough road and staged with the same fresh appearance as those that are carried into the exhibition hall on a hand-barrow, even though they were much better on leaving home, to say nothing of the extra expense to the exhibitor who has to drive; yet, as in most cases, the reward given as the 3rd Prize is so much less than the 1st. Such unequal justice can scarcely be considered to encourage competition. The subject is one which well deserves discussion, and there is no time like the present for doing it, so many flower show committees being now engaged in arranging their schedules.

THE CULTURE OF GLOXINIAS.

Gloxinias are amongst the most beautiful and charming of all stove or warm greenhouse plants. Dwarf in habit and elegant in form, producing an abundance of delicate and exquisitely coloured and marked blossoms, they are equalled in effect by few, and surpassed by no other flowering plant we possess. They are by no means difficult to grow, and require much less heat than is generally supposed—at least, when flowered during the summer or autumn; for by judicious treatment, and starting the tubers at different times, Gloxinias may be brought into bloom at almost any season of the year, except, perhaps, in the very depth of winter. I have myself repeatedly had these plants in bloom almost continuously from the end of March until well into December, with a very moderate command of heat, and near London, where the air is not so pure as it might be. This is, however, only to be effected by the use of seedlings as well as tubers or old plants, the latter flowering during the early part of the year, while the former come in in July or August, and keep up the display until almost the end of the year.

There are many "strains" of Gloxinias in commerce, all of which differ slightly in some respect; but those known as the "crassifolia" class are undoubtedly superior to any others, though the range of colour and markings is not quite so great as in some strains, but this is a matter that can be rectified without much trouble by careful hybridising. The blooms of this class are of remarkable size and substance, in which respect they are far superior to any of the "English" or "French" classes, or to the old-fashioned named varieties, or any of their descendants, many of which are so wretchedly thin and flimsy in texture as to be not worth growing. The foliage of this section is also large, stout, and being usually of a rich deep velvety green colour, very handsome in itself; the leaves, also, are generally so much recurved as, in many cases, almost completely to hide the pots in which the plants are grown. I have frequently had blooms (of the crassifolia class) measuring over 3 ins. and occasionally nearly 4 ins. across the lips, with leaves 1 ft. or more in length, and 6 or 7 ins. in breadth. Plants of such strength are, however, invariably only obtainable from seed, as those propagated from cuttings never attain the vigour of seedlings, and, indeed, unless under skilful cultivation, have generally a somewhat "weedy" appearance. On this account I always recommend amateurs, or those who have not much time to devote to the details of cultivation, to grow seedlings in

preference to named sorts, as being more easily done and giving better results.

Tubers should be obtained about the present time, and if desired to be got into bloom in April, May, or June, may be started at once. To succeed in obtaining blooms thus early, however, it is necessary to have command of a genial temperature of 60° to 70° during the whole period of growth, otherwise it would be preferable to keep the bulbs cool for another two or three months, when they will require much less artificial heat, and flower well in summer or early autumn in an ordinary greenhouse, kept rather close.

One-year-old tubers are as a rule not larger than a walnut, but it will be better to have these than larger and older specimens, which will not last so long, or be so vigorous, as young plants.

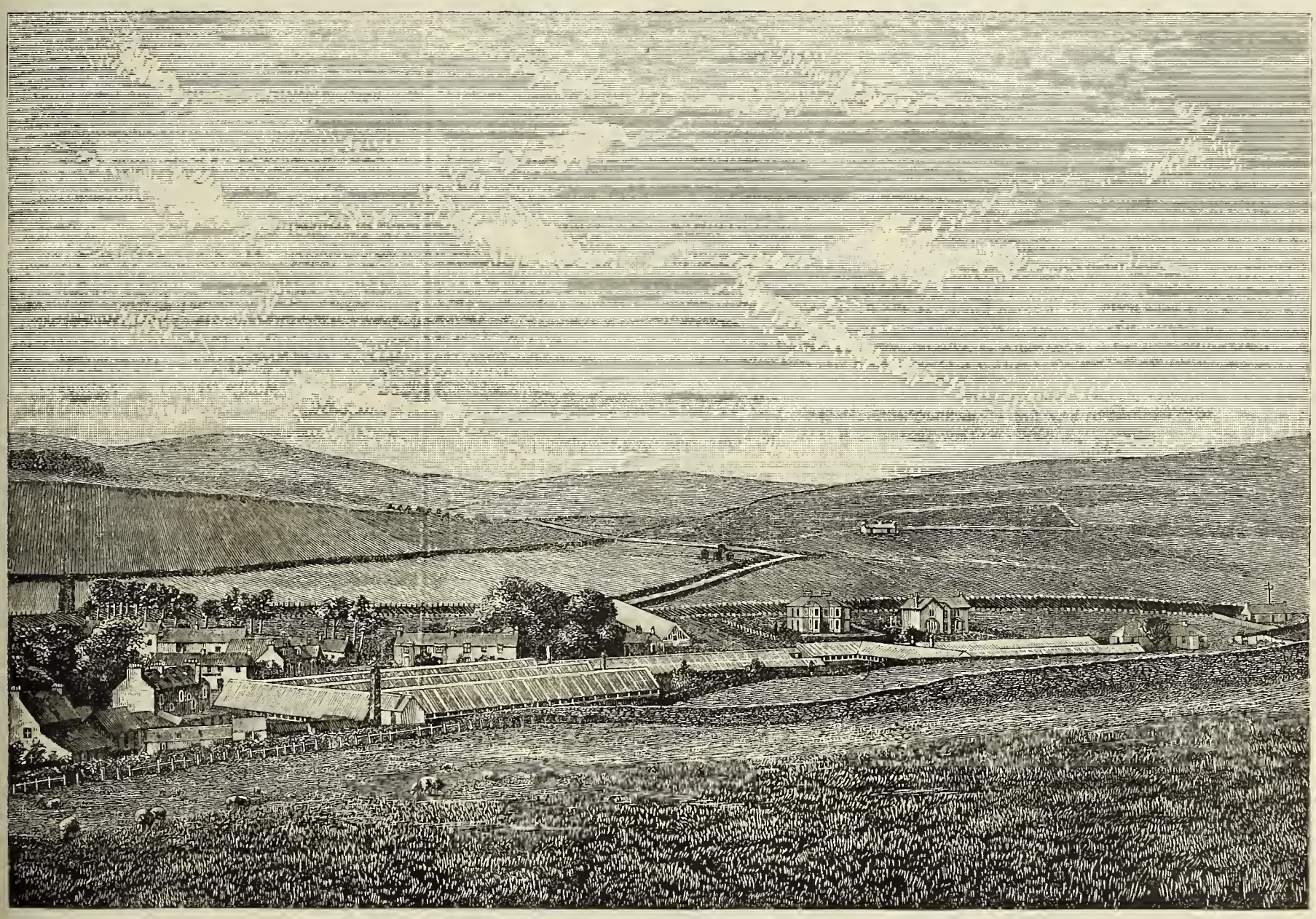
The bulbs should be potted singly in small pots (60's or 3 ins.) at first, using a light open compost of good peat, a little light loam, and a liberal portion of sand, which should be as coarse in texture as possible. Crock the pots fairly well, and press the soil moderately firm; the bulb should be just covered with soil, placing, of course, the "eye" or crown of the bulb uppermost. Growth will soon commence in a temperature of 70° or 75°, such as a stove or sweet hot bed, or more slowly in a house at 60° to 65°, or thereabouts; keep the soil only just moist until growth is well advanced. When fairly in growth, a very important point is to afford each plant as much light as possible, which will have the effect of inducing a dwarf stiff habit, and great substance in both the foliage and subsequent bloom.

To this end place the plants as near the glass as is practicable or safe; indeed, I have always found early Gloxinias succeed better on a high shelf, in a warm house, than anywhere else. When the heat of summer sets in, such a position usually becomes too dry, and a place on, or directly over, a bed of damp cocoa-nut fibre or hops, or near a tank of water, will be more suitable. From the first shade from hot sunshine—especially when this sets in suddenly—must be afforded, but take care to remove it directly the need has passed away; and maintain a moist sweet atmosphere, avoiding draughts or sudden chills. Dry hot air will be almost sure to enduce thrip, the terror of Gloxinia growers, which, when once it has gained a footing, is very difficult to eradicate. This is, however, almost the only pest to which this plant is liable, and it is easily kept at a distance by good cultivation and a regular and free supply of water.

When the small pots are beginning to become full of roots a shift must be given, this time into 5-inch or 6-inch pots, preferably the latter, if good sized plants are required. Drain these well, and use the same mixture as mentioned before, with the addition of about a fourth of sweet well-rotted leaf mould, and a sprinkling of some good dependable artificial manure; a few lumps of freshly burnt charcoal are also desirable. Some growers dispense with peat more or less entirely, substituting a mixture of loam, sand, and leaf-mould only, and certainly plants grown in this heavier staple have a remarkable strength and substance, but it should be stated that unless under very skilful cultivation, growth is not made with nearly so much freedom in such a compost as in one of a lighter character, so that it will be on the whole advisable for beginners to use the mixture first recommended. Of course, for a week or two after having been repotted, especially if the shift has been rather a liberal one, water must be very carefully and sparingly supplied to the plants, and the house should be kept a little closer than usual. As the growth as well as the season advances, root moisture must be plentifully afforded, and a fairly humid atmosphere be regularly maintained. Some authorities say that Gloxinias should never be syringed overhead, and certainly if hard water has to be used, the foliage should be wetted as little as possible; at the same time when clean soft water can be obtained, I have never seen any ill effects produced by overhead sprinkling, so long as it is only practised in bright weather, and early enough in the day to admit of the foliage becoming dry before nightfall. In due time the flower buds will commence to rise, and at this point an occasional dose of some sweet and clear liquid manure of moderate strength will greatly assist the inflorescence. An infusion of cow-manure or some clear soot water is as good as anything, or a solution of sulphate of ammonia at the rate of half-an-ounce to the gallon (rather weaker at first) will be very beneficial.

When in bloom plenty of water at the root will still be required; but never allow a drop to touch the flowers. Careful but not heavy shading, and an avoidance of a high degree of heat, will tend greatly to prolong the blooming period. Ventilation must, of course, be afforded more or less according to the weather and temperature outside from the earlier stages; but this should be confined principally to the roof-ventilators, as nothing in the shape of a draught can be tolerated. I have known very fine Gloxinias to be produced without any ventilation at all; but this practice is not to be recommended, a moderate amount of air at favourable seasons giving a substance to the plants and blooms which cannot be attained without it. After flowering, the plants should be gradually dried off, and the bulbs ripened by exposure to air and sunshine.

When the foliage has dried down water must be withheld altogether, and the plants either stowed away under the stage in the pots in which they grew, placing them on their sides, or else shaking the tubers out of the soil and putting them in pots or boxes with a little cocoa-nut fibre round them. Here they will winter safely in a temperature of 50° or 60°; but if the slightest frost or cold of less than 40°, or confined damp can affect them, the tubers will decay; they should not be allowed to become very dry or they will shrivel.



The Tweed Vineyards, Clovenfords, near Galashiels.

Seedling Gloxinias are raised as follows: Prepare a light mixture of peat, loam, and sharp sand, with a little crushed charcoal; sift or pick out from this the coarser portions, which keep apart from the rest. Sift also a little fine well-decayed leaf-mould and sand (in about equal portions) very finely. Put a full inch of small crocks in a pan or flat box about 3 ins. deep and of suitable size; over this place a layer of the rough siftings, then an inch or so of the compost; press this down level but gently with a flat piece of wood, dust some of the fine leaf-mould and sand over this to the depth of nearly a quarter of an inch, bringing the level of the soil up to about half or three-quarters of an inch below the rim of the pan or box, give a good sprinkling with a fine-rosed syringe or watering-pot, and about a quarter of an hour afterwards sow the seed, scattering it evenly and not too thick. The object of using leaf-mould on the surface is to prevent greening, which peat is very apt to do. Scatter a mere dusting of the fine soil over the seed—barely enough to hide it; lay a square of glass over the pan or box, and place in a gentle bottom-heat of about 75°, with top-heat at 70°; wipe away all condensed moisture from the inside of the glass twice daily, shade from sun or strong light, and directly the seed germinates admit a little air by tilting the glass for some hours daily, gradually increasing this until it can be removed altogether. When the seedlings have made one pair of rough leaves, and are showing another—or before this if they are too thick—prick them off carefully into other pans or boxes similarly prepared, placing them about 1 in. apart.

During the earlier stages guard against damping off by letting the foliage become dry in the afternoon, and remain so during the night. When water is required give a good soaking, for if the soil beneath the surface becomes thoroughly dry the tops will "damp off" wholesale. When the seedlings touch each other transplant every other one into other boxes with soil rather coarser than at first, or into 5 in. or 6 in. pots, ten or a dozen in each; these must be half full of drainage, and if pots are used for sowing the seed in, as they may be, they must be half to two-thirds full of drainage. When strong enough, pot the young plants off singly in thumb-pots, or a rather larger size—say 3 in. or "sixties" if very strong—and encourage a vigorous growth by a warm close moist atmosphere. At this stage they will revel in a close warm stove at 70° to 80°, and on a cocoa-nut fibre or ash bed, kept damp, and with a gentle heat beneath it will grow like weeds. If these pots are well filled with roots by the end of July or earlier, the plants, or the best of them, may be shifted on into 4 in., 5 in., or 6 in. pots, according to strength, and with good cultivation will nearly all bloom the same autumn, but it is not much use shifting them after July, certainly, unless they can be kept in a warm house until nearly the end of the year.

If the seed is sown in January, February, or March, most of the plants will bloom the same season, commencing to open in July, or even in June if they have been pushed on rapidly, and afford a succession of handsome flowers throughout the rest of the year. Gloxinias will often throw from four to eight nice blooms in 3 in. or 4 in. pots; and, indeed, I think it is better to keep them in these small sizes for the first year unless they are very forward and vigorous. Those that do not bloom the first season, even if they are in "stores" with tubers no larger than peas, will all flower well next season, and if they are very small should be wintered in the soil, and potted off when they begin to grow again. If sown in March in a hot bed, and grown and potted on here until June or July, they will expand very well in an ordinary greenhouse at this time, if kept rather close, or in a cucumber house or the like. In fact, the moist genial atmosphere of a dung-bed frame is as favourable to Gloxinias as anything that can be found; insects will never attack them in such a position, and being dwarf in habit, the plants may even be allowed to come into bloom here.

The only other mode of propagation is by means of leaf-cuttings, which are made by gashing the larger veins on the underside of fully developed leaves through in several places, and pegging them down to the surface of well-drained pans or boxes of sandy soil. If placed in heat and shaded a tuber will form at every cut, which will make a flowering plant next season. Small leaves may be cut off with an inch of stem, and four or five inserted round the sides of 5 in. pots, when each will form a tuber.

In colour Gloxinias range from pure snowy white, some of which are without a spot of colour, others delicately feathered and pencilled with rose or lilac, through many shades of pink, blush, scarlet, carmine, lake, to deep rich crimson, others again being of varying shades of purple, with, in some cases, the throat almost black. Some are almost perfect selfs, that is, all of one colour, others have coloured lips with white or creamy throats, others again are coloured in the throat with white or delicately shaded lips; some richly tinted blooms have a narrow margin of white which gives a very pretty effect, and a large number will be found to be feathered, streaked, and shaded in a marvellous variety of different ways. A recently introduced class is spotted to a greater or less extent with minute dots of various colours on a white or pale coloured ground. These are extremely elegant, but many of them are wanting in substance, and they need careful crossing with a more robust type.

The erect-flowering varieties are more generally esteemed as the blooms show to better advantage, but some of the drooping kinds are very graceful; the horizontal flowers, of course, come between the two; good bold flowers of this class are very effective.

Gloxinias are not much esteemed as cut flowers, the tissue of the blooms being so delicate as not to bear much handling, and every bruise goes black after a short time and shows badly. On this account they do not travel at all well, but if they can be used on the spot and protected by other flowers placed round them they become very useful, and a bouquet composed to a large extent of good Gloxinia blooms with plenty of maidenhair Fern, is, if well made, an exquisitely beautiful object, fit for the hands of a princess. For this purpose erect flowers, of course, can only be employed. A good sized houseful of well-flowered Gloxinias is one of the finest sights in the whole range of horticulture.—*B. C. R.*

The Gardeners' Calendar.

THE PLANT HOUSES.

The earliest batch of Cinerarias should now be coming well into flower, and will be most useful for conservatory or greenhouse decoration, although unfortunately they are of but little use for cutting, especially if for travelling. In the houses they emit a pleasant perfume, and, from the great diversity of colour now to be obtained from them, they are of the utmost value. Keep them well fed with liquid manure; alternately a dose of Clay's Fertiliser will be of the greatest good to them, and will be the means of developing the foliage, and also give by far better heads of bloom. The later batch must also receive extra attention; be sure they are kept perfectly free from insect pests, such as green fly which is their greatest enemy, but can be easily removed by light and frequent applications of tobacco smoke; unless they are perfectly clean before the heads of bloom become prominent success cannot be hoped for.

Primulas too will now need well feeding to keep the trusses of bloom well up, without which no one admires them. Calanthes will now well repay a little extra attention in the way of placing them where the flowers may be kept rather dry, so as to prevent them becoming spotted, as they will do if subject to too much moisture. The intermediate house will suit them to a nicety, in fact, we find it the most useful structure we have, the late batch of Poinsettias will also now help to make this structure quite gay if staged in conjunction with them and the flowering Begonias, double Bouvardias, Callas, and kindred subjects.

THE FORCING DEPARTMENT.

This will now claim, in many respects, the utmost vigilance, so numerous are the subjects requiring immediate attention to bring them forward in their proper time. More particularly the first batch of Strawberries will need to be placed into warmth without delay. We have already put in about 150 Vicomtesse Héricart de Thury on the shelves in the intermediate house; these will be supplemented by a batch of President placed on shelves in the early Vinery, making an allowance for failures. This is none too many for a start; the later batches may be more surely relied upon.

Bulbs, such as Hyacinths, Tulips, and the like, must be introduced according to the demand; but with regard to the Hyacinth, I would strongly recommend that an inverted thumb-pot be placed over each bulb for some days after being placed in heat, as it induces the flower-spike to throw up much better than if left to itself. Crocuses are much better if kept in the cold pits, leaving the sun alone to act upon them, as it is almost impossible to force them. A nice batch of Roses in pots must now be brought in—say, for the present, in the early Vinery, if no other structure is available—and also Lilacs, more particularly the Persians, with Forsythia viridissima, Daphne mezereum, and other like plants will be found most useful for decoration, and also for helping the supply of cut flowers.

The Cucumbers which are now fruiting will require the greatest attention, more especially in regard to the bottom heat; we always grow our winter set in large pots, as we can then insure a regular heat, for without this, it is next to useless to make the attempt. Now will be time to make another sowing of any good reliable kind, such as Telegraph, these will succeed those which are now coming into bearing; a small sowing of Melons and Tomatos for very early work may also now be made. Look well after the stoking, but during this frosty weather do not keep too high a temperature, or red spider will certainly follow. Take the first opportunity of a break in the weather to lift another batch of Rhubarb and Sea Kale, and place in the Mushroom-house, so that there may not be any break in the supply.

THE KITCHEN GARDEN.

The state of the weather completely stops all ground work, with the exception of being able to wheel out manure or leaf-soil. We are now putting the soil into the pit ready for the first batch of Potatos. These we grow in heated pits, which does away with the necessity of matted coverings which I never care to use for Potatos, as they require all the light that can possibly be allowed. If planting is not completed look round and see what trees are needed, and order them, that when a change in the weather takes place they may be planted without delay; the same remark applies to the Rosary. We have not yet quite finished our planting here, having lifted a good many, but a few hours work will put all right in this department.—*Walter Child, Croome Court, Worcestershire.*

THE FOREIGN FRUIT TRADE.

Oranges are classified in the "green" fruit trade as "sweet," to which the old term "China" is still applied, and "sour," which is the technical word for bitter. Sweet Oranges are for table, and sour are used in the manufacture of marmalade. Last season there were brought to London 805,000 cases of eating Oranges, and in the year before the number was even larger. To this total St. Michael, in the Azores, contributed 80,000; Spain, 626,000; Portugal, 58,000; and Sicily and other parts 41,000. Portugal and Sicily were much below their average. The Orange which is approved above all others is undoubtedly the St. Michael, but the island on which it is produced appears to be doomed to the same ruin which has destroyed Orange cultivation in St. Mary's and other islands of the same group. Spain, on the other hand, is developing the industry.

Other Oranges besides St. Michael's now in the market are Lisbon and Seville, Malaga, and Denia, the last mentioned comprising a large district. The largest importations are, however, from Valencia, and these are of very fine quality. The Sicily Oranges come from Palermo and Messina. Last year a new trade was opened up, which promises to be a very large one, in Jaffa Oranges from the district of Jerusalem. These are transhipped either at Marseilles or Port Said, very few coming direct. They are pale in colour, egg-shaped, large, sweet, and of excellent flavour. Boxes of Oranges range in weight from $\frac{3}{4}$ cwt. to $1\frac{1}{2}$ cwt., and their sizes differ according to the country from which they are derived. An ordinary Valencia case will contain 714 Oranges, whereas the flat box from Jaffa has but 68. From Malta are obtained blood Oranges, egg Oranges, and Mandarins, which are in Spain called Tangierines, for there is no real difference between these small-scented fruits. None comes from Tangiers. Some few reach us from Florida and the West Indies, but the fruit grown on the Northern African coast is so very delicate, that it never arrives in the London market in good condition. Large quantities of Lemons are also used in this country, particularly in the manufacture of candied peel.—*Telegraph.*

FRUITS, FLOWERS & VEGETABLES.

Planting-out Poinsettias.—Mr. Merritt, at p. 298, warns gardeners in low-lying districts not to trust the whole of their Poinsettia plants out of doors. He also mentions the damage done by frost in September last, but does not give the date. When I wrote recommending the system (p. 260) I stated that ours were potted up in the first week in September, a date full late for winter-flowering plants. They were therefore safe from the frost of 7° which we experienced on September 27th, which here killed Dahlias, Begonias, and all bedding plants. This is not one of the favoured districts, but is low, damp, and cold, both spring and autumn frosts being very prevalent. The first week in July the thermometer registered 35°, just 3° above freezing, and the first week in August, on three successive nights, it went down to 36°. In advocating the planting-out of Poinsettias, I had in view the saving of labour where labour is scarce. Of course, where it is plentiful, greater results and larger bracts may be obtained; but as we have had Poinsettias since November, and still have a succession with bracts 1 ft. across, I am perfectly satisfied with the results of the planting-out system.—*Chas. Denning, Holme Lacy, Hereford.*

Tillandsia Lindenii.—We have several plants of this stove Bromeliad now blooming. The plants are all three years old, grown on Cork blocks made up in the shape of pots, and filled with crocks, charcoal, and rough peat. One of the plants has thrown up, independent of the centre scape, which is 24 ins. high, seven smaller scapes, 12 ins. high, and seven strong off-shoots, all very healthy. Is not this an unusual occurrence for this plant to throw up so many bloom-scapes? Can any of your numerous readers say if the same thing has occurred with them in the cultivation of this plant? We have had stronger plants, but they never exhibited this style of blooming before.—*W. G.* [We have never heard of a finer specimen. Its cultivation must have been perfect.—Ed.]

Ringing the Branches of Fruit Trees.—Is this process practised now by fruit cultivators? An old gardener of my acquaintance was a great believer in it; but probably his views would, in these days of progress, be looked upon as old-fashioned and obsolete. My old friend held that ringing was highly successful in bringing trees into a fruitful state. In the case of young trees, he performed the operation on the trunk of the tree; but in the case of those more advanced on the branches, and he did it in spring when the sap was rising. By means of a sharp knife, he removed the bark completely from the wood, so as to form a ring of nearly a quarter of an inch in diameter. By this mode of treatment he said he had known whole orchards of unfruitful trees brought into a healthy and fruitful state, and I am sure he died in the full conviction the process was a correct one; but it is well to revert to these ancient practices and see on what foundation their asserted efficacy is based.—*R. D.*

Phlox Drummondii General Radetzsky.—Thirty years ago a very beautiful striped Phlox bearing this name was under cultivation; but it was propagated by means of cuttings and not by seeds. The flowers were white, charmingly striped with carnation, and it was far away in point of beauty ahead of the very best striped Phlox Drummondii of the present day. I wonder if it is hopelessly lost to cultivation. —*R. D.*

Vines Bleeding.—Mr. Fraser (p. 284) advocates the use of Potatos as a preventive, and refers to a successful experiment made by himself. I trust he will excuse me for saying that I believe he would do wisely to thank Providence and not the Potatos for this special blessing. Neither mastics, styptics, nor any other 'tics, nor even the Potatos, will avail for this purpose, while Dame Nature goes unchecked, and until she herself heals the wound. His application of the Potatos may possibly have been simultaneous with the result he desired to achieve; but he will do well not to take the credit to himself, nor ascribe it to the influence of the Potatos. There is no difficulty, however, in effecting this if we only choose to imitate nature and employ the same weapon she uses for the purpose. In spring, during mild weather, the bark of the Oak may be stripped off with the greatest ease; also the sap of the Birch may be freely collected from any fresh-inflicted wound. A cold storm or sudden fall of temperature immediately checks its course, the bark again adheres firmly to the wood, and the sap refuses to flow until the temperature is again increased sufficiently to stimulate its action. Should the cold have continued but a short time, the wound in the Birch tree will be naturally healed, and to obtain more sap a fresh one will be necessary. As with the Birch so with the Vine. Reduce the temperature suddenly and sufficiently to check the flow of sap for a short time (a day or two at most), the wound becomes sufficiently healed, and bleeding is effectually prevented.—*T. Challis.*

Christmas Decorations.—I placed in my employer's front hall a few plants out of the stove that were in bloom to create a little change in its appearance, not to say make it look more cheerful, for what with the costly paintings that hang on its walls, heavy tapestry over all the doorways, furniture of peculiar workmanship and great value, and large cases of birds and animals that look as natural as life, with (suspended from the ceiling) a chandelier of most uncommon construction, and which was once owned by an ex-king of France, and the hall warmed by hot-water pipes secreted under marble slabs, it wants little from the gardener's hands to make it more cheerful in its owner's sight. Still, my employer is an admirer of all that is beautiful, and appreciates his gardener's taste when he comes downstairs every morning and finds something brought in from the floral world; and so on Christmas-eve we had Dendrobium nobile, D. speciosum, Barkeria Skinnerii, Gongora maculata, Zygopetalum Mackayii, arranged in front of some plants of Euphorbia jacquiniæflora, all on the floor. These are all grown in the stove with other plants, and we could have taken indoors also Dendrobium lituiflorum and Lælia anceps, with a late spike of Odontoglossum grande. This latter Orchid blooms in September and October, and sometimes earlier with us; and these stand uninjured for a fortnight after Christmas, and some of their unexpanded blooms will open here.—*W. W.*

An Error in Celery Growing.—In reference to the statement at p. 298 that the system of earthing-up Celery is injudicious, and that dry litter is a superior substitute, I must say that at first sight the idea seems good; but on consideration, I come to the conclusion that dry litter would, if used, soon become a soddened mass with the rain and also waterings that, in the course of application, would saturate the litter, and so the Celery would be banked-up with nothing better than a heap of decaying matter, which would be injurious to the plants, and also look very unsightly where neatness and order are considered essential. In regard to the other remarks—viz., manuring, moulding too tightly, &c.—of course these are quite right, and will doubtless be useful to many amateurs attempting Celery cultivation.—*R. R. C.*

The Winter Aconite.—These are the first hardy plants to bloom after the new year comes in, and this year a tuft of them growing under some Rhododendrons opened their blooms on the 1st inst. This same root we note annually as to the date when it opens its first flowers. Some years it has been February before they have shown themselves. I have quite a bank of them in the shrubberies, and how showy they are when grown in a mass.—*East Norfolk.*

Vegetable Culture: Over-production.—In their new annual seed catalogue, Messrs. Harrison & Sons, of Leicester, publish the following pertinent remarks on this subject:—"The severe depression in agriculture has been the means of so many suggestions being made that, like some ailment, any quantity of sympathy is expressed and any quantity of remedies advised—all as the best; but a few remarks from us will, perhaps, not be unacceptable to our customers and friends, and which are founded on practical experience. Many eminent politicians during the past few years have addressed the farmers of England on the great subject of what to grow to pay, and advocated farmers turning their attention to the production of more vegetables, fruit, &c., and we have reason to believe their advice has been followed to a great extent with, we regret to say, in some instances, very unhappy results, inasmuch that our markets have been glutted with vegetables of very inferior quality, which, in many cases, did not realise sufficient to pay for transit and market expenses, and caused considerable injury to the practical market gardener, who had been at great expense to plant and grow to perfection his various crops, which become depreciated in value by the overcrowding of the market with badly-grown stuff. We therefore suggest to any farmer contemplating vegetable growing to consider if his land is of suitable quality, situated in a locality where he can obtain an unlimited supply of manure and labour (which are most essential), and within an easy distance of a good market. Without well studying these points it will be advisable to pause, or the consequences may be, as we have already stated, a loss to himself and an injury to market gardeners, especially those who cultivate so much land with the spade.

ORCHID NOTES AND GLEANINGS.

Potting Cool House Orchids.—Any time during the early part of the present month I have always found the best in which to begin repotting those of the cool house Orchids which require it, or which are likely to require it during the season; and in determining it is better to decide to re-pot if there is any doubt in the matter. In fact, in going through the cool house Orchids, it is the best way to re-pot all, unless some special reason for not doing so can be found; indeed, even those sending up flower-spikes need not be rejected. There need be no hurry, but steadily prepare for the work by getting ready a sufficient number of pots of all sizes, crocks, fibry peat without soil, and living Sphagnum Moss. These two last-named articles are all that is necessary in that way; and although at one time a notion got abroad that the potting material was improved by being mixed with sand, the error of the idea soon got found out and the practice abandoned. Fibry peat and living Sphagnum Moss in about equal proportions, or in any other proportion which, by the inferior character of either of the ingredients may seem advisable to ensure a free-draining mixture, is the best, and with the same view in sight, viz., free drainage, should the pots be carefully crocked nearly two-thirds of the way up, large pots having a smaller one inverted in them where desirable for the sake of lightness and perfect drainage.

The materials for potting should not be mixed together before use, but kept in separate heaps and mixed as required, so that the proportions of each may be determined during use, and because when so used the mass is not liable to cake as it is when mixed before using. The peat should be in lumps, hand picked, and the pieces selected according to the size of the plants, and in potting each plant which it has been necessary to shake quite out of the old stuff, a good solid piece should be put under the centre of the plant for the roots to be separated over, and thus offer a ready means of doing what seems a little difficult to the beginner—keeping the roots from getting too much up in the centre during repotting. The plant should be held in position by the left hand, the side to which it is growing being kept nearer the middle, and further from the side than the other part, so as to allow of its having room to grow. The potting material should be filled carefully in from the centre, and finished at the rim in a manner which a little practice generally obtains the mastery over, but which it is difficult to give intelligible directions about. Some beginners become good potters very soon, on the other hand, some old hands never become skilful at the work. Dirty pots or crocks should never be used again without washing, and new pots or new crocks should always be soaked and allowed to get nearly dry again before using, or they often exhaust the moisture in the potting stuff and cause it to crack away round the rim. This is an old-fashioned notion but worthy of all respect, like every other time honoured idea which is true.

When actually ready to begin potting, clear a couple of yards of the stage where it is desirable to commence, have it thoroughly cleaned and pass over the next lot of plants to it after repotting, the space thus cleared being cleaned and used in the same manner, and every plant should be cleaned and dead or useless pieces cut out while in process of potting. The material used should be just moist, and my practice was not to water the plants after repotting for a couple of days, as I consider any accidentally broken roots heal better when not brought into contact with water whilst fresh, and because when the plants are potted into tolerably moist stuff (but not wet) they can go a time without water; this may be a matter of little importance, but at all events it is worthy of consideration. The proper course is to begin with the Masdevallias, continue with the

Odontoglossums, and finish repotting the cool house with the odd plants, and by that time the operation may be carried into another department. Many notes likely to be useful to those potting Orchids occur in Vol. I. of THE GARDENING WORLD, and particularly at p. 140, Nov. 1st, 1884, and at p. 300, Jan. 10th, 1885.—*James O'Brien.*

A group of Orchids.—With snow all around (Jan. 11th) the only relief to the eye being the partially disclosed but sombre tinted leafage of the Pines and other shrubs at Weybridge Heath, a pleasant thing it is to behold a group of Orchids in flower like those at Heatherbank, the residence of G. F. Wilson, Esq., the genial chairman of the Floral Committee of the Royal Horticultural Society. On stepping inside the principal Orchid house, at a glance we see several fine specimens of Odontoglossum Alexandræ and Pescatorei, arranged with a grand mass of Ada aurantiaca, with a dozen spikes of its bright orange flowers; an equally good mass of Odontoglossum roseum with many spikes of magenta flowers; a fine piece of Odontoglossum Hallii; some extraordinary forms of O. Lindleyanum; a few Masdevallias; and some grand specimens of the best varieties of Cypripedium insigne covered with bloom; these last named consist of the true O. Maulei, the best form of the old C. insigne, and one which appears to be intermediate between C. insigne Maulei and C. insigne albo-marginatum, in which the dorsal sepals are more than half snow-white with a few violet spots. In the warmer house, Phajus tuberculosis, for the culture of which Mr. Wilson is famed, again bears two spikes of eleven and twelve beautiful flowers. Mr. Wilson does not pretend to be a great Orchid grower, but the vigour of all the plants he has, tells plainly that he is capable of competing with the very best in point of culture.

While on this subject it may be well to say that not alone in our foggy Isle are the beauties of the Orchids so prominent in the dull season, but they come in with equal advantage in more sunny climes. H. J. Ross, Esq., of Castagnolo, Lastra a Signa, Italy, says:—"Our winter has been very severe. The frost came suddenly after many weeks of warm soft weather, and fell like a blight upon even the hardiest subjects. The Orchids alone in their comfortable houses were able to defy the bitter frost. My collection now contains between 750 and 800 species, so that the whole year round I am never without bloom."

Pruning Orchids.—It may be of interest to some of your readers to know the result of our first attempt at cutting away all the leafless bulbs of Dendrobium nobile. Having seen the splendid plant exhibited at the Orchid conference, by Mr. Prinsep, we selected a Dendrobium nobile growing in a 10-inch teak basket, which had annually made growths from 12 in. to 15 in. long, and on May 16 we cut away all the bulbs that were destitute of leaves, leaving only the second growths of the preceding season and the young growths then a few inches long. After the removal of the old bulbs the young growths made rapid progress, and when completed without being subjected to more than ordinary heat, averaged 22 in. long, when they started new growths which by the end of September were 14 in. in length, and the plant was then removed to a vinery, where it remained till early in December; at this time it was returned to the East Indian house, and is now in bloom, the early growths producing an average of 20 flowers each and clothed with leaves to the bottom. The late growths of the preceding year are also blooming freely, and certainly the plant is not only much more vigorous than before, but presents a far better appearance when well furnished with healthy green leaves amongst the flowers, and there are no old unsightly bulbs to mar the effect. The unfavourable weather prevented the plant from being exhibited at the floral committee meeting at South Kensington on Tuesday last.—*William Parks, Gardener to H. M Pollett, Esq., Fernside, Bickley.*

Odontoglossum Alexandræ.—My experience, with good and bad varieties, of this plant exactly tallies with Mr. W. Thomson's (p. 300), and his summing up—"I maintain that if the first spike made in this country is a good one, that it will come so again; but if the first spike is of a narrow petalled form no amount of cultivation will ever alter it"—is perfect, so far as my observation goes. A known finely-formed flower, even after its second flowering, may again flower with narrow petalled blooms, and particularly if it assumes the branched spike, but once known to be a fine variety no temporary exhibition of eccentricity should cause the plant to get a bad name. Seeing that many fine varieties often come poor the second time, the better way is to cut the second spikes off.—*J. O'B.*

Odontoglossum Alexandræ.—May I ask in reference to "Orchids at Oswald Road, Edinburgh," on page 299, how many spikes bore the "140 flowers" on an O. Alexandræ there mentioned; also the variety, if it was "thin or full form," and if branched or not; also the size of and time of growing in Europe. We hear of such immense spikes in Scotland.—*De B. Crawshay.*

Lælia anceps.—What a grand Orchid this is, and apparently as prolific in varieties as it is beautiful! It is, moreover, a very useful Orchid, and flowers at a season of the year—the dull dreariness of which seems to lend it additional charms. With the exceptiou of L. anceps Dawsoni and L. anceps alba the varieties are easily procurable; but I know of no one who has re-discovered the natural habitats of these two varieties, and they are in consequence extremely rare. L. anceps alba grows at a higher elevation than usual, where the cold in winter is sometimes intense—the trees being clothed with icicles 2 ft. to 3 ft. long. L. anceps Dawsoni is without a rival, the white sepals and broad petals forming a rich and marvellously beautiful contrast. L. anceps Measuresiana improves on acquaintance, and will rank among the best of the late introductions. It is beautifully in flower now at The Woodlands, Streatham Hill, as also L. anceps Dawsoni, and many other varieties; and for this dull season of the year there is a grand and varied display of good Orchids in blossom, conspicuous among them being Cattleya Trianæ nobilissima, one of the very finest coloured varieties—not one of the brightest—the colours being soft and subdued; the flower is very large and the shape quite perfect.—*L. G.*

ODONTOGLOSSUM ROSSII MAJUS RUBESCENS.

ODONTOGLOSSUM ROSSII MAJUS.

THERE is no better cool Orchid for an amateur utterly ignorant of Orchid management, to commence with than the pretty little Mexican Odontoglossum Rossii. It is cheap, grows freely, is almost hardy, and flowers freely in the winter months, lasting a long time in perfection. O. Rossii once successfully flowered by the tyro, sets him longing for the greatly improved variety O. Rossii majus, which can be equally as easily managed; and should he buy imported plants, and be so fortunate as to get amongst them a bit of that much better variety still, rubescens, then will his cup of pleasure for a time be full. O. Rossii majus rubescens is a gem, and by no means a plentiful one either. The variety which we illustrate to-day is a very fine one, in the possession of H. M. Pollett, Esq., Fernside, Bickley, and is a part of the original plant which belonged to John Day, Esq., Tottenham, and which is remarkable for the depth of the purple blotches and the fine rose tint of the petals and labellum.

SYRINGING ORCHIDS.

I HAVE read with much interest the able arguments for and against the use of this implement in Orchid houses. So far as I can see the weight of evidence is in favour of its *careful* employment, and against its use altogether in *unskilful* hands. All practical Orchid growers are agreed, however, on this point, and there the subject will remain; indeed, one might as well banish the hoe or spade from the hardy flower garden, because injury *may* and *does* follow their unskilful or careless use also! I have a great respect for the opiuions of my friend, Mr. O'Brien, but a general condemnation of syringing in the culture of Orchids is, as I think, like striking on Charybdis in our anxiety to keep clear of Scylla! I still think that Mr. O'Brien was too intolerant in his paper on "Orchid Culture," read at the conference last May; although I am firmly convinced that this was the result of his leaning to the safer side.

That lecture was read before the elité of Orchid growers, and this is an important fact to bear iu mind in connection with this discussion. Fancy, telling men like Seden aud Dominy and Ballantine, and many others, to avoid the syringe in their practice. A syringe skilfully used is one of the most important mechanical aids to Orchid culture that I know of, and if syringing was stopped in our gardens to-morrow, so much the worse would it be for plant culture. Used with the fore finger over the nosle pipe, a skilful mau can be-dew his plants without the chance of a drop of water trickling down into sheaths on the membranous envelopes of the tenderest of pseudo bulbs. Wherever Odontoglots and Masdevallias are grown in dry, airy houses *nightly* dewing with a syringe is most beneficial. No one but a fool would syringe under hot sunshine!

I am fully convinced that the *nightly* use of the syringe in gardens generally will lead to the simple culture of many plants now extremely difficult to grow. I do not say that it is most proper to imitate nature in all things in our glasshouse gardens, it is not so, surrounding circumstances being different; but it is a suggestive fact that in nature, especially in the tropics, the bulk of the rainfall and all the heavy dews fall at night! The value of the syringe skilfully used with the nosle pipe and forefinger is, that enough moisture can be applied to the leaves to damp them and *no more*; whereas from the finest rosed water pot this cannot be so certainly and efficiently done. A syringe is like a rifle—most useful for certain purposes in skilful hands, and most harmful in thoughtless or foolish ones.

Many practical Orchid growers know how thin-leaved Dendrobiums like D. Falconeri, D. Devonianum, and many others, literally revel in growth when syringed morning and evening. Vanda Cathcartii and Disa grandiflora do the same, and one might extend the list indefinitely. Cattleyas, Lælias, and many other thick hard-leaved Orchids resent syringing of course; but the fact remains that Mr. O'Brien was just

a little extreme in his sweeping condemnation of a most useful implement. The good or the bad exists in the *user*, and not in the syringe.—*F. W. Burbidge.*

I HAVE been much perplexed with the question of watering Orchids. I was induced by a nurseryman, who shall be nameless, to water freely overhead in order to imitate nature, but I had to give it up. The Odontoglossum house, I must admit, did not appear to suffer, and as the plants are now thriving, I continue to syringe or dew lightly overhead with a fine rose twice daily. But the Cattleyas and Phalænopsis! Of 300 plants I had in the latter, only one-third survived the treatment at the end of a year. The roots remained sound, but the leaves grew spotted, changed colour, dropped, and the plants died. In the Cattleya house I was not so unfortunate, but many kinds, especially Dowiana, evidently did not relish the process. A few months ago I gave up watering overhead, and began to syringe only between the pots, giving occasionally water to the roots, and now the Phalænopsis and Cattleyas are growing freely, the leaves are shining bright, and I have no doubt that they will continue to thrive as they did before I attempted to imitate nature.

It is all very well to say that Orchids in their native climes are exposed to violent storms with a tremendous pressure of wind, but I should like to know a little more about that. If I found in England an Orchid invariably growing on the south-west side of trees, I should say that this Orchid requires rain, but are Orchids invariably found growing and thriving on the part of the trunk or branches that faces the prevailing wind and rain of the district? I am told, but I do not know better, that they are found growing in every direction of the compass, and I entertain the idea that they derive their moisture from the sap of living trees and the vapour of the atmosphere. By-the-bye, can any of your correspondents tell me if in nature Orchids are found thriving on dead trees? If they are not it will tend to show that they do not depend on rains for their moisture, but on the sap of the living support.—*A. F. L.*

Mr. O'Brien's practical advice to Orchid-growers to discontinue syringing their Orchids overhead was both good and sound, and in doing this he gave not only his own experiences, but he echoed what has been the practice of the best and most successful cultivators for many years past, viz., do not syringe the foliage of your Orchids, for it serves no useful purpose; on the contrary, it induces a soft sappy growth, rendering them liable to a running spot, and in some genera the pseudo-bulbs rot away entirely. The evil resulting from syringing does not in all cases show itself at once; Orchids will stand all sorts of treatment for a time after their first introduction, provided they are received in good condition, but from practical experience of many years in the culture of Orchids, and an intimate acquaintance of the method pursued in the best trade collections in the country, I am positive that syringing Orchids is not only unnecessary, but that in the long run will prove very injurious.

Surely nothing remains to be said on this point, as Mr. O'Brien's advice has not been challenged, so far as I know, by anyone having extensive practice and a large collection under their care. Mr. T. Challis' communication in THE GARDENING WORLD of January 9th is literally, as far as it teaches, as much against syringing as it is in favour of it. For instance, he says: "Some excellent examples of cultivation can be seen where it is occasionally and judiciously used." Perhaps he may instance Odontoglossum Roezlii and some of the Cypripediums; but even these moisture-loving plants may be better cultivated by properly regulating the almospheric moisture of the house wherein they are grown. I think, as far as I can gather, Mr. Challis wishes to find out something by which moisture may be given in sufficient quantities in the atmosphere by evaporation—a most important element in Orchid growing; indeed liberal dampings should be given to every available space in an Orchid-house to counteract the dry, parching atmosphere of ill-constructed houses.

We have too much tile flooring and dry surfaces in many Orchid-houses to admit of the plants being cultivated in the best manner, and syringing the plants is often resorted to as a remedy until practice proves the evil. I think that nurserymen or gardeners should always supervise the building of plant houses; then the requirements of the plants would be met, and their cultivation rendered more certain and easy. Great advantages may be secured in orchid cultivation by atmospheric feeding, abundance of air whenever practicable, and care in keeping the plants clean by dipping and sponging. Rain water is also a very great boon to the cultivator, as every practical gardener knows, but more especially so for Orchids; and care should be taken to secure, if possible, as much as is necessary.—*Leo Gordon.*

I SHOULD like to add my testimony to the fact that syringing Orchids is not by any means necessary for their healthy and robust growth. In consequence of conversations with Mr. O'Brien on the subject, I was induced some years since to abandon the practice of syringing my Orchids, and my experience is, that they have improved and not deteriorated in consequence. My Cattleyas, especially, can hardly be surpassed for strength and vigour, although a syringe has not been used in the house for years.

It may be, no doubt, quite possible to syringe the plants in such a manner as to benefit them thereby; but considering the admitted danger of indiscriminate syringing, it is satisfactory to know that the practice can be entirely abandoned without any evil resulting.—*S. Courtauld, Bocking Place, Braintree.*

I HAVE read Mr. Challis's somewhat lengthy communication with interest, expecting (as I dare say most of your other readers did) that he would at the end thereof give us a short sketch of his manner of using the syringe, the months in which he used it, and the plants which he used it on, or some other sign by which his advocacy of it could be measured, but I failed to find anything which could be of the slightest use as a direction for the amateur whom we seek to instruct. All the others who have written on this subject have thoughtfully kept this object in view by stating their practice. So far as we have seen yet the syringe has come off second best, and by the exceedingly mild and wavering advocacy displayed by your correspondent who has not yet got further than to speak for an occasional use of it (which might mean three times a year), I think we shall find his views are not much opposed to mine, if he will read my communications in a kindly spirit and not imagine anything not stated. Let all remember that these are friendly and scientific discussions for the good of a common cause; I want the proper uses of the syringe on Orchids defined. With respect to any use which may be made of it other than on the plants themselves, I am content to let every one use their own judgment.—*James O'Brien.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*January 12th.*—The first meeting of the season of the fruit and floral committees, held on Tuesday, was, owing to the unfavourable state of the weather for bringing plants out, a very small one, a fact, however, which was not much regretted by any one present, as the labours of the members being light, there was more time available for paying seasonable compliments, or discussing the probabilities of the coming season. Messrs. James Veitch & Sons' were the only contributors of a group of flowers—a pretty bank of Chinese Primulas—which gained a bronze medal. The varieties exhibited were, The Queen, white, an Improved white, selected from the former, and a first-rate strain of the ordinary white, which, except as regards the size and shape of the blooms, was superior to the others as decorative plants, the trusses being thrown well up above the foliage. Chiswick Red was very bright; and Improved Blue, as blue as they have been got at present. The same firm also showed a novelty in P. sinensis cristata flore pleno, a variety with pale green foliage of the crispifolia type, with semi-double white flowers. Mr. N. Blandford, gardener to Mrs. Haslefoot, Moor Hill, West End, Southampton, received a cultural commendation for a good plant of Lælia anceps with some forty strong bulbs with healthy deep green leaves, and ten spikes with twenty-eight flowers, which, however, had suffered considerable damage in travelling. It was stated in a note accompanying the specimen that the plant had been subjected to pruning, that is to say, the old pseudo-bulbs had been regularly cut away when the leaves faded since 1873; and that it had been in the same pot for five years. It was certainly a neat, well-grown specimen, but we could hardly make up our minds that any benefit had been derived from the process, except the improved appearance gained by the absence of the old bulbs.

The only new plant certificated was Odontoglossum tripudians superbum, shown by C. Dorman, Esq. It is a remarkably fine variety, with flowers over 3 ins. in diameter, sepals and petals rich brown tipped with yellow, and the lip broadly margined with white, fringed, and prettily blotched with bright rosy purple. A very good form of O. Insleayi splendens came with a few other nice things from the same exhibitor. Mr. Cook, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks, contributed a good variety of Sophronitis grandiflora, and cut blooms of Lælia Crawshayana, several varieties of Lælia anceps, and Odontoglossum Alexandræ, &c. A cut bloom of Cattleya Trianæ Measuresiana, a richly coloured variety with the purple of the lip running well up into the throat, came from Mr. H. James. Mr. James had also a fine one of Macrozamia Dennisoni. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, sent a fine display of cut blooms of the leading varieties of Lælia anceps, and the best types that are known. Messrs. Paul & Son, the Old Nurseries, Cheshunt, showed some beautiful cut blooms of the new Tea Rose Sunset to show its free growing and equally free winter flowering habit. The buds were of a pretty shade of bronzy yellow, and deliciously fragrant. Mr. John Walker, Thame, brought up a pretty box of Chrysanthemum blooms, very fresh and bright for the season.

At the meeting of THE FRUIT COMMITTEE, Mr. Barron made a very interesting display of stewing Pears, fifty-one varieties in all, saved from the Pear Congress at Chiswick. A considerable proportion of them were small and shrivelled; but of the following varieties the collection contained fine and perfectly sound specimens: Uvedale's St. Germain, Directeur Alphand, Bellisime d'Hiver, Catillac, Leon le Clerc l'Hiver, Excellente de Coloma, Duchesse d'Hiver, Chaumontelle, Black Pear of Worcester, Besi de Mai, Verulam, and Bicolore d'Hiver. Mr. Allan, Gunton Hall, Norfolk, sent specimens of a medium-sized yellow Apple, stated to be a good and regular cropper, and which it was proposed to call Lady Suffield; but as a culinary variety it was generally considered to be too small and too dry. Mr. Mitchell, gardener to Sir George Elliott, Aberdare, sent a nice smooth Cayenne Pine; and Mr. Walker, of Thame, had numerous examples of an excellent strain of the white Spanish Onion.

National Chrysanthemum.—*January 13th.*—It was a happy idea on the part of the committee of this society to inaugurate an exhibition of late Chrysanthemums, and judging by the highly satisfactory results of the first attempt, there is every reason to believe that it will become an established event of much importance. Both exhibitors and exhibits were far more numerous than the most sanguine had expected, and the unanimous verdict of the visitors was that a very pretty display had been provided.

There was a large preponderance of Japanese varieties, and it is evident that other classes could be well devoted to them, and with substantial prizes an imposing show might easily be obtained. The society and their energetic honorary secretary, Mr. Wm. Holmes, deserve the congratulations of all who are interested in the Chrysanthemum, and who desire to see its season extended into the early spring months. The show just held has given an indication of the capacity of advancement which will result in a most valuable increase of floral treasures at a time when they will be most appreciated, namely, for several months after Christmas, the gathering had therefore a practical importance which has not been surpassed by any previous show this season.

The first of the six classes in which prizes were offered was for twelve incurved varieties, and the second was for six varieties of the same type, but only 2nd prizes were awarded in each case, a sufficient proof that the blooms were not so satisfactory as the Japanese in the other classes. They were mostly small and diminutive; incurved blooms have a much less pleasing appearance than Japanese varieties of similar size. Mr. Bettisworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, and Mr. J. Walker, Thame, Oxon,

were the two prize takers; the former having Miss Marechaux and Princess Teck, and the latter Jardin des Plantes, Princess Teck, and White Venus.

The premier collection of twelve Japanese blooms came from R. Falconer Jameson, Esq., Hesle, Hull, who had handsome blooms of good colour that would not have disgraced some earlier shows. The leading varieties were Triomphe de la Rue des Châlets, Sceptre Toulousaine, Bend Or, Japonais, Boule d'Or, and Mons. Comte, duplicates being shown of several. Mr. H. Lister, gardener to Lord Brooke, Easton Lodge, Dunmow, was 2nd, but in freshness his blooms were preferred by many to the 1st. Comtesse de Beauregarde grandiflora, Fauuy Boucharlat, Thunberg, and Mad. C. Audiguier were excellent. Mr. Bettisworth took the 3rd place, showing the large white Ceres in capital condition. Mr. Sullivan, gardener to D. B. Chapman, Esq., Devonshire House, Roehampton, being awarded an extra prize for neat small blooms. Mr. Sullivan was 1st with six varieties, followed by Mr. J. Walker. The collections of twelve blooms of any Chrysanthemum were bright and effective. Mr. R. Falconer Jameson leading with fine blooms, amongst which Roseum superbum, Jeanne d'Arc, Mad. Cabrol, Golden Christine, and Marquis of Lorne were the most noticeable, in addition to others of the same varieties as those in his stand of twelve blooms. Mr. Bolas, gardener to N. C. Pole Nell, Esq., Hopton Hall, Wirksworth. Mr. Bettisworth and Mr. Walker obtained other prizes in this class with small but pretty blooms. The collections that were unrestricted as to numbers or varieties were also admirable, particularly that from Mr. J. Lowe, Uxbridge, which comprised twelve dozen blooms—Princess Teck, Grandiflora, Lowe's Late Bronze, a very bright reddish-bronze Japanese, Fair Maid of Guernsey, and Lady Marguerite being strongly represented. Mr. R. Owen, Maidenhead, was awarded the second prize for a smaller collection of very handsome blooms representing a number of good varieties, the free-flowering Boule de Neige was most notable; other good sorts being Colibri, Fabrian de Mediana, Belle Paule, Ethel, Dr. Macary, L'Incomparable, Mrs. Mahood Nuit d'Automne, Golden Queen, and M. Delaux.

Several exhibitors contributed blooms not for competition, those from Mr. E. Beckett, Alderney Park Gardens, Elstree, being very fine; Mr. F. Taylor, gardener to Sir John Lubbock, Bart., M.P., High Elms, Beckenham, also had a collection of neat blooms; Mr. G. Sinclair, East Linton Gardens, Peebleshire, N. B., showed a wreath of Elaine Chrysanthemums; and Mr. Horrocks, Manchester, had three large blooms of Boule d'Or which were highly commended. A Japanese variety named Syringa, was exhibited by Messrs. W. & G. Drover, Fareham, Hants, which the committee wished to see again next autumn; and Messrs. H. Cannell & Sons, Swanley, showed a small group of beautiful Primulas, and small Orange trees in pots loaded with their bright golden fruits. For these exhibits certificates of merit were awarded, an honour that was also accorded to Mr. Walker for fine samples of his exhibition Onion.

THE LATE WILLIAM COLE.

Your announcement of the sudden demise of that successful plant grower and exhibitor, William Cole, recalls to my mind old associations, having been intimately acquainted with his father, the original proprietor of the Fox Lane Nurseries, Withington, near Manchester, aye even before his name was known as a plant grower for competition. Of the son I can say but little, my friend, and old acquaintance, having left this part of the country when his children were young. When I first became acquainted with William Cole, senior, he was gardener to C. Lewis, Esq., Blackheath Park, Kent, and when I first visited him he had just started growing Fuchsias with the object of showing them during that season. At the time I speak of his plants were not more than 6 ins. high, but he was duly rewarded for his painstaking and skill, having been very successful during the season. Mr. Cole was decidedly an enterprising man, and full of energy in all that he undertook to do, and there can be no doubt but that his son in that respect had a very praiseworthy example to imitate and follow.

If I have not been misinformed, Mr. Cole, senior, and the late Mr. Charles Turner were both in Cormack's Nursery, New Cross, at the same time. During the early part of the time that Mr. Cole was at Blackheath Park some few seedling Fuchsias and Verbenas passed through his hands into those of Mr. William Ivery, Hanover Nursery, Peckham, who sent them out, but he soon aspired to higher game in the cultivation of plants for exhibition, and went in for hardwooded greenhouse plants. Glass houses, such as a heath house, &c., being put up by his liberal employer, and he was very successful as a beginner. After living with Mr. Lewis about, I think, five years, Mr. Cole was engaged by a gentleman, whose name for the moment is lost to my memory, at or somewhere near Northfleet, Kent. I know that at the time I met him at a show which was held on the Town Pier, Gravesend.

He was shortly after engaged by — Collyer, Esq., at Dartford, and it was there that he made his mark as a successful exhibitor and plant grower, and there also he employed a great many of the "West Kent pots," registered by me in the year 1846; and it was whilst he was at Dartford that he produced his two new sorts of Celery, viz., Cole's Superb Dwarf Red and Cole's Crystal White. After he went to Withington, I forwarded 10 lbs. of seed to him that I had saved in fine condition.

Mr. John Cole, brother of William Cole, and uncle of the William Cole just deceased, was, when I was a boy, under-gardener at Summer Hill, near Tonbridge, where a Mr. Robinson was the head gardener. Subsequent to this he was gardener to Miss Maudesley, Bentham Hill, near Tunbridge Wells. I went to see him at this place, and later on he lived with Lady Maria Meade, Tunbridge Wells, and was a very successful exhibitor at the local shows. Finally he took a nursery at St. Albans, and during the time he was there he devoted considerable attention to the raising of seedling shrubby Calceolarias, one of which, Prince of Orange, has been much grown.—*George Fry, Lewisham.*

Obituary.

We regret to hear of the sad death by drowning, on the 7th inst., of Mr. William Brown, the well-known florist of Hendon, aged fifty-two years. At an inquest held on Saturday last it was stated that the deceased had latterly been in depressed spirits, and was missed from the nursery on Thursday afternoon. On a search being made, his body was found by his son in a well in the grounds; but there was not sufficient evidence to show how or by what means the deceased got into the well. Mr. Brown has been known for many years as a very successful Pelargonium grower for market, and was widely respected in the trade.

QUESTIONS AND ANSWERS.

Orchids.—*R. Grossart:* Both the forms of O. maculatum are distinct and of the best quality. This has often been sold as O. Doniannm. The pure white variety of L. albida is a fine thing. The second, an ordinary variety with red tips, is L. albida Bella. We noted Odontoglossum crispum aureum in our last.

Lily of the Valley.—Can any of your readers tell me the best way to treat the Lily of the Valley. I have some single crowns but they seem to have come to a standstill. *W.* [See an article on the subject in our number for April 11th, 1885.]

Grubs Injurious to the Roots of Spiræa japonica.—I should feel greatly obliged if you would give me the name of the enclosed destructive grubs, which are common here in the roots of Hoteia (Spiræa) Japonica. *J. T. C.* [The larvæ sent are those of a species of Hepialus].

Roses.—A friend of mine who keeps a great many Tea Roses in pots in his greenhouse, has offered me some cuttings from them. Would you inform me (1) When is the proper time of striking such cuttings? (2) Should this season's shoots (they are now making young wood) be taken off or is the old wood better to strike? (3) Is it better to strike the cuttings in pots or boxes, and in what sort of soil? (4) How have they to be treated afterwards to get them to root well. I have a greenhouse where I can strike them in. *A Lover of Roses.*

Names of Plants.—*X. J.:* 2, Abies Hookeriana, probably; 3, Thujopsis dolobrata; 4 Taxus adpressa; 5, Thuja aurea; 7, Retinospora filifera. The others we do not recognise, the specimens being too small.

Communications Received.—W. G. S.—B. F.—T. B.—J. S.—Lenault Huit.—E. B.—De B C.—E. R. C.—H. J.—L. D.—W. B.—E. J.—F. W. B.—C. D.—A. D.—J. B.—J. L.—E. D.

TRADE CATALOGUES RECEIVED.

Daniels Brothers, Norwich.—Illustrated Guide for Amateur Growers.

Richard Smith & Co., Worcester.—Garden and Flower Seeds, &c.

Smail & Co., 23, Lime Street, London.—Vegetable and Flower Seeds, &c.

Lucombe, Pince, & Co., Exeter.—Vegetable and Flower Seeds.

W. Drummond & Sons, Stirling.—Vegetable and Flower Seeds, &c.

Stuart & Mein, Kelso, N.B.—Amateurs Gardening Guide and Spring Catalogue.

Ch. Lorenz, Erfurt, Germany.—Illustrated Catalogue of Flower and Vegetable Seeds, &c.

William Strike, 62, High Street, Stockton-on-Tees.—Vegetable and Flower Seeds, &c.

Alfred Peel & Sons, Canonmills Bridge, Edinburgh; Windhill, Shipley; and Wood Green, London.—Greenhouses, Pits and Frames, and Hot-water Apparatus, &c.

LONDON SEED TRADE.

January 13th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report to-day's seed market quiet, no material change in values. Red Clover is firmly held, and the quality of new home-saved seed is still unsatisfactory; White Alsike and Trefoil are in moderate demand at last week's prices. Rye Grasses firm. Trade in Bird Seeds slow at prices current last week.

COVENT GARDEN MARKET.

January 14th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 0	Pine-apples, St. Michaels, each	2 6	7 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples. brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 3	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	2 0	5 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	0 9	1 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses, Tea, French ,,	0 9	1 6
Cyclamen, 12 blooms.	0 4	0 6	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Encharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.	12 0	36 0	Tulips, 12 blooms	0 9	1 6
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	2 0	3 0
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.	....		Hyacinths, per doz.	6 0	9 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen		
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Palms in variety, each	2 6	21 0
Cyclamens, per dozen	12 0	24 0	Pelargoniums, doz.		
Cyperus, per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen	12 0	18 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Tulips, per dozen pots	6 0	9 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			
Fuchsias, per dozen					

CHRYSANTHEMUMS, Japanese, Incurved, Pompon, Anemone, Early-flowering, and Singles. Strong cuttings, 1s. 6d. per dozen; 10s. per 100. Rooted cuttings ready in January, 2s. 6d. per dozen; 15s. 6d. per 100. Only the best and most distinct grown. Send for list (post free), containing full instruction for growing the Chrysanthemum to perfection. This will be of great assistance to amateurs.

TUBEROUS BEGONIAS from the very best strains, dry tubers, specially selected to colour, 4s. 6d., 6s., & 7s. 6d. per doz.; extra good mixed, all colours, 3s., 4s. 6d., & 6s. per doz. Tuberous Begonia seed saved from flowers 5 and 6 ins. across, 1s. 6d. per packet. Double, certain to produce 75 per cent. of double flowers, 2s. per packet. Gloxinia seed from the finest collection in England, 1s. 6d. per packet.

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MAIDEN'S BLUSH.—Fine Japanese, with broad flat florets, forming a full, large, handsome bloom; fine for exhibition. First Class Certificate Royal Horticultural Society, November 10th, and National Chrysanthemum Society, November 11th, 1885. Price 2s. 6d. each, cash with order from unknown correspondents. See report in this paper November 21st.

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,, Capillus-Veneris.	1	0	,, serrulata	1	0
,, Williamsi (new).	1	3	,, ,, cristata..	1	3
,, decorum	1	0	Asplenium bulbiferum..	1	0
,, hispidum.. ..	1	0	Dicksonia antartica ..	1	0

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Royal Horticultural Society.

THE President, Council, and Fellows of the Royal Horticultural Society will hold their First ANNUAL DINNER on TUESDAY, February 9th, the day of the Annual General Meeting, the President, Sir TREVOR LAWRENCE, Bart., M.P., in the chair. The Dinner will be held at the Criterion, at 6.30 p.m. precisely.

Tickets, 30s. each (including wine) must be applied for on or before Saturday, February 6th. Further information, and tickets, can be obtained from WM. LEE, Esq., Downside, Leatherhead, or at the office of the Royal Horticultural Society, South Kensington.

N B.—Each Fellow can purchase one extra ticket for a friend.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JANUARY 23, 1886.

Late Chrysanthemums.—The importance of the Chrysanthemum Show held last week at at the Royal Aquarium, Westminster, cannot be over-estimated, for if so satisfactory a display could be obtained in a season that has been unfavourable to the late-keeping of such flowers, what may we not expect under less trying conditions. That the January exhibition will increase in beauty and in the number of contributors there can be no question, and we hopefully anticipate its establishment amongst the principal events of the horticultural year. It was a bold but wise policy on the part of the Committee of the National Chrysanthemum Society to make such a wide departure from the beaten track, for until this year we do not know that any floral exhibition has been provided before March, or, at least, one at which prizes were offered for competition, as the Royal Horticultural Society's monthly committee meetings must be excepted.

Many shook their heads dubiously at the announcement, and even up to the morning of the show the general feeling seemed to be that it would be practically a failure. This is a word, however, that is particularly obnoxious to Mr. W. Holmes, the honorary secretary of the National Chrysanthemum Society, and in consequence, no efforts were wanting on his part to render the gathering what it proved to be, an ample success. Exhibitors responded well to the invitations issued, and the collections staged, both in number of varieties and quality of bloom, far surpassed the expectations of all the growers who assembled at the exhibition.

The number of varieties was especially astonishing, as will be seen from the list appended, which contains the names of all those that were best represented, and gives a wide scope for selection. It is interesting to notice that some of those shown are also early varieties, such as L'Africaine and Jeanne d'Arc, and this point indicates a very valuable character—a long season of blooming—that can be easily taken advantage of in providing successional batches of plants. The majority would fall under this head, for the naturally late varieties are as yet rather scarce; though with the increased attention directed to them we may soon expect important additions to their numbers, and there is no reason why we should not have a group of late-flowering varieties as distinct in character as the early-flowering forms that now commence the Chrysanthemum season some weeks in advance of the show-time. Such a group would be much more valuable, as though there is an abundance of forced flowers in January and February, we have nothing that could be obtained so cheaply and with such little trouble as these Chrysanthemums.

It will not be necessary to depend upon essentially late varieties alone for the supplies, as by late propagation plants can be raised that will naturally flower considerably after the plants of the same varieties from earlier cuttings. One grower who has a good stock of these flowers now states that he strikes the cuttings in March, and as the plants when placed under glass are grown in a cool house with a north aspect, he has no difficulty in keeping them back until Christmas and the two following weeks. The principal object is to keep the plants cool without allowing them to suffer from too much moisture in the atmosphere, particularly as the flower-buds expand.

The following is the list already mentioned, the varieties being arranged under the heads of incurved, Japanese, and miscellaneous, the latter including reflexed, Anemones, and Anemone Japanese:—Incurved: Miss Marcheux, Princess Teck, White Venus, Jardin des Plants, Jeanne d'Arc, and Golden Queen. Japanese:—Belle Paule, Ethel, Sarnia, Madame Deveille, Etoile Fleuri, Dr. Macary, Colibri, Nuit d'Automne M. Delaux, Lowe's Late Bronze (which by the way, our correspondent Mr. G. S. Addison, considers identical with Mons. Lemoine), L'Africaine, Fulton, Triomphe de la Rue des Chalets, Sceptre Toulousaine, Bend Or, Mons. Comte, Japonaise, Boule d'Or, Grandiflorum, Comtesse de Beauregarde, Thunberg, Meg Merrilies, Fanny Boucharlet, Madame C. Audiguier, Ceres, Kedive, golden sport from Kedive, Baron de Prailly, Madame C. de Reydellet, Madame Auguste Tegier, Elaine, Peter the Great, Souvenir de l'Ardeune, Marquis of Lorne, Roscum superbum, Source d'Or, Mons. C. Hubert, Syringa, Mrs. Mahood, Agréments de la Nature, Ville de Toulouse, Mons. Astorg, and Dolores. Miscellaneous: Madame Cabral, Pink Christine, Golden Chris-

tine, Madame B. Pigny, Sunflower, Lady Margaret, Madame Eugenie Langelet, Fabian de Mediana, Julia Lagravère, and Boule de Neige. There were several others shown that did not appear quite fresh enough to merit notice, and, of course, there was much difference in the relative merit of those named. Grandiflorum, Ceres, and Fanny Boucharlet were generally well represented; Mons. Lemoine, an extremely bright reddish bronze variety, and the pure white Boule de Neige being especially attractive.

GARDENING MISCELLANY.

Royal Horticultural Society.—The annual meeting of this Society will be held at South Kensington, on February 9th. The following are nominated as officers:—President, Sir Trevor Lawrence, Bart., M.P.; Treasurer, William Houghton; Secretary, William Lee (Downside); Auditors, John Lee, James F. West, and W. Richards. The vacating members of the Council are G. T. Clark, F. Du Cane Godman, F.R.S., and Sir P. Cunliffe Owen, and the following are recommended to fill these vacancies:—Sydney Courtauld, A. B. Mitford, C. B., and Baron Schroder.

National Chrysanthemum Society.—The Annual General Meeting of this society will be held on Monday evening next, January 25th, at the "Old Four Swans," 83, Bishopsgate Street Within, City. The president, E. Sanderson, Esq., will take the chair at seven o'clock, precisely.

Two Good Winter-flowering Carnations.—Carnations that bloom freely during January, and especially in the early part of the month, have earned the right to be termed winter-flowering varieties. Two in particular richly deserve this character, viz., L'Alegatiere, bright scarlet, very free, and good habit; and Vulcan, bright red, large, full, and finely-formed flowers. Now these can be depended upon. L'Alegatiere, now largely represented in lists by fine selected seedlings, is one of the most persistent in flowering that can be found.

Covent Garden Lifeboat.—A Yarmouth correspondent informs us that the Covent Garden Lifeboat, which is stationed at Caistor, was the means of saving the crew of the Schooner "Syren," which sank between the Scroby and Cross Sands, on Monday morning last.

The late Mr. R. P. Percival's Orchids.—Our readers will observe from an announcement in our advertising columns that the fine collection of Orchids which belonged to the late Mr. R. P. Percival, and which is known to be specially rich in fine specimens, and the best types of Cattleyas and Lælias, has been removed from Birkdale, Southport, to the nursery of the Liverpool Horticultural Company, at Garston, for disposal in a novel manner. The Company have arranged the plants for inspection, and prepared a catalogue for the use of buyers, who can give their orders at once, but will not be allowed to take the plants away until the 2nd of February.

Bisulphide of Carbon.—M. Pasteur thinks this cheap but offensive-smelling substance is the best insecticide known; 8,000,000 lbs. of it are used annually in France to check the ravages of the Phylloxera.

Mr. Bruce Findlay.—The many friends of the esteemed Curator of the Botanical Gardens at Old Trafford, will, we are sure, learn with regret that Mrs. Findlay is dangerously ill.

Special Prizes.—Messrs. Sutton & Sons, Reading, offer a number of special prizes for competition at the meetings of the Royal Horticultural Society on the following dates:—May 25th, six prizes for Cucumbers and Melons; June 22nd, three prizes for Melons; July 27th, ten prizes for Cauliflowers, Peas, and Cabbages: September 7th and 8th, six prizes for Carrots and Tomatos; October 12th and 13th, twelve prizes for vegetables and Onions; October 26th and 27th, twenty-six prizes for Potatos, Celery, Beet, Carrots, Leeks, and Parsnips. Prizes are also offered by the same firm at Oxford on July 30th, and at Reading on June 1st and August 26th. Messrs. Lucombe, Pince & Co., offer three prizes at the show of the Devon and Exeter Botanical and Horticultural Society, to be held in Exeter on August 20th, for a collection of twelve distinct vegetables. The prizes will vary from 15*s.* to £3. Also on March 5th, at an exhibition of Hyacinths to be held in their nurseries, three other prizes, varying from 10*s.* 6*d.* to £2 2*s.*, for a dozen distinct named Hyacinths.

The Late Severe Weather.—Writing from Coppins, Iver, on the 18th inst., Mr. J. T. Fletcher says:—"The weather appears to have been more severe here than in most parts of England. On the 6th inst. we were favoured with 8 ins. of snow, and on the following morning we registered 21° of frost; on the 8th we registered 25°; on the 9th 14°; and on the 10th 14°. This is very much sharper weather than we have experienced in this district since January, 1881. I have seen no such low readings of the thermometer as the above in any of the daily papers during the late severe storm, but was told that on the morning of the 8th January 28° of frost, or 4° above zero, was indicated at Windsor, where meteorological observations are accurately kept. Perhaps some of your readers will give us their experience in other localities."

Reading Chrysanthemum Society.—The second annual meeting of the above society, which has an existence independent of the Reading Horticultural Society, was held on Friday, January 15th. The following gentlemen were present:—Mr. W. Neal (in the chair), in the absence of the president (Mr. J. Hargreaves), Messrs. R. D. Catchpool (hon. sec.), R. Bradley, H. Williams, W. Smith (assistant secretary). The committee reported another successful year. The success of the annual show was gratifying, considering the lateness of the season and the cold wet month of October, both as to the number of exhibits and the quality of the flowers. The show compared most favourably with other similar shows. There was a balance of £83 14*s.* The chairman said the show was very successful and was appreciated out of doors, and they were much indebted to the hon. secretary for having worked up the society to its present state. The report was adopted, and the president and other officers were re-elected. A vote of thanks to the chairman brought the proceedings to a close.

Carnations and Picotees.—We have just had an opportunity of inspecting the fine stock of these at Slough, and we can scarcely imagine anything could look finer. Two long cold frames of many lights, each filled with young plants in pots, generally there being two plants in a pot that are in the best of health to all appearance, and yet it is said that, owing to the dry character of the weather which followed the layering season and a consequent want of moisture, the layers did not draw roots so quickly as usual; but, as stated above, the potted off plants look as strong and healthy as any one could desire to see them. There must be a great demand for Carnations and Picotees judging from the immense stock to be seen at Slough. When did the practice commence of sending out Carnations, Picotees, and Pinks, in pairs? The reason for this is, perhaps, not difficult to trace. Years ago, when the constitution of the plants, generally, was not so good as in the present, it was doubtless thought advisable to have two plants of a variety, in the case of the failure of one. Thus it is that those who deal largely in Carnations and Picotees, make a practice of potting up pairs of one variety in the same pot for the convenience of sale. But winter-flowering Carnations are generally catalogued at per plant, and not in pairs.

Gardening Appointments.—Mr. Charles Conning, lately foreman at Benmore, Argyllshire, as gardener to Mrs. Senhouse, of Netherhall, Maryport, Cumberland. Mr. Peter Newton, lately foreman at Calleudar Park, Falkirk, N.B., as gardener to H. H. Trevethick, Esq., Tolroy, Hale, Cornwall. Mr. William Pirie, lately at Gallowhill, Paisley, as gardener to Mrs. Scott Plummer, of Sunderland Hall, Selkirkshire; and Mr. Robert Knox, lately at Annat Lodge, Perth, as gardener to Mrs. William Simpson, Milton Court, Milton, near Gravesend, all through the agency of Mr. John Downie, seed merchant, Edinburgh.

Extraordinary Tithes.—There was a large attendance of market gardeners and Hop and fruit growers from Kent, Surrey, Sussex, and Hampshire, at the Bridge House Hotel, London Bridge, on Monday, to hear Mr. T. H. Bolton, M.P., explain the provision of his Bill for the abolition of extraordinary tithes, drafted in accordance with the wishes of the Anti-Extraordinary Tithe Association, and from his statement it appeared that the proposals will be to restrict extraordinary tithes to the particular parcels of land now paying such tithes, and to redeem at a reasonable rate of compensation, having regard to the special circumstances connected with each particular parcel of land, and especially to the fact that the charge is terminable, and depends upon the continuance of the particular cultivation. The Bill was very fully discussed, and Mr. Bolton was highly complimented on the skill with which he had prepared it. On the proposition of Mr. W. Vinson, of Orpington, seconded by Mr. J. Chapman, of East Sutton, both extensive Hop growers, it was unanimously decided that the Bill drafted by Mr. Bolton should be approved and adopted by the association, and that he be requested to introduce the same in the House of Commons as soon as possible.

Royal Honours to the Seed Trade.—Messrs. James Carter & Co., who have supplied their celebrated Grass Seeds and other specialities to Her Majesty the Queen for nearly 20 years, have received the honour of a Royal Warrant appointing them upon Her Majesty's service as seedsmen. Messrs. Carter have for many years held special Royal Warrants as seedsmen to His Royal Highness the Prince of Wales, His Royal Highness the Duke of Connaught, His Imperial Majesty the King of Italy, and His Imperial Majesty the King of Portugal.

Aberdeen Horticultural Association.—The monthly meeting of the members of this association was held on Friday evening, 15th inst., in the Christian Institute Hall, Aberdeen. There was a large attendance of members, and Mr. P. Harper, president, occupied the chair. The subject under discussion was "Should science or practice obtain most prominence in discussions on horticultural subjects?" Mr. A. Robson, Market Street, Aberdeen, opened the discussion in favour of science with a capital paper in which he dwelt on the importance of a scientific growth and reproduction of plants, &c. Mr. Henderson, Wellwood, in a vigorous and telling speech supported the idea of practice being of the first importance to gardeners. After the reading of the paper and the remarks of Mr. Henderson, a long discussion ensued, at the close of which the advocates of science were found to be in a great minority. A hearty vote of thanks was passed to Messrs. Robson and Henderson, and a like compliment having been paid to the chairman the proceedings terminated.

ON PRUNING CLEMATISES.

The season for pruning climbers has not yet arrived, but still it will be well to look over the Clematises, as they start into growth very early. Of course, those that flower on the last season's wood must not be touched; but those of the Jackmanni and other types, which flower on the current season's growth, may at once be pruned. I have many times noticed how very bare the pillars and walls, or whatever it may be trained against, as a rule, are at the base, which need not be the case. I have always made it a point when anything of the sort has come under my charge in the condition described, if more than one stem from the ground existed, to cut one or more, as the circumstances may allow, down to about 1 ft. from the roots; on the stem left there will be a chance of four or six breaks, but, as a rule, only the two top buds start.

Even if only one stem from the ground existed, I have no hesitation in saying it would be preferable in the long run to cut it down as described above, as it will be generally admitted that walls or anything else look far better furnished with healthy foliage from the bottom, even if the first season it does not reach to the same height as previously, and then it will be all but certain to give material to continue the process each season without interfering (that is, if judiciously managed) with the highest part after the base is put right; and the required height having been attained, the shoots will only require to be annually shortened to within a few inches of the previous year, so that they may be kept within bounds.

Sometimes, as is here the case, Clematis is grown to cover the top part of walls and copings, with Tea Roses trained over the lower part of the wall, in which case it is not so essential for the Clematis to clothe the base; but even then, if without destroying the effect desired, it adds to the appearance of the whole, if young wood can be got from the bottom to do so. Should only one shoot start after being cut down, it may be stopped after two or three joints, and this will induce it to break again and give two or more shoots.—*E. Dumper, Limerick.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—IV.

This week I propose to give a few hints to assist amateurs in training Chrysanthemums. The form usually adopted for training the large-flowering varieties is shown in the accompanying illustration, and to be successful the grower should commence operations early in the season, so that he can have plenty of time in which to get a sufficient quantity of "breaks" or shoots for tying out.

These specimen plants can be grown either from cuttings or from old plants. If the grower commences with cuttings, they should be inserted during the month of November, in the manner described on p. 216, or they can be inserted singly in small pots (thumbs). The pots should then be stood in a frame, or if the grower is possessed of a greenhouse they may be placed on a shelf close to the glass. By February they should be well rooted, and should then have their first stopping, *i.e.*, the extreme top of the plant should be pinched off.

Specimen Chrysanthemum.

The plants should then be kept close for a week and lightly syringed once a day. This will induce them to throw out side-shoots. As soon as the plants are seen to be "breaking," *i.e.*, commencing to throw out shoots up the stem, they should be potted singly into 3 in. pots, in soil recommended at p. 246, and be again returned to the frame or house. Sprinkle them with water from a fine rose, and keep them shut up close for a few days; the plants will soon make fresh roots and theshoots will strengthen. When the shoots are about 4 ins. long again stop them, and treat as above directed; this will induce them to break again and form more shoots. As soon as they are seen to break they should be again potted, this time into 6 in. pots. This should be done early in April.

The plants should now be stood out of doors in a sunny position, and should receive a dusting with tobacco powder, to prevent the attacks of Green Fly. Do not over water and they will soon make nice plants. About the third week in May the plants should be gone over again, and any that have not a sufficient number of shoots may be again stopped, although it is better not to stop them after the end of May or the first week in June. Attend carefully to watering them so that they do not become dry. Get all pots and crocks washed and ready for use, and commence the first week in June to pot the plants into their blooming pots, according to the directions given on p. 296. The plants should then have a stake put to them, in the centre of the pot, to which a good shoot should be tied. If any shoots are seen to require support, further stakes can be inserted, but very few stakes will be required until later in the season, and the less that are used, until the final tying in September, the better, as the more air and sun the plants can get the better the wood ripens.

During hot and dry weather, the plants should be syringed overhead, at least, twice a day, and watering must not be neglected, for if the plants are allowed to become dry, loss of the foliage will follow, and unsightly plants be the result. About the end of July commence to give the plants a little clear soot water once a week. The plants will require to be disbudded as directed on p. 296. About the end of September the plants should be trained into shape, and to do this, see that the centre shoot is securely tied to the stake that was inserted in the centre of the pot. When this is done, put four more stakes at equal distances around the centre stake, and tie a shoot to each stake. Four more stakes should now be placed between these last, and so continue (gradually nearing the rim of the pot as the work proceeds), until the shoots have each a stake to them. In tying, care should be taken to bring the end of each shoot to the top of the stake, and in finishing the last row, the shoots should be brought to the rim of the pot. If the tying is carefully and evenly done, the plants will appear in the form of the accompanying illustration.

If the cultivation is commenced with old plants, those that have been grown for the purposes of cut bloom should be used, and should be treated as follows: After the plants have done blooming cut them down, and leave about 12 in. of the stem remaining. Keep the plants in a cool house during the winter, and they will by February have made some breaks up the stems, when they should be shaken out of their pots and be repotted into 6-in. pots. Place them in a frame or house, syringe and treat them as above directed. The after directions as to stopping and repotting should be attended to as above directed, but for final potting they will require 12-in. pots.

The following are a few good varieties for the amateur to make a commencement with:—Incurved—Mrs. Rundle, Prince of Wales, Barbara, George Glenny, Cassandra, Guernsey Nugget, Refulgence, Prince Alfred, Golden George Glenny, Lady Hardinge, Lord Derby, Faust. Japanese—Triomphe du Nord, To Kio, Mignon, La Nymphe, M. C. Hubert, Peter the Great, Dr. Macary, Bouquet Fait, The Cossack, Gloire de Toulouse, L'Isle des Plaisirs, Cri Kang. Reflexed—Dr. Sharpe, Mrs. Forsyth, King of the Crimsons, Cullingfordi, Julie Lagravère, Christine (peach and golden), Chevalier Domage.

In my next I will give a few hints upon growing Standards.—*W. E. Boyce, Yerbury Road, Holloway.*

AN ORCHID SOCIETY.

It is a pleasant surprise to hear that "the Orchid members of the Floral Committee of the R. H. S." only await "a more fitting opportunity" of putting the idea of an Orchid Society into definite form; of course this is only Mr. O'Brien's private opinion, and not an official announcement in any way. All I can say is that the "Orchid members" did not let their light shine very brightly, but it is really instructive to know that there *was* a cat in their bag, and I hope Mr. O'Brien will not suffer for having let it escape too soon. All I have to say is that I am thoroughly in sympathy with the formation of this society under the auspices of the R. H. S., but it must be a broadly representative society, and not a mere "ring" or "corner" for the personal advantage of any particular clique. Some members of the "Onion Club" object to another special society, on the plea that they are half ruined already by subscribing to special societies.

Personally I could not take any active part in an "Orchid Society," but I am none the less anxious that in the interest of all Orchid growers, amateurs and trade growers alike, that such a society should be formed. I claim no credit for the suggestion, and know well that ideas or suggestions of this sort (like Fern spores or bacteria) grow only if they fall on a receptive surface, and perish if they do not. The society I should like to see formed would be a broad one for the good of all concerned, and not merely a co-operative clique of the dissatisfied. If my idea is a good one and there exists a want, of course the result will be an "Orchid Society" at some not very far distant date.—*F. W. Burbidge.*

THE "R. H. S."

The letter from "A Fellow" (p. 308) "hits the nail on the head" pretty fairly, and suggests improvements that most of those having the real interests of the above society at heart would like to see carried out. Now that a public dinner is announced on the part of the society one may expect some further suggestions, and, perhaps, a little unofficial expression of opinion as to the future operations of the society. At any rate, the fact that a dinner is to be held is in itself a "new move," and one that inspires hope in the wavering mind. I was told the other day that the South Kensington Gardens would be in the builder's hands two years hence, and I hope sincerely the prophecy may come true. Another friend doubted the existence of the society at the end of that period; but fortunately useful societies die very hard, and in this case the cry would be "The King is dead—long live the King!" There is "life in the old dog yet," and there are whispers of a new shepherd in the form of a secretary, so that altogether we must hope for a better organisation in the future than in the past. Why not "appeal to the country," and let us have a horticultural society worthy of the name.—*F. W. Burbidge.*

"A Fellow" writing on this subject in last week's Gardening World (see p. 308), makes some very good suggestions about the constitution of this "National Society," if I may so designate it. I am not a fellow of the Royal Horticultural Society, but I may say that it has my warmest sympathies. One of the suggestions, viz., the guinea membership originally brought forward by Mr. Wilson, I most heartily endorse. In societies of a kindred nature one hears of "associates," now could not this term be applied to guinea members. Four guineas is a great deal too much for country gardeners to subscribe, and it is on behalf of this class that I am writing. I venture to express an opinion that by guinea membership in whatever form it is permitted, must we look to eventually raising the society into a position more capable of rendering the horticultural body greater assistance than it does as at present conducted.

I do not consider that the society is not doing anything for horticulture, it is no doubt doing a grand

work, but is most decidedly too much dependent upon the "Commissioners." Then why not sever that connection? "A Fellow" says it is of little use "waiting for something to turn up," and I would like to add "let us be up and doing." Could not something be done in the way of preparing a suitable site for land and building; surely a fund could be started in aid of this, and to which all horticulturists would, I believe, contribute. This question has often been before the readers of your contemporaries, and I should be delighted to find that from the pages of THE GARDENING WORLD, the question resolved itself into something practical—a temple and grounds suitable for the requirements of the horticultural profession.—*J. S. T.*

FLORAL FASHIONS IN AMERICA.

A NEW YORK correspondent of *The American Florist* states that the pressed leaves of Salisburia adiantifolia, which are lemon-coloured in autumn, are used by florists sufficiently fortunate to secure them to produce Japanese effects in designs for the table. They are curious and elegant, standing with their fans at all angles in a basket of old gold and garnet-colonred Mrs. C. W. Wheeler Chrysanthemum, or among Sunset Roses. Table centre-pieces are made in plateaus, the flowers being put in in bands where an assortment is used. Three plateaus are placed on a long table. A decoration made for a dinner last week was of yellow effects. There were three plateaus of Perle des Jardin Roses, surrounded by pure yellow Pansies, and a band of Pansies 12 ins. wide around the table, leaving space for each cover. The plateaus and bands were fringed with Adiantum cuneatum, the most popular Fern this season. Some fine effects are made with A. Farleyense. The plant is removed from the pot, mossed around with Lycopodium, and clusters of large Roses are nestled among the fronds.

Smilax apparently has had its day in choice decorations. Uses will, of course, be found for it; but Ivy, Asparagus tenuissimus, and Lygodium scandens are demanded for fine work. Begonia metallica and B. Louis Chretien make exquisite contrasts for edging the flat centre and end pieces for table adornment. Narrow Croton leaves, some yellow and curling, others like variegated pennants, are placed in loose bouquets instead of Ferns, as high colours is the freak of fashionable preference. Small Ivy leaves of a variety called by the metropolitan florists "Heidelberg Ivy" are introduced in clusters in bouquets, or tied on to the stems with a knot of white Violets.

Room decorations are very artistic this month, taking the form of drapery in private houses and of elaborate wall-pieces in large saloons. Camellias in panels are arranged so that their colours shade from white through the pinks to crimson, and on each tint there is a festooning of roses, or fine flowers, such as Stevia and single Bouvardia. Large wall plaques of foliage have a blooming plant in the centre, and a wreath of trailing vines instead of cut flowers. The Asparagus grows in favour; long garlands are very desirable and find ready sale. These are draped over lace curtains and mirrors, and are formed in screens for wedding designs. The "screen" is now the most fashionable arrangement for nuptial parties to stand before, instead of in an arbor or under a bell. This screen is about 8 or 10 ft. high, is of foliage and rose clusters. From its back bends over it a tall drooping palm. Frequently the plants are placed on a pedestal to give them height. Orchids are much in vogue for hand bouquets, combined with lilacs; Cattleyas and purple-tinted lilacs make a rich bunch. Bouquets are made very large for weddings and other occasions. Orchids and orange-blossoms compose the most fashionable wedding bunches, excepting for very young brides, who carry Lily of the Valley. A leading florist has orange flowers and lilacs forced in rotation for his use.

All the most stylish gowns for evening wear are embellished with natural flowers. These are made into a spray of twelve roses with their own foliage, which is fastened to the left shoulder and allowed to droop to the belt, with an occasional pinning to the corsage. Sashes of roses extend from one shoulder across the waist to the side of the skirt; this sash is finished by a tassel of Lilacs or Lily of the Valley. Berthe capes around the low-necked dresses and bretelles are made of smaller flowers, daisies and Polyantha roses being worn by misses and debutantes. These latter pieces are first formed by a soft lace netting to which the flowers are caught. The American Beauty rose is extremely popular for dress garniture.

Tall tree stumps are utilised in decorations for covering with growing orchids. Fine collections are shown in this way. The stump is sometimes garlanded with Ivy, and looks very handsome in a wide window. Passiflora rubra appears in altar decorations, and was ordered for choice Christmas designs in churches. It is very beautiful when standing in relief from fine evergreens.

THE ROYAL HORTICULTURAL SOCIETY AND ITS COMMITTEES.

As this is a subject that is certain to receive some amount of attention at this season of the year, it may be remarked that the first meeting of the floral committee of the society took place on July 5th or 6th, 1859. The National Floricultural Society, which was founded in 1851, did, up to the end of 1858, form a tribunal to which was submitted all the new florists' flowers of the day. A little later the British Pomological Society was formed, which took the same oversight of fruits, and especially those claiming to be new, that the National Floricultural Society did of flowers. In the early part of 1859, the Royal Horticultural Society having announced that it was the intention of the council to form a floral committee for the purpose of making awards to new flowers, it was resolved in consequence to dissolve the National Floricultural Society. Of the two committees of the Royal Horticultural Society, the fruit committee was the first formed in the order of time; and it may be said of the British Pomological Society that it was merged in the new organization, and this body began to hold meetings previous to those of the floral committee.

We are not quite clear as to the conditions under which the first floral committee of the society was formed, but in 1867-68 and 69 it was a permanent body, with the Rev. Joshua Dix as chairman, a London clergyman, who had been associated with floriculture for many years. By a permanent body is meant that it was not subject to annual dissolution at the end of the year as in the present day, and the constitution of the committee was at that time in the hands of the members of the committee. The course adopted was to read out at the last meeting in the year a list of the attendances of the members, the names of those who had attended least—generally about three or four were struck out, and the committee nominated others to fill the vacancies thus created, such nominations being accepted by the council as a matter of course. This regulation of striking off the names of the committeemen who had made the least attendances was calculated to work somewhat unjustly, inasmuch as members who lived at a distance who did not attend regularly, but only came up when they thought subjects would be presented in which they were specially interested, but who were desirable members, were struck off without much regard to their peculiar position.

But at the end of 1869, without any notice being given to the committee, a new procedure was introduced—it was resolved to dissolve the committees at the end of each year and re-constitute them, such reconstitution as well as the nomination of new members being placed in the hands of a sub-committee of the council. That this change was brought about from questionable motives there can now be no doubt, and at the first meeting of the floral committee in 1870, a strong protest was entered by the late Mr. Charles Lee and other members of the committee at that time, but no action was taken beyond a protest. Thus it was that a number of horticulturalists who gave up much valuable time, and, in not a few cases, at considerable expense, to discharge certain useful functions of a honorary character, were superseded by an irresponsible and much less qualified body in the work of re-constituting the committee. And the change has worked disastrously in this way—that it placed in the hands of members of the council and officials of the society the means of keeping from the committee any persons who might be personally obnoxious to themselves, however well qualified to discharge the functions of a committeeman, and there can be no doubt that this power has been frequently used for this purpose. More than that, it gave opportunity for persons being placed on the committees who were generally unknown in the horticultural world, and whose qualifications were of the slenderest character. In this way the power to appoint on the committees has been abused.

It is stated that at the end of 1884, members of the floral committee were asked to nominate those whom they thought qualified to occupy a seat on that body, but, though this was done by request, there is scarcely a case known of one of these nominations having been accepted. One thing is quite certain, that whether or no the committees be permanent or only yearly bodies, the privileges of nominating to vacancies on that body should be vested in them—this is only fair. The chairman of each committee, who is a member of the council, should, in conjunction with Mr. Barron, have a veto on any nomination, with the understanding that the veto should not be exercised except where circumstances absolutely justify it.—*Florist.*

SCOTTISH GARDENING.

Strawberries in Pots during Winter.—Cultivators have often expressed their views as to the safest and best method of preserving their Strawberry plants which are to be forced under glass. Various methods have been lucidly propounded but it frequently happens that the advice given cannot be accepted, simply because means are not at command to do as one would wish. The advice as to plunging the pots to their rims among ashes, old tan, or sawdust under the protection of glass in pits or frames, only using the lights during severe frost, heavy snow, and rainfall, keeping an abundance of air on at all times, except when bad weather prevails is good. Strawberry storing effected in this way is all one could wish (but few can spare the glass), and is better than the ordinary system of standing the pots over the floor of a cool orchard-house, as in the latter the roots are subject to fluctuations of damp and drought; but plunged in the cool pits or frames the roots are always under the same conditions, and in a similar manner other plants for forcing, such as bulbs, Kalmias, Rhododendrons, Azaleas, and a host of other favourites now in stock at this season should be treated. Pot Vines are decidedly in safer quarters when plunged and not left with their pots exposed, as we have seen in some nurseries (very few, however), and it is wondered when such fine canes are subjected to the fruiting test why they grow away and become what is known as "blind."

With regard to Strawberries it is often a difficulty to find quarters for them apart from glass protection, and they may be seen in ridges stacked on their sides, forming walls 3 ft. high, the pots placed bottom to bottom, tightly fitted in ashes or litter. This plan is not so popular as it was a quarter of a century ago, and no wonder, as the roots so treated invariably suffer, especially if February should become dry and frosty winds prevail; although the plants may not entirely fail by being subjected to such unnatural treatment, they are certainly crippled, and their fruiting powers severely weakened. There are various other systems of "storing" which we have practised on the make-shift principle, but the one which has answered our purpose best is to plunge the pots in ashes, tree leaves, or litter, closely and tightly, keeping kinds separate from each other, and in batches consecutively to facilitate order when periodical removals of the plants are made to the forcing structures; the space for the pots to rest upon should be dry, and as little exposed to drying easterly winds as possible. If frost is unusually severe, a number of stakes may be driven into the ground amongst the pots, and cords crossed over them from one to another, over which mats may be thrown and removed when a thaw has taken place. Our stock is being protected this season in the manner referred to above; they stood last winter in this way, evidently without the loss of a root, as when the plants were unplunged the roots were white and in a dense mass. The crops and quality were on the whole the most satisfactory which we ever had to do with; at present, after 17° degrees of frost, the roots are such as we delight to see. The kinds we have found suitable for our purpose are President and Sir Harry for main crops, and 400 Vicomtesse Héricart de Thury for first gatherings.—*M. T.*

READING HORTICULTURAL SOCIETY.—At the last moment an alteration has been made in the fixtures of the Reading Horticultural Society for the present year. The exhibitions will take place on Wednesday, June 2nd, and Wednesday, August 25th; not Thursday, August 26th, as previously announced. For years past the flower shows at Reading have taken place on Thursdays, but this year they take place on Wednesdays, and, as usual, in the picturesque Abbey ruins.

A CRIMSON CALLA.

Mr. Peter Henderson, of New Jersey, contributes to *The American Florist*, the story of a crimson Calla of which he became the fortunate possessor a few years ago. It seems that a lady called on a seed firm in New York and stated that she had a crimson Calla in bloom, and wanted to sell it to them for $100. "Mr. Elliott, the well-known plant auctioneer, suggested that she should let it be sold at one of his auction sales. This she agreed to do and down it came in full bloom, crimson sure enough. Mr. Elliott expended a wonderful deal of eloquence in trying to get someone to bid $100 for it, but was obliged to take my first bid of 100 cents, which was gradually run up to 1000 cents, and I became the possessor of the crimson Calla. I then secured all the remaining stock from the lady consisting of about a dozen small plants, and grew it until I obtained over 100 plants, but in some way by running it against the grain I lost the whole stock of it. I do not know to day if there is a plant of the crimson Calla in the country, although if it could be grown easily it would be a most interesting plant. It is of a rich crimson-maroon, nearly as large as the flower of the dwarf Calla, and unlike most other plants of the Arum class it has a rich fragrance, somewhat similar to the Violet."

TUBEROUS BEGONIAS FROM SEED.

All who desire to obtain good strong vigorous plants of these increasingly popular plants for flowering this season, should lose no time in obtaining the needful supply of seeds and sow at once. Far preferable is it to make an early sowing in moderate bottom heat, say from 55° to 60°, in the month of January, and allow the young plants to come on steadily and strong, than to leave it a month or six weeks later, when, from an extra amount of bottom or top heat, as the case may be, needful to promote a quick growth, so that the plants may be of the required size. It not unfrequently happens that they become drawn and weak, a point which should always be avoided. Let it be borne in mind by all who have little experience with the Tuberous Begonia, either in raising it from seed or growing it from tubers two or three years old, that they are essentially greenhouse subjects, and should not at any time in their cultivation be subjected to a temperature much exceeding that at which greenhouses are usually kept, which, on the average, should range from 45° to 50° at this time of year; but which, as the season advances and warm weather ensues, the temperature of the house will be proportionately increased.

For the present we will confine our remarks to the seed and seedlings, which, with a little care and attention, are easily managed and grown to perfection; one of the most important points in connection with sowing the seed is that of having the soil of a proper state, by which I mean that it should neither be inclined to be adhesive, in which state, when it is placed into a warm house, it is sure to contract and shrink from the side of the pot, and you thereby lose valuable seed; nor, on the other hand, should it be so dry that water will float on its surface rather than penetrate it, so that to have it in good condition the soil should be under cover away from snow and rain. To insure its being in a fit state it will be well to mix it on the potting bench some three or four days previous to its being required for use; it should consist of equal parts of half-decomposed leaf-soil and light sandy loam, making the whole very sandy, sharp silver sand is the best to keep the soil well open, though it is not likely to become watertight if composed in the way described. Mix the whole together and pass through a half-inch sieve, and allow it to remain for two or three days on the potting bench. The draining of the pots is also a matter for consideration, each pot should be thoroughly well drained, with some rough fibrous material placed upon them to keep the drainage clear and open, then fill in with soil to within half an inch of the rim of the pot, using a little finer sifted soil on the surface, press all moderately firm to make the surface even; finally, sprinkle a little silver sand over the pots and all will be ready for the seed.

To prevent overcrowding and consequent damping of the young plants, the seed should be sown thinly, and as the seeds are particularly minute, the white sand on the surface will prove beyond doubt where the seeds are falling. When the whole of the seed is thus disposed of, plunge the pots three-fourths their depth in a bottom heat of 55° or 60°, and if a frame or hand-light be at hand, this may be placed over them, and if darkened with a sheet of newspaper they will need no water during the first few days. Let the reader note that I have said nothing about covering the seed with soil, this I always rigidly avoid in the earliest batch, for experience has shown that many batches of choice seeds—not Begonias alone—have been lost through covering too deeply. Leave the seeds uncovered then, for with the frame being close and darkened, and the atmosphere naturally heavy and damp at this season, they will be benefitted rather than otherwise.

By the end of the first week water may be given, but as this cannot be ruled by the pen, it must of necessity rest to a great extent with the operator, who will do well, also, to base his action upon the circumstances surrounding his own special case. A very fine rose watering-can should be used, and in giving water care should be exercised that it does not overflow the sides of the seed-pots, and thereby endanger the seeds. If all be well, the seeds will germinate in from fourteen to twenty-one days, and by the end of the month it will readily be seen. This is, perhaps, the most trying time of all, for with the slightest excess of moisture numbers of the seedlings will disappear, even in one night, and for this reason is it that I strongly urge thin sowings, incessant care with the watering-pot, and, lastly, never to place the lights on till the frame is comparatively free of moisture. The soil being in the right condition at the start, and the pots plunged in a comparatively gentle heat, together with being kept close and shaded, will all assist in keeping the water-pot at bay; and after they have reached their second leaf, and are receiving more light and air, a great percentage of that danger is passed, which was so dreaded while yet they were chickens.—*J.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

The weather has greatly changed during the past week, and is now much more favourable to the occupants of this house, as it can be ventilated more freely at mid-day, and it will not be necessary to keep the fires quite so large, except when the wind is very cold or there is likelihood of severe frost at night. The less artificial heat employed the better, provided the necessary temperature can be secured. Some early Cinerarias will probably be flowering, and it should be remembered that such plants as these and Cyclamens thrive best in a cool moist position; and when there is an open lattice stage over the pipes, as is too frequently the case, these plants suffer considerably, and this alone often causes a failure which appears unaccountable to the inexperienced.

There are few plants—except succulents like Rochea, Crassulas, and Epiphyllums—that endure this exposure to dry air without injury, and it is far better to have the stages covered with a layer of moisture-holding material, such as fine pebbles or broken shells, upon which the pots can be arranged. It causes little trouble or expense, and the result will be very satisfactory in every way. Some judgment is needed in placing forced plants in the greenhouse, and it is better to select the warmest portion for them, keeping all hardier plants and those requiring more ventilation at the coolest end of the house. This can be easily managed without detracting from the appearance of the groups. Heaths may be taken as examples of the cool plants, and bulbs that have been brought on in a forcing-pit should be assigned the warmest position.

In some amateurs' greenhouses a Vine is grown, or perhaps two, Black Hamburgh being the chief favourite, and Buckland Sweetwater, as a white Grape, is suitable, but the former will be found the most satisfactory. If the Vines have not been pruned this should be attended to at once, as though they may not be showing signs of starting, it is dangerous to delay the operation, as a serious loss of sap often occurs through "the bleeding," as it is termed, from the cut shoots. Cut away all unripened wood, shortening the side branches to hard wood and where it is seen that a good bud is formed. Upon what is known as the spur system, "laterals" are cut in close to the main stem or rod, and the young shoots produced from the buds at the base of each lateral will bear the season's fruit.

THE VEGETABLE GARDEN.

The seed orders should be at once made up and sent in, for as the ground gets drier advantage can be taken of all fine weather to sow seeds for early crops. Everyone who has had a little experience in vegetable growing has a preference for particular varieties, and some succeed much better in certain districts than in others, which is especially the case with Peas and Potatos. Some varieties of these are excellent in one garden, and in another a short distance away with slightly different soil and aspect they may prove very unsatisfactory; it is the same with fruit trees, indeed nearly everything grown in gardens is subject to these peculiarities.

In the following list, however, we have named only those that are the most reliable with us on a medium soil with good natural drainage. To them as many can be added as the cultivator wishes, and as we remarked last week, where there is sufficient space at command, by all means include a few novelties for trial; most of the leading seedsmen's catalogues enumerate plenty of these to select from.

Broad Beans, Early Seville, Broad Windsor; French Beans, Canadian Wonder; Scarlet Runners, any seedsmen's selection; Beet, Dell's Crimson; Borecole, Cottagers Kale, Buda Kale; Broccoli, Cooling's Matchless, Snow's Winter White, Veitch's Self Protecting; Brussels Sprouts, any seedmen's best imported; Cabbage, Early York, Cocoa Nut, Enfield Market; Carrots, Early French Horn, James' Intermediate; Cauliflowers, Early Erfurt, Veitch's Autumn Giant, Walcheren; Celery, Incomparable White, Leicester Red; Endive, Curled Picpus, Round-leaved Batavian; Lettuce, White Paris Cos, Hick's Hardy Green Cos, Neapolitan Cabbage; Marrow (Vegetable), Moore's Vegetable Cream; Onions, Early White Naples, White Spanish, Silverskin (for pickling); Parsley, any seedmen's best curled; Parsnip, Hollow-crowned; Peas, first crop, Williams', second crop, Culverwell's Telegraph, main crop, Champion of England and Ne Plus Ultra; Potatos, Myatt's, Veitch's Ashleaf, Magnum Bonum, and Schoolmaster; Radishes, Wood's Frame, French Breakfast, Scarlet Turnip; Savoys, Dwarf Ulm; Spinach, Round; Tomatos, Hathaway's Excelsior, Vick's Criterion; Turnips, Early Strap-leaf, White Stone and Chirk Castle. As nearly as possible these are named in their respective order of succession, and if suitable quantities of seed be sown, there should be no difficulty in keeping a supply of vegetables throughout the year.—*Scolytus.*

GARDENING AND GARDENERS.

I was glad to see your correspondent "X.," in writing of the different degrees of gardeners, recognised and appreciated the worth of those he geologically described as the "third stratum." In reading over his letter I was reminded of a young man I came in contact with some years ago when waiting for a foreman's place at one of the leading London nurseries. This young man used to boast of the number of earl's places he had served in as journeyman, and of how many men there were employed under glass at such establishments. It is not unusual amongst young men waiting for situations in a nursery to ask the following questions of each other:—"Where have you been living?" "Is it a good place?" "How many men are there in the bothy?" "How many in the houses?" My answer to the latter question was, only one other besides myself! Well, this young man said nothing in reply at the time (he did not even ask whether we grew Potatos or Grapes, Violets or Orchids), but waited until the late hours of the night, when he gave his views of me and similar young men to his bed-fellow. He considered that all of my stamp who were seeking foreman's situations ought to ousted from the profession, as we were simply hindering better men (?) from obtaining the situations which they deserved. I naturally felt hurt at these remarks, at the same time I knew that there were not vacancies for so many first-class foremen, even if there were men to fill them.

I had previously served as journeyman in four establishments, including one of a nobleman where there were a great number of men employed; and I know that I should undertake no situation (even if I were offered one) beyond my abilities. Now I wonder whether this young man has lived to respect and ceased to despise the second and third "stratum" of gardeners. Perhaps, ere this, he, like myself, may have experienced the fact of a duke's gardener being placed behind his rival with smaller means with a collection of fruit at some horticultural exhibition. Again, with

a dish of Grapes, I have seen a single-handed man beat the gardener with ten or twelve assistants; yet another instance with a group of thirty plants arranged for effect, the exhibitor from some park, a very extensive place, has been beaten hollow by the unassuming gardener, who has charge of a place of only a few acres in extent. As a last instance of what can be done in small places I will name the vicar's gardener, whom I have seen placed first with a collection of vegetables where the competition has been very strong.

Now what does all this show or teach us? That the best gardening is not always carried out in the nobleman's or largest establishments. Having said this, to those who are inclined to discard or "snuff out" the humble worker, I would ask, which class of gardener will hold his own now that we hear of so much depression in trade, will it be the superficial, the scientific, the one who is well up in geology, geometry, botany, and chemistry (a knowledge of which is very useful and essential), or will it be the modest working gardener who is able to show his employer a well-stocked kitchen garden, including hardy fruits on the walls as well as in the open quarters; also a well-kept flower garden, if only one acre in extent, and a good supply of grapes for his table ten months out of the year, as well as a fair supply of cut flowers all the year round; such places do credit to the gardener and give pleasure to the owner, and are at the same time remunerative rather than otherwise?

Now a word or two about the last class mentioned by your correspondent. If a man is a cowman or a groom let him be known and spoken of as such, the same would, I say, of a garden labourer who may be a good spadesman and able to mow the lawn well, and perhaps nail a tree. As to the army of intemperate and worthless jobbing gardeners, these are the men we require to "snuff out" and designate them as impostors. We are told that "the labour market is overcrowded, and so long as that is so gardeners can scarcely look for any improvement in their social condition, except such as they are able to work out for themselves." Employers might do more towards that object than some of them do in the matter of the dwelling-house. I will first instance a bothy, it was once my lot to reside in on a nobleman's place. This structure was so notorious, that on my entering a situation a few years afterwards, I was asked by the gardener if we could not lie in bed and see the stars! Now I come to the case of a head-gardener who has to reside in a small cottage, on the ground floor, with a family of children, which is stifling in summer on account of the low ceilings, and very damp and unhealthy in the winter, yet this is considered good enough for one who is, as far as I know, in the words of Karpos, a good husband, a good father, a good neighbour, and a good gardener.—*T. Simcoe.*

ABUTILONS.

These charming decorative plants are not nearly so much appreciated as they deserve to be. Why is it? It is not at all difficult to cultivate them, and they are remarkably free-blooming, while the varieties vary much in character. Mr. R. Owen, Nurseryman, Castle Hill, Maidenhead, has a collection of something like sixty varieties, and for the embellishment of the conservatory nearly all the year round these greenhouse evergreen shrubs take a prominent position. They make in a young state, when they flower very freely, charming pot plants for table decoration, and this fitness appears to be strongly marked in the newer kinds, which have dwarf and compact habits of growth. Then they can be employed with great advantage during the summer months in the out-door gardens, and especially so in all sub-tropical arrangements, and in beds by themselves.

There is scarcely another plant that can compare with them for the boldness and showy character of their large, drooping, campanulate flowers, starting from amidst abundant foliage of a pleasing character, while the richest colours are soft and the reverse of glaring. The old Abutilon striatum was introduced from Brazil in 1837, and since then, by crossing this and other species what a diversity of character has been exhibited in the progeny. One of the most useful is the white-flowered Boule de Niege; this is much grown—and deservedly so—for flowering in mid-winter, and it is found to be of the greatest value then. The flowers are of the most delicate waxy white, and stout in texture.

WINTER WORK IN GARDENS.

The leading article in your issue of the 9th inst., on "Winter Gardening," has suggested to me that a few remarks on the above subject might be found deserving of a place in The Gardening World. My experience is that although most things in nature rests, or are given a time for rest during the dull months of winter, gardeners do not rest, or at least need not rest because there is not work for them to do. It is a season of the year when they have the greatest amount of anxiety, and when their energies are often sorely tried in keeping the various subjects under their care safe from harm. It is not always at a time of severe frost that the greatest amount of vigilance is required, as in all well-managed establishments the various heating appliances are carefully overhauled long before winter sets in, there is therefore little to dread on that score.

Cold, damp, and sunless weather is more to be dreaded, and is more destructive to vegetable life than seasonable frost. This is especially so where large collections of plants are grown either for the decoration of the conservatory or for the summer display in the flower garden; damp is more easily combated now than in years gone by, the glass structures of the present day being more or less better adapted for the use to which they are applied. Yet how many there are who have to winter their bedding plants in pits ill suited for the purpose, or it may be they have to be wintered in the Peach-house or Vinery where but little heat can be applied, and this is the case in mild damp weather more than in frosty weather; the careful attention these require will set aside any idea of enforced rest.

The rest which various plants enjoy in winter gives the gardener an opportunity to thoroughly clean not only the houses but the plants, and how well plants repay us for a little attention to those matters. Insecticides are all very well, but there is nothing to compare with the tepid rain-water and a soft sponge for washing plants, it always does them good, which is more than can be said of the hundred and one nostrums recommended for the destruction of insects. It may be thought that these remarks refer to the every-day work of a garden rather than to any special work for winter. In winter much may be done to materially assist and advance the operations at a more advanced period. How often is it found when plants require to be shifted or repotted that many of the pots have to be washed before it can be done? This would not happen if all the flower pots were carefully washed and stored, in a dry place, according to their sizes—a good winter job. Then follows the question of crocks and drainage material, these should always be prepared beforehand. Men are sometimes sent home because they cannot work outside, how much better that they should be set to break crocks and sort them into sizes suitable for the various pots in general use; and so with the drainage material, this, when broken, should be put through sieves of different mesh, and each size kept separate for use.

Flower-stakes of all kinds should be got in readiness, the old ones re-sharpened, and if copse-stakes are required they should all be trimmed and pointed, sorted into sizes, and tied up in bundles. This answers a two-fold purpose—it makes the crooked straight, and they are convenient to be carried where wanted. Nowadays we are saved much labour in the matter of stake-making, they can be bought so cheaply almost ready for use; but, as a rule, many of them are not very durable. The old-fashioned home-made stakes, made from the best Pine laths, will last very much longer. The laths can be got, by an arrangement with the lath-splitter, of greater substance and length as required. Wooden labels or tallies are an every-day requirement in various sizes, and for general purposes there is nothing like wood. Here, again, we can get our supply ready made, but many of them are unfit for writing on; the home-made article, made from Pine-laths, are far superior to ready-made ones in neatness, durability, and the ease with which they can be written upon.

In the matter of labels, we need not stop at having a supply made or bought. Many hundreds are known to be needed for different plants, seeds, &c., and if painted and written will save much time by-and-bye; and how much better they will look than when written, possibly in a hurry, with soiled fingers. The time was when gardeners had work of another kind in winter—work in which the greatest amount of rivalry existed as to who would turn out the best workmanship in baskets. I wonder how many of the young gardeners of the present day spend their winter evenings in basket-making—aye, or their winter days in broom-making, as was their wont. Enough, I think, without exhausting the subject, has been written to prove the abundance of winter work that may be done in gardens. —*G. T.*

COVENT GARDEN SUPPLIES.

January is a comparatively dull month in gardens, yet no visitor to Covent Garden Market would think so, for there we see an abundance of flowers, fruits, and vegetables, that reminds us of the plentitude of spring. Of flowers the Roses are generally the chief attraction, and though it is sometimes said it is possible to prolong the season of any particular flower over too many months, it certainly is not the case with Roses, as they are in demand throughout the year. The wax-like Eucharis is another indispensable flower for the bouquetists and wreath makers; while Bouvardias, Gardenias, white Camellias, double white Primulas, Tuberoses, Richardia spathes, Roman Hyacinths, and the paper-white Polyanthus Narcissus, are all sent into the market in large quantities. Chrysanthemums are still seen but they are fast decreasing, and it does not seem that any of the market growers have as yet undertaken the production of late flowers on an extensive scale. These by no means comprise all the flowers represented in Covent Garden, for Cyclamens, Pelargoniums, Mignonette, Marguerites, Violets, Heliotropes, white Jasmine, Epiphyllums, Carnations, and Liliums, are all present in varying quantities with other flowers of less importance individually, but assisting to materially increase the total floral attraction of the market. The leading fruits are late black Grapes such as Gros Colmar and Lady Downes, Pine Apples, a few Apples and Pears, and an abundance of Oranges, including the diminutive fragrant Tangierine, and the large Jaffa variety; the latter is a particularly fine Orange both in appearance and quality, and its importation has greatly increased within the past few years. As a curiosity the Custard Apple (Anona squamosa) which are now frequently seen in the fruiterers shops are noteworthy; their globular or oval fruits having a very distinct appearance, owing to the surface being curiously flattened in irregular patches like scales; the flavour of the fruit is esteemed by some people, but it is seldom that it is obtained in its best condition. Amongst the vegetables now coming in we notice that the supply of Asparagus and Sea Kale is increasing, and Mushrooms seem very plentiful and cheap.

LATE CHRYSANTHEMUMS.

Every Chrysanthemum grower will, without doubt, read the report of the National Chrysanthemum Society's show of late Chrysanthemums at the Royal Aquarium on the 13th inst., with the utmost interest. No one could have imagined that such a fine collection of good blooms could have been brought together so late in the season, and both quality and quantity were a surprise to all. Both the promoters of the show and the exhibitors are to be congratulated upon the success of the first late Chrysanthemum show; and we now have it proved beyond all doubt that it is possible by high cultivation to extend the Chrysanthemum season for upwards of a period of six months. All who wish to have a succession of bloom from early autumn to late in winter will scan with eager eyes the names of the varieties which were staged at the exhibition. Great credit is due to Mr. J. Lowe, of Uxbridge, for his exhibit, which consisted of twelve dozen neat blooms nicely arranged in boxes set up in moss; but I for one should like to know more about the variety which was exhibited by him under the name of "Lowe's Late Bronze." This is a very pretty late flower, rich red tipped with gold, and I am convinced is none other than Monsieur Lemoine which was sent out by Delaux some years ago. It is a very neat and attractive flower, and if Mr. Lowe has had the misfortune to receive it without a name, or has lost the tally, would it not be as well, before going through the operation of rechristening it after himself, to submit it to some practical Chrysanthemum grower. It would save an endless amount of confusion, and there are already far too many Chrysanthemums with two names. I noticed one other exhibitor at the Aquarium had a bunch of the same variety in his stand, but in this case he had labelled it Madame Lemoine.—*Geo. S. Addison.*

JAMES LYE.

CHAMPION FUCHSIA GROWER OF THE WEST OF ENGLAND.

WITH this issue of THE GARDENING WORLD we are able to give the portrait of a Wiltshire gardener who has for many years past held—and very deservedly held too—the title of the champion Fuchsia grower of the West of England. At the exhibitions held at Bath, Trowbridge, Calne, Chippenham, Bradford-on-Avon, in the Keevil district, &c., the Fuchsias of James Lye are always one of the leading features; and their high value as exhibition specimens can best be appreciated by those whose privilege it is to see them. We have seen his specimens for the past ten or twelve years; plants 7 ft. and 8 ft. in height, and 5 ft. through, the branches feathering down and covering the pots, the foliage robust and healthy in the extreme, and overlaying all a raiment of admirable blossoms. They are circular pyramids, perfect in form, and truly marvellous to look upon. Outside of Wiltshire we have never seen anything in the way of the Fuchsias exhibited there, and in the Trowbridge district we have seen cottagers exhibiting specimen Fuchsias that would put to shame the productions of gardeners in many other parts of the kingdom, whose conveniences for producing plants are ten times greater than those of Wiltshire labourers and artisans.

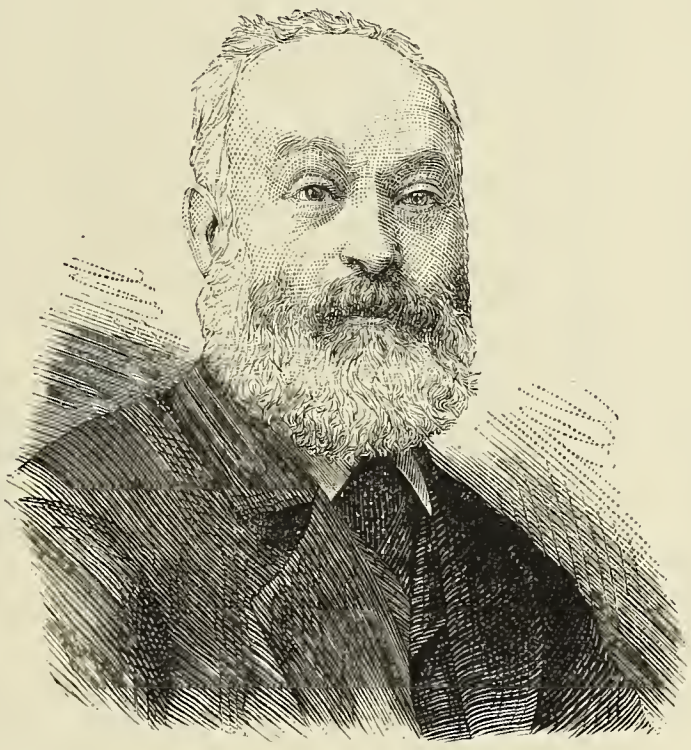
James Lye was born about the year 1830, at or near Clyffe Hall, Market Lavington, and the whole of his gardening career has been spent in the gardens of which he has the oversight. Clyffe Hall is a small estate, the residence of the Hon. Mrs. Hay, a member of the Bouverie family, and sister of one of the Earls of Radnor. Mr. Lye is both gardener and steward, and as a grower and exhibitor of agricultural roots he has for many years past been highly successful. What he takes in hand he does thoroughly; the work his hands find him to do he does with all his might. He is the trusted confidential servant of his employer; he is so courteous, considerate, and unassuming, that it can scarcely be imagined he has a single enemy. It need scarcely be stated he is much respected in his immediate neighbourhood.

At twelve years of age he went into the gardens of Clyffe Hall at four shillings per week, assisting in the sweeping, &c. At that time the gardener was one Richard Smith, a good man with trees and vegetables. From the first James Lye showed a great fondness for gardening, and Mr. Smith noticing that the lad was apt at learning and quick at turning his hand to any work, seems to have been actuated by a kind of jealous feeling, and retarded rather than helped the progress of his young assistant, but he held on, qualifying himself in every possible way, and at the age of twenty-three succeeded to the post of head gardener.

It was about 1857 that he commenced to grow Fuchsias for exhibition. The Trowbridge Horticultural Society has held an annual exhibition for many years past, and it was while visiting one of the shows in the busy manufacturing town that he was fired with the idea of growing Fuchsias. The specimens then grown were from 3 ft. to 4 ft. high, and he was so struck with them that he was filled with the desire to grow plants as good, and he made up his mind to try. He managed pretty well, but it was four or five years before he made his mark, and since then, to quote his own words, "I appear to see a way to improve upon the plant year after year." He has taken more first prizes for Fuchsias than any other grower in Wiltshire, the number of such awards is very great.

And yet, if any one interested in these plants were to pay a visit to Clyffe Hall gardens, they would see how it is the plants are brought to such a marvellous state of perfection. There is a remarkable deficiency of glass; he has one house in which he winters and starts his specimens into growth, but the completion of, and final finishing touches given to the cultural process, are done in the open air; and, whether the summer be hot and dry, or wet, cold, and retarding, the cultivator's skill appears to rise superior to all difficulties, and the victor's crown is invariably, or with very few exceptions, won. It would occupy too much space on this occasion to give an outline of Mr. Lye's cultural progress, but it shall be furnished in the course of a week or two.

As an exhibitor of Fuchsias, Mr. Lye early in his career became practically acquainted with the shortcomings of the leading varieties recommended for the purpose. He then set to work to raise seedling varieties, with the result that he has been able to put into cultivation varieties characterised by admirable habit of growth and free-flowering propensities, invaluable alike for show and decorative purposes. Of light varieties, *i.e.* the tube and sepals white, cream, or blush, he has raised, Beauty of Wilts, Blushing Bride, Delicata, Letty Lye, Mrs. Huntley, Miss Lye, Beauty of the West, Lye's Favourite, Mrs. Wills, Arabella Improved, Ellen Lye, Duchess of Albany, Glory of the Day, White Souvenir de Chiswick, Beauty of Swanley,



JAMES LYE.

Clyffe Hall Gardens, Market Lavington.

Mrs. James Lye, Pink Perfection, Mrs. Hooper Taylor, Mrs. Grant, Miss Welch, Star of Wilts, Beauty of Clyffe Hall, Harriett Lye, Mr. Bright, and Mrs King. Of dark varieties: Charming, Elegance, James Lye, Gem of the West, Royal Standard, Hon. Mrs. Hay, Henry Brooks, Aurora, Final, Mr. Hooper Taylor, Spitfire, Lye's Rival, Thomas King, Duke of Albany, and Crimson Globe.

During the last four years, Mr. Lye has adopted the plan of sending out his new Fuchsias himself, and he is now distributing the following new varieties for 1886,—dark: Mr. F. Glass, Emperor, James Welch, and Mr. F. Bright. Light: Lye's Perfection, Mr. F. Glass, Diadem, Beauty of Lavington, Emily Bright, Lye's Excelsior, and Nellie. We saw several of these in the seedling state, and were much struck with their fine quality. Mr. Lye has also raised some very useful bedding Zonal Pelargoniums; a pink variety, named Climax, being an excellent type for flower garden decoration.

But it is not only as an exhibitor of Fuchsias that Mr. Lye has made a reputation. At the exhibitions at Trowbridge, Bath, Calne, &c., he also exhibits some very fine specimens of Verbenas, Petunias, and variegated Zonal Pelargoniums in pots; and almost invariably takes 1st prizes in their respective classes. Like his Fuchsias, the two first named especially are wonderful examples of high class culture. Though visiting a good many flower shows, we see nothing in the way of Verbenas and Petunias like those shown in the Trowbridge district.

Here then is a record of floricultural works of a high order of merit; floriculture is ennobled by such specimens of cultural skill as Mr. Lye produces. His work is by no means done; of late years he has added the Potato to his other subjects, and has raised a few very useful varieties. Well done! James Lye! and to this the readers of THE GARDENING WORLD will, we are sure, add their grateful amen.

THE PROPAGATING HOUSE.

THIS is one of the most important and interesting adjuncts to any gardening establishment. Although it is necessary that the structural arrangements should be as complete as possible, yet to ensure success it requires something more than a well-built house. There is no department where it is more necessary that everything should be kept clean, and where careful and regular attention will be attended with more satisfactory results. Before commencing the spring propagating, the house should have a thorough cleansing; all the plunging material should be removed, and replaced with fresh clean material, but before doing so, the walls should be cleaned and well washed over with lime wash, this should be made from unslaked lime, and a little sulphur may be added; the wash should be made rather thin so that it will penetrate any crevices where insects are likely to be lodged; all woodwork should be well washed, using either carbolic or soft-soap for the purpose. The above will be the first step towards success.

The next thing will be to see that the compost to be used is free from worms or insects of any kind, and that it does not contain any woody or other substance that is likely to contain fungus spores. Pots and drainage should be quite clean. If the sand used for the surface of the pots is inclined to get caked and hard after it has been watered a few times, it is a good plan to wash it. If about a gallon of sand is put into a pail of water and well stirred, it will remove any clay, and the sand will feel much sharper after the water has been poured off; if the sand is very dirty it should have two or three washings.

In taking off cuttings it should be remembered that it is very damaging for cuttings to lay about long, therefore, only such a quantity as can be put in before they have a chance of getting withered should be taken off at one time. For putting in cuttings, a dibber should be used that is large enough and cut off straight, so that the cutting will go to the bottom of the hole made; we have a great objection to pointed dibbers, as in using these there will often be a cavity left where it is most essential that the cutting should come in firm contact with the soil. In almost all cases short cuttings are preferable, and they should only be put in just deep enough to keep them firm. After the cuttings are put in, they should not be allowed to stand about longer than is absolutely necessary, the sooner they are in the pit the better. Now follows the after attention:—In the first place the temperature should be considered, this should be kept as regular as possible, and the bottom heat somewhat in excess of the surface heat.

The frames should be opened regularly every morning, as early as convenient, and closed again before the cuttings begin to wither from exposure. Before closing the frames they should be looked through, and if there is any sign of damping or decay of any kind it must be removed, and any pots that are dry should be watered, or in some cases a slight sprinkling will benefit the cuttings. Shading should always be put on before the sun is too fully on the house, and removed early

enough for the occupants to catch the declining rays of the sun. Lastly, all cuttings should be removed from the close frames as soon as they have taken root, and gradually hardened off until they are ready for potting, a process which ought not to be delayed after the cuttings are sufficiently rooted.—*A. Hemsley.*

FRUITS, FLOWERS & VEGETABLES.

The New Peas.—We have now got the majority of the seedmen's catalogues before us, and note that new Peas and new Melons appear to predominate. The great number of new Peas, and the great prices quoted, renders it impossible that a nobleman or gentleman's gardener can purchase the lot. There are numbers of gardeners of my acquaintance who would like to grow them all, but for reasons above described, cannot do it. Mr. Editor, would you allow me to suggest that all new and scarce varieties of Peas should be sold in quarter-pint packages instead of half-pints. Here, let me note that a quarter of a pint of Peas will number from 350 to 400, and I hold that this quantity is sufficient for two good rows of 72 ft. long each. This is done by planting four peas in a 60-sized pot, placing them either in cold frames or cool houses near the glass, and planting them out at 1 ft. apart in the latter part of March, and staking them up at the same time. The others may be potted in like manner in a month or five weeks time, so that a succession is formed, which will enable the holder to know the chief characteristics of all the new Peas of the season, at one half the price.—*R. Gilbert, Burghley.*

Tea Rose, Sunset.—Of the flowers which can be obtained in winter none are so welcome as the Rose, and every addition to the varieties that can be grown to afford their blooms during the dullest months is, therefore, very acceptable. One that will take a foremost place amongst such Roses is a variety which Messrs. Paul & Son, Cheshunt, are sending out under the pleasing title of Sunset, an agreeable contrast to the Souvenirs, Countesses, Marquises, and similar continental designations that are now so abundant. Sunset is a Tea Rose possessing a delightful fragrance, the blooms are of moderate size, very neat and pretty in the bud, and of a bronzy hue, slightly suffused with a reddish tint; the plant is of free growth, and is almost a perpetual flowerer. That it is still yielding blooms in plenty after a long season is sufficient proof of its value in this respect, and Mr. G. Paul states that he is cutting hundreds of buds and blooms from plants in pots grown in an ordinary Rose-house. There can be no doubt that with so many recommendations it will become a general favourite for winter.

Potatos for Exhibition: Judging Vegetables.—Another question, besides those made in your last, well deserves the attention of flower show committees at the present time, viz., the desirability of prohibiting the exhibition for prizes of all varieties of Potatos of known inferior quality. How can employers be expected to encourage their gardeners to compete if they find that their gardens are often filled with varieties that, when grown, are scarcely fit for eating? And yet such kinds, I am sorry to say, too often secure the leading prizes. Of course, the quality of many kinds of Potatos can only be known in the district where grown. I should like to see a reformation of the way in which many judges give their awards. In the case of vegetables, it would seem as if they can never get them too large, table quality being treated as quite a secondary matter. I shall never forget having once seen two judges disputing over the merits of two entries of Cabbages. The oldest judge exclaimed, "Man, this is the sort that'll fill the 'coo's' belly!" and so gained his point.—*A. Grigor.*

Vines Bleeding.—Although not a believer in what Mr. Fraser advocates on p. 284, I have as little faith in what Mr. Challis advocates on p. 315. I should like to know how lowering the temperature for two days would suffice to heal the wounds when mouths did not do it in the case of Vines pruned in November and not started until the middle of February.—*A. Grigor, Fairfield, Aberdeen.*

Rhus cotinus.—Allow me to corroborate the remarks of your correspondents, "R. D." (p. 267) and "T. W." (p. 284) as to the beauty of this hardy shrub. It is surprising how seldom it is to be met with. I have only seen one really good plant of it, and that was on a small lawn in front of a villa in the village of Cacklebury, in Sussex. The plant I refer to was about 6 ft. high, as near as I can remember, and nearly as much through and about thirty years of age. I learnt the latter from a previous resident at the villa alluded to, and who had excited my curiosity to see this remarkable shrub in flower. Perhaps it is too slow growing for most people to wait for it, although some I planted a year since have made 18 ins. of growth. I also saw some smaller plants of it at Battle Abbey about eight years ago, and which, I imagine, are nice bushes by this time. Being by the roadside, the specimen referred to had a quantity of visitors from the neighbouring town of Hailsham come on purpose to see it, and not a few carriages stop for its occupants to admire it.—*E. Dumper, Limerick.*

Salvia Heeri.—Anyone having a few plants of this grand old Salvia will find it remarkably useful now and for some time to come. Although S. splendens, S. gesneræflora, S. Betheli, and some others I could mention are fairly good varieties, they cannot, to my mind, by any means equal the subject of this note, which, for all purposes combined, must, I think, give it the first place among Salvias. I do not, by any means, wish to depreciate the merits of S. splendens, which stands next in my estimation; but it wants more heat than S. Heeri to do it anything like justice. The latter will do well in an ordinary greenhouse, but it may cause them to be somewhat later in coming into flower than if it can be afforded a little heat. For cutting purposes the scarlet spikes of blossom of this beautiful sage is very light and striking when arranged with most other flowers that are to be had at the present time. I do not forget their utility in the conservatory either, where they show off to the best advantage, especially if there is space to admit of half-a-dozen plants at a time arranged not too close to each other, being of both a light habit, and adding bright colour to the other plants.—*E. Dumper Limerick.*

Sawdust as a Medium for Blanching Celery.—Anent the correspondence in the two last numbers of THE GARDENING WORLD on the earthing up of Celery, it might be useful to some of your readers to mention a system I saw carried out a few years ago. The garden in question had a very stiff cold soil, and and Celery culture had generally proved a failure. It grew well enough until earthing up time came, and then what with the stiff cold soil causing it to rot, and the number of slugs that attacked it, it did very badly. The season I visited this garden, the gardener had procured a quantity of sawdust and earthed the Celery entirely with it; it proved very successful, as some samples that were dug in my presence proved cleaner Celery could not have been lifted. Should any of your readers have tried this plan, they might be able to tell how the sawdust agreed with the land for after crops.—*Chas. Denning, Holme Lacy.*

Gros Colmar Grape.—The usefulness of this Grape is gradually becoming known, and its culture is proportionately extending. As a late-keeping free-cropping Grape of fine appearance it is much appreciated whenever it has been fairly tested, and when well grown it is of very fair quality. I have given it several seasons trial, and though prejudiced against it at first, I have since had reason to alter my opinion, and would now as freely recommend it to gardeners who have not included it in their late house. As with other varieties, it has some peculiarities which require to be carefully studied, and the most marked of these is the tendency of the foliage to become burnt; the result of this is that the foliage is lost early in the season, the fruit colours imperfectly, is poorly flavoured, and the wood is not properly matured for another season. The two means that I have found most effectual in preventing all these are an abundant supply of water to the roots and moderate shade for the foliage. My attention was first directed to the matter in a market garden near here, where there are several span-roofed vineries running east and west, therefore one side of the roof faces the south wall, the other the north wall. A large number of Vines of Gros Colmar are grown, for this Grape, owing to its fine appearance, has been proved to be a valuable one for market, and in the majority of cases they are grown on the north side of the house and trained to the north roof, thus being to a great extent shaded by the Vines on the opposite side, chiefly Lady Downes, if I remember rightly. The Gros Colmars so planted each year possess the most vigorous foliage, and retain it considerably longer than is usually the case, the result being beautifully coloured well ripened Grapes, displaying the characters of the variety to the best advantage. Acting upon the hint thus gained, I planted some Vines in a similar position, and we have not since been troubled with the leaf scorching and unripened fruit that had previously caused us so much trouble.—*R., Brighton.*

Pepinia aphelandræflora.—There are many Bromeliads that deserve more attention in gardens than they receive at the present time, and amongst the neglected ones must be included the Aphelandræ flowered Pepinia, a pretty plant for winter but little known. My attention was first drawn to it in Mr. B. S. Williams' nursery two or three seasons ago, and I was easily induced to obtain several plants which have succeeded very satisfactorily with me since, and I am increasing my stock. It has slender graceful dark green leaves curving elegantly round the pot, and the bright scarlet flowers are borne in spikes somewhat like the Aphelandras. The plant is as easily grown as any of its class, a light turfy loam and peat with sand suiting it best, and not the least of its good qualities is that it flowers in a young state.—*E.*

Peas for Exhibition.—The wonderful Peas that take the prizes at the principal exhibitions during the summer often excite much surprise, not only amongst the non-horticultural visitors, but also in the minds of gardeners who are content to obtain liberal crops of a good quality variety, without studying the size of the pods too closely. There are, however, no great secrets about the matter, and anyone so disposed could grow their Peas to the exhibition standard, though not all equally fine, as something depends upon local influences. The one leading item is a bountiful supply of rich manure, and one of the most successful exhibitors informs me that he has found none to equal pig manure in its effects, and he has tried all kinds. Whatever is used a trench is formed 1 ft. deep, throwing the earth up on one side as a protection, placing it on the north side if the trenches run east and west, as the grower named prefers; then this trench is three parts filled with the manure employed, and over that is placed a layer of fine soil 2 ins. or 3 ins. deep in which the Peas are sown. A slight covering of ashes is then given, and the chief after care is a dusting of soot when the plants appear and liberal supplies of water.—*M., Retford.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

In this department so many subjects claim our immediate attention, more particularly so, as, unless due regard is now paid to their requirements, failure in the supply will have to be chronicled next autumn. I allude more particularly to Gesnerias, which having finished flowering must not at once be relegated under the stage or other unseen corner, but must be carefully and systematically dried off by keeping them were they can be attended to and occasionally watered until finally ripened, they may then be stored, and when potting comes round for them the extra attention paid will be well rewarded by the increased size and quality of the roots.

The same remarks apply equally to the kindred subjects Tydæas, although these must not be subject to so long a resting period, in fact, in some species divisions can be secured even while the parent plant is in bloom. Let the Gloxinias which were stored now be looked to, and those that are started be brought to the light and well soaked with water preparatory to being repotted, and in doing this be sure and do not use pots beyond 6 ins. in diameter, and I would advise a plentiful use of half-decayed leaf-soil in preference to the use of cow-manure in mixing the soil.

Bouvardias and all autumn-flowering plants must also now receive attention, look over the stock and select some of the strongest of each variety to place at once into heat for growing the first batch of cuttings; be sure and do not neglect to have a good supply of President Garfield and Alfred Neuner, two of the very best for all purposes, and especially for buttonhole work. Flowering Begonias also must be treated in the same way, in fact, if they are plunged in a slight hot-bed they will furnish a much better stock of cuttings, and which, in addition, will strike more readily than if taken from the plants as they stand. I need

hardly name varieties, but still do not forget Parviflora and Weltonieusis, two of the most useful for decorative purposes.

The stock of Pelargoniums must now be gone over, and those for early flowering selected and potted on at once, those for later work may be pinched back, and after they begin to break may receive their final shift. Use a good rich sound compost and feed with liquid manure as required at the time of floweriug; "Clay's" is one of the very best mannres for them. Look well to the stock of bedding stuff, and if short, increase as fast as possible, our stock has wintered remarkably well, having lost scarcely a plant; Lobelias, Mesembryanthemums, and all such like may now be readily increased by propagating, and will have pleuty of time to make good stuff preparatory to being put into cold pits.

Let the potting of stove plants be continued as can best be done. Dracænas of all kinds, that through use or other causes have become leggy, are much better headed down, and a part of the stem if cut into eyes will give a good stock for another season; plunge the remaining part into stroug bottom heat, and good cuttings may soon be had, which, taken off, with a little heel, strike readily, and very quickly make good plants. The points of Crotons shonld uow be taken off for propagating, according to the demand for decorative plants, place them singly into small thumb pots, plunge them in a good strong bottom, cover with bell glasses, and do not let them flag, of course, remove the shading material in the evening and replace when necessary; be careful, also, that the bell glasses are well wiped twice a day, this will prevent damping off.

FORCING HOUSES.

Work here now comes on apace, and the utmost vigilance is necessary or injury will soon become apparent. Look well to the disbudding and stopping of the early Vines, but do not strip the Vines of superfluous growth all at once, or a check will eusue. Let this be done at intervals of a few days and all will be well. The early Peach trees should now be in flower, that is if fruit is wanted by the end of May; let the air be dry and buoyant about mid-day, when the trees may be gone over with the camel's-hair pencil (we always use a rabbit's tail, and find it much better than a pencil), afterwards giving the trees a good shake to distribute the pollen that may remain; and if the trees have been properly atteuded to during the autumn and winter with regard to water at the roots, no fear need be entertained as to securing a crop.

We have placed another batch of Spiræa japonica, Lilacs, Lily of the Valley, and Indian Azaleas into heat, also two dozen standard Roses in pots into the early Vinery. As the temperature rises these will be removed to cooler quarters, and will give us many a good bouquet before the Marechal Niels in the greenhouse come in. Our first Lily of the Valley and Spiræa are now well in bloom, and most acceptable they are, particularly for house decoration.

Take great care to make good sowings of French Beans. Where these are required all the year round, as with us, it requires some amount of care to always have a good dish. The variety we find most suitable for mid-winter work is Osborn's Prolific; but from now onward none are, in my opinion, equal to the old "Pale Dun," if sown in a box in leaf-soil, and when ready, placed six or seven in an 8 in. pot, they will be more fruitful than if sown in the pots; it also checks too luxuriant a growth, and avoids pinching. For mid-winter work it is more desirable to sow them in the pots in which they are intended to fruit.

We are now preparing a hot-bed for the second batch of Cucumbers. This should be well rammed, and allowed some days to settle, and before the hillocks are made more material added, so that it may sink as little as possible. See that the supply of Mint and Tarragon, together with small salads, is fully kept up. A good potfull or two of Solomon's Seal should also be put in now; this is always admired in a cut state, and when the plants are over they may be plauted out again for lifting at some future time.

We managed to get our third batch of Asparagus in on Friday last, and glad we were of the opportunity. Look well to the Mushroom-house, keep a temperature of about 58°; see that the beds that have been bearing for some time do not become too dry, should they require water give them a good dose. Take three parts of a bucket of quite dry cow-dung and fill up with water, let this soak for twenty-four hours before use, mixed with hot-water and the beds will be greatly benefited thereby.

Collect materials for working up beds as required, and also look after the supply of Sea Kale and Rhubarb. Endive lifted with a good ball and stocked on the floor of this house will blanch readily. See also that the supply of Chicory is kept up, this we find most useful all through the winter months when salading becomes rather scarce. "Witloef" is far superior to the old variety.

THE KITCHEN GARDEN.

The welcome thaw has come, and once more we enjoy a sight of the soil. Lose no time in pushing on the digging of all vacant squares ready for receiving the crops which were determined for them last autumn. Where wire-worm or grub are troublesome to the Carrot crop after the ground is dug, put a good sprinkling of gas lime, and allow it to remain until sowing time, when rake it in with a wooden rake previous to the drills being drawn, and there will not be much trouble with that pest; the same remarks apply equally to the Onion grub, and the square devoted to that crop may receive a similar application, but as, of course, the ground has been dug some time since, a frosty morning must be chosen to get it on the ground.

Keep the grouud well stirred between the early Coleworts, aud when they start fairly into growth draw the soil to them to keep the wind from rocking them, and also as a protection to the stems. Look well to the Sea Kale quarter, and as soon as time will permit lift all that is required for this seasons use, storing the crowns in sifted ashes from which they can be taken at any time; be careful to remove all the sizable thongs to remake the plantations, but be sure do not plant anything but thongs, old crowns never make good stuff; we devote sufficieut space to the growth of this vegetable to lift ouly every other year, which gives us good crowns.

Select the ground to be devoted to Jerusalem Artichokes, as, if these are not planted in good time the crop is seldom first-rate, we always endeavour to plant ours towards the end of this month. Make a good sowing of first and second early Peas, and also of Broad Beans, and if those sown inside are sufficieutly advanced let them be planted out, being coddled up in frames will shortly spoil them; it will be as well to cover seeds now with old soil from the potting benches, which should be saved for such purposes. Look well to the Radish bed, and if the first sowing is well advanced make another, and then one may shortly be made on some sheltered border of the French Breakfast to succeed those sown inside.

A box of Eclipse Cauliflower and Paris White Cos Lettuce may be also sown, placed in heat until they germinate, then remove at once to the cold pit; this Cauliflower will be found to succeed the autumn sown ones, and always do well, in fact, it is by far the best variety with us.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Odontoglossum Alexandræ.—I have read with great interest Mr. W. Thompson's note (in your issue of January 9th) on plants flowering "in 1884 as extra fiue, being small puny things in 1885." I have been told by a northern grower that one of his grandest varieties, which made a fine growth, threw a strong spike and little wretched blooms upon it. He afterwards told me, in response to my queries on its cultivation, that it had been put into a cool frame for the second summer's growth, and as he did not know when the plant returned to its proper quarters, I expect that bulb was chilled in its immature state, and was unable to secrete the needful matter to produce fine flowers; I am sure the cultivation must have been at fault aud not the plant. I have a lot of the fine broad forms that bloomed early in 1885, which I have preserved flowers of, and as they are all now pushing grand spikes, I will in due time send blooms of them for your inspection and notes on the subject. I do not approve of frame culture personally, and we at Rosefield have some O. Alexandræ which have as good spikes on them (secoud season) as man need wish, and the buds of those far advanced show they will be far from puny things.

A cry raised of this sort is enough to frighten many of the younger growers into stopping the pet hobby, and selling them in fear of having poor ones come out of the ones they saw fine last time. I expect that the twenty-one guinea plant he quotes had a tremendous spike on it when bought, and it was kept on for a long time, and, perhaps, tore the plant to pieces so that it could not recover itself in time. It might possibly have had a label carelessly changed in re-potting if it was among a large stock. I am glad to say that in *every* instance in which I have bloomed an imported O. Alexandræ for its two first seasons in my own houses, that it has flowered finer or had more blooms equally as fine as the first season. I can understand a plant, cultivated for the first year and sold in bloom by one owner, deteriorating under worse culture or changed circumstances in its second owner's hands. I hope Mr. Thompson will find some difference to account for the poor "puny flowers of 1885."

It may be that the plant has exhausted the compost in which it is, for, as a rule, the newly-imported plant is under-potted, not over-potted; they can be left in this pot too long. We find that a larger pot than most people give for the first shift is beneficial, and if anyone likes to see them they are welcome to do so. The bulb they make in the largish pot is no doubt improved, and it is able to secrete all it wants to produce its "quota" of good blooms. If it has not room for its roots to permeate, and each root has not a sufficient space to extract its full supply of food, the bulb must suffer and the plant too, and therefore the spike will be poor. We do not preteud to be cleverer than others, but we shall be glad to show the plants we have to back up my statement in due time.

I think there may be another reason advaneed to account for the puny flowers. In the case of a plant grown by one who wants to sell it, he naturally leaves the bloom on as long as possible in hopes of its looks selling it, for "an Orchid's face is its fortune." Perhaps the spike is left too long on the one year imported plant, which may not have as many roots as it ought to have; the second year the poor thing may show its over-straining, though it may make up a large bulb. My practice is almost invariably to cut the first spike as soon as fully expanded; under this *régime* I cannot think a fine variety will become a "puny one." Another way would be to always cut out the second season's spike, and then, perhaps, the owner would never be discouraged. I have prevented some of my plants blooming for three seasons because they were fine varieties and not sufficiently strong to throw a good spike; the first spike does undoubtedly try their powers more than any subsequent one. When I allow these plants to bloom I will send you a comparative blooming—1883 to 1886—if I do not forget. I should like to ask a question on this subject of changing varieties. I have been once told that a good variety which bloomed in January one season bloomed in November and turned out good. All *my* fine ones, no matter when they bloom, are always alike. I should like to have others' experience on this.—*De B. Crawshay.*

Odontoglossum Hybrids.—Numerous as this beautiful and varied class now is, fresh varieties frequently flower which beat their predecessors in their particular branch of the family. A very pretty example is now in bloom with Messrs. Shuttleworth, Carder & Co., of Park Road, Clapham. In some of its features, and particularly in its triangular lip and its markings, it is like O. Andersonianum obtusatum, but it is more massive in all its parts, and in form more nearly like a neat and compact O. crispum. Iu colour it is clear, bright yellow, marked with what may best be called bright chestnut, but which some would name dark bright red. Another year's growth will make it a great beauty.

Orchids in Scotland.—In reply to Mr. Crawshay's inquiry, at p. 316, about the Odontoglossum Alexandræ, at Oswald Road, Edinburgh, I have to say that, having destroyed the notes taken at the time of my visit, I wrote to Mr. Grossart for the required information, and seud you a quotation from his reply, from which Mr. Crawshay will perceive that I have understated the number of flowers borne by the plant. Mr. Grossart says, "I have gone over the Odontoglossum Alexandræ again, and find it has 141 flowers on five spikes, the largest of which carries fifty-two flowers. This plant, two years ago, produced a spike that carried 65 flowers. It has twelve bulbs, eight with leaves and four without them, and is growing in a 10 in. pot; I enclose you a flower which measures 3 in. one way and 4 in. the other."

The spikes are branched, and the form of the flower is starry, but a very fine flower of that variety, and beautifully spotted. The plant presents a grand appearance, being in perfect health. It has been at Oswald Road about four years, and was in the country some three years previous to that time. While writing, I may, perhaps, mention a few "immense spikes" which have flowered, and are flowering in Scotland. No doubt, if Mr. Crawshay could spare the time to come and pay occasional visits to the various places in Scotland where Orchids are grown, he would not only hear of "immense spikes," but also see some.

I have notes by me of a Dendrobium macrophyllum giganteum, which flowered at Carolside, one of Lord Reay's Scottish homes. It was growing in a basket, and there were two growths in flower 4½ ft. long, the flowering part of the bulbs being as long as a walking-stick; one bulb had forty-one flowers, the other thirty-seven. Many of the blooms were 5 ins. across, and the plant presented a most beautiful sight. Many other fine samples of Orchid culture were to be seen at Carolside. At the same date there were some very fine Orchids in bloom at Ravenswood, the seat of Admiral Fairfax, C.B., which is a nice little place not far from Melrose. An Oncidium Sarcodes in a 6-in. pot had one spike 8 ft. long with 103 flowers open, a very fine variety. At other times Cattleya crispa superba was to be seen at Ravenswood with sixteen flowers borne on two spikes; Cattleya superba splendens with eight flowers on a spike.

At Priorwood, Melrose, the residence of A. Curle, Esq., lately there was in flower a plant of Odontoglossum Pescatorei with eighty-six blooms on one spike. The same plant last year had two spikes to one bulb—sixty-four flowers on one of the spikes and fifty-five on the other. At the present time there are a good few O. Pescatoreas in bloom with forty-nine, fifty, and sixty-three flowers; Odontoglossum Alexandræ, with one bulb bearing two spikes, one with thirty-two, and the other seventeen flowers; three other spikes came from the top of the bulb, but they were taken off. Many other fine things are to be seen from time to time at Priorwood, and I have a good many notes of some of them, but space forbids their reproduction here.

I may also say that an Odontoglossum Alexandræ, with one spike bearing ninety-six flowers, was sold at Stevens' auction rooms in November, 1882, by Messrs. Thomson & Sons, of Clovenfords, for £17 17*s*. It was a good spotted variety, and was one among many which have produced large spikes at the Tweed vineyard. At the present time there may be seen at Messrs. Thomson's a plant of Lælia superbiens with two spikes, each nearly 7 ft. long, one bearing seventeen blooms and the other fourteen blooms. In conclusion, I presume that Mr. Crawshay will believe that there is no desire to exaggerate in connection with any accounts, which may from time to time appear, of Orchids flowered in Scotland. It is well to stimulate a generous rivalry, but at the same time it is desirable that nothing like suspicion should be entertained regarding statements made in good faith, and with no desire to unduly praise anything at the expense of truth. As Mr. Crawshay will observe, I stated that the O. Alexandræ at Oswald Road had 140 flowers, and as a matter of fact it has 141, so I certainly erred on the safe side when writing of it. England should be pleased to hear of Orchid successes in Scotland, and *vice versa*.—*J. T.*

SYRINGING ORCHIDS.

Entertaining the belief, in common with all other Orchid growers, that the grand collection of Messrs. Jas. Veitch & Sons, of Chelsea, is one of the richest and best grown which has ever been got together since Orchid growing first commenced, I this week asked Mr. Canham, their Orchid grower, what use he made of the syringe on his plants. He replied "I never syringe any Orchids overhead at any season of the year, except growing Dendrobes which may be situated where syringing them would not be likely to cause water to fall on other things." These few words, which exactly tally with the views on the subject which I advocate, and which are called by some extreme, describe the practice of admittedly one of the very best growers of the day, one who in his younger days was engaged in Mr. Rucker's collection, and had the opportunity of seeing the magnificent collection of Phalænopsis in it completely destroyed in one year by a fancy which Mr. Rucker took for watering them overhead, and strongly against Mr. Pilcher's wish.

Many other equally pointed examples were witnessed by Mr. Canham, and he seems to have arrived at the same conclusion as I have on the subject by hard practice and observation, and proves the correctness of the almost total abolition of syringing overhead by the steady progress which the plants in his care always make. I think he is well-known enough among Orchid growers for a statement of his practice to outweigh any number of small practitioners who have only knowledge of their own experience where syringing has always been carried out, whereas, we, who advise its discontinuance, have practical experience on both sides of the question. With respect to Mr. Seden, the great Orchid hybridist, whom Mr. Burbidge (p. 316) fears I shocked at the Orchid Conference by my condemnation of the practice of syringing Orchids overhead, I am assured that he did not feel it a bit, as his views on the subject entirely agree with those I there expressed, and I have his authority for saying so. If Mr. Burbidge can get anyone at Messrs. Veitch's to come to his syringing practice, and particularly the *nightly* use of it he advocates any nearer than to have a laugh at it, their ideas on the subject will have to change very much. They, and all other good growers, know how to secure a sustaining moisture at night by lowering the temperature, and by seeing that they do not have any of those dry houses which he mentions.

However, reform on any question is not brought about without a show of resistance from that party which feels its long-cherished pet being snatched from it; but the comforting part of it is that once vanquished the refractories invariably take kindly to the new state of things. If all interested in this matter will carefully read the discussion on this subject in your columns, and particularly that in this note setting forth the practice of two of our best growers on such a collection as that of Messrs. Veitch, and will then carefully regulate their practice and watch the results, I am convinced that if this subject is brought up again next year, short work will be made of the syringers of Orchids overhead—I forgot though, they have already departed and light and nightly dewers have taken their places.—*James O'Brien.*

I was surprised to see such a strong article from Mr. Challis condemning Mr. O'Brien, and asserting in conclusion, that everything in the house may occasionally on a warm summer's eve be deluged with water. While I cannot claim to the experience of either the two gentlemen named, I am very much of Mr. O'Brien's opinion, and I know that he practised what he preaches while in charge of the Pine Apple Nursery. To my mind his advice is far more sound than the practice of occasionally deluging all the occupants in the houses. I do not know how it may be with Phalænopsis, Cattleyas, Lælias, Aërides, Vandas, and others I could mention of a fleshy nature in an elevated dry district, but here in a damp low-lying situation I should be very sorry to go in for such a general use of the syringe.

Perhaps Mr. Challis will accuse me of taking extreme cases only, but then considering what harm may be done in a very little time, if anyone who may have read his remarks were to practice on the genera mentioned, and if everything in the house is to be deluged they must be included. With few exceptions I follow Mr. O'Brien's advice, and only use the syringe for damping under the stages, walks, walls, &c., the exceptions being Dendrobiums, Sobralias, Odontoglossum Roezlii, and a few others, which as far as my own experience is concerned are benefited by a moderate use of the syringe during the growing season, that is, if rain-water can be obtained. I have also during the hot dry weather of last summer given a slight damping only over the cool house Odontoglossums, not more than half-a-dozen times during the summer. I do not in any case syringe any of the plants mentioned whilst hanging over others, as the drip would be far worse to those underneath than good would accrue to those suspended.

I do not syringe in anything but bright weather, with which I may say we are not so favoured here as in England. I do not think we have had more than 50 hours sunshine during the last three months, but not having kept an account I would not like to state this as a positive fact.—*E. Dumper, Summerville Gardens, Limerick.*

Achimenes.

ACHIMENES.

For spring and summer flowering the numerous varieties of Achimenes are extremely useful, and though, essentially stove plants, they can be employed in greenhouses and conservatories with admirable effect, in fact, it is for the decoration of these houses that they are principally grown. Whether in pots or baskets, they are charming when in flower, and it is so easy to ensure a long succession by starting the plants at different periods early in the year, that they can be had in beauty until late summer and autumn. For the stages and shelves in conservatories those in pots are the most suitable, but when a number of baskets are suspended from the roof they are specially pleasing, though few can hope to have them in such perfection as they used to be seen at Chatsworth.

The Achimenes have been great favourites with me for many years, and I have now a good stock of them, some of which will soon be started to afford the earliest flowers. We have three systems, each of which has its advantages, and I will briefly detail our practice for the benefit of younger gardeners, for, although Achimenes are not difficult to grow, they are none the worse for a share of careful treatment. The simplest method, or, at least, that which gives the least trouble, is to place the tubers at once into the pots and pans they are intended to flower in, when it is only necessary to arrange the curious little roots, with the strongest in the centre and the smaller ones round them, the former about 2 in. apart and the latter an inch asunder, if a full specimen is required. Another way is to start the tubers in pans and transplant them when the groups are an inch or two high into other pans, arranging them in a suitable manner to form an even head. The third way, and one which I can strongly recommend, is to start the tubers as advised in the second case, placing them closely together, and then taking off the shoots when about 3 in. long, and inserting them as cuttings in the pans they are to occupy for the season; they strike readily, and though rather later in flowering, they make stronger, more even, and more lasting specimens than those grown direct from the tubers, they also furnish a useful late succession to the main stock. Either or all of these means can be practised and will give satisfaction.

The soil for starting the tubers in should be a light loam, but as a permanent compost a mixture of similar loam with peat or leaf soil; some old manure and sand must be employed, while if the loam be rather inclined to be heavy or tenacious a few pieces of charcoal will be beneficial. Provide a good drainage, as water must be freely supplied when the plants are flowering, before, however, the tubers are placed in the soil this should be well moistened and allowed to stand for an hour or so, and then it will not be advisable to give any water until growth is advancing. In preparing baskets for the reception of Achimenes a good layer of moss must be first placed in filling up with the drainage and compost as for the pans. When the flowers are beginning to expand weak liquid manure may be given with advantage, as it is not well to starve the plants in this stage, or the flowers will soon fall and the time of their usefulness be greatly shortened.

In starting the tubers a temperature of about 60°, or a few degrees higher will be suitable, and this will also suit the cuttings, but these should be shaded for a few days and kept moderately close until rooted. Afterwards to forward the plants a slightly higher temperature is advisable, such as that of an ordinary stove, but as the flowers show the plants must be carefully hardened, as their after success in the cooler houses depends, to a considerable extent, upon this. First, place them in a cooler part of the stove, then transfer them to a vinery or house with an intermediate temperature preparatory to their removal to the conservatory.

A succession can be maintained by starting a batch of tubers every month, from February to May, according to the demand and the stock at command to work with. The following varieties I have found to give general satisfaction:—Ambroise Verschaffelt, pale lilac, very free; Dazzle, bright scarlet, free, dwarf, and charming, something like an improved form of the old coccinea; Grandis, deep violet; Longiflora major, blue, flowers large, and plant strong in habit; Alba, is a white counterpart of this; Mauve Queen, purplish mauve with a dark centre, very handsome; Pink Perfection, bright rosy pink, a lovely variety; Purpurea elegans, rich crimson-purple, very distinct; Rose Queen, rosy crimson; Stella, magenta; and Scarlet Perfection, rich scarlet, large and effective. Those who may intend commencing the culture of these plants can procure the tubers now and start them in succession as recommended, keeping the others in a dry cool position, either in sand or in paper bags.—*R. T.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The annual general meeting of the subscribers to this institution was held on the 15th inst. at "Simpson's" in the Strand, the treasurer, Mr. Edward Tidswell, being in the chair. Among the subscribers present we noticed Mr. John Lee, Mr. Sherwood (of Messrs. Hurst & Son), Mr. J. F. Meston, Mr. B. S. Williams, Mr. Nutting, Mr. Watkins (Messrs. Watkins & Simpson), Mr. P. Barr, Mr. Lynch White and Mr. W. Y. Baker, Mr. G. Head, Crystal Palace; Mr. Pilcher, Wandsworth; Mr. G. Munro and Mr. Webber, Covent Garden; Mr. John Fraser, Mr. John Kennard, Mr. B. Wynne, Mr. W. Richards, Mr. Gough, Harefield Grove; and Mr. C. E. Marshall, Woodford. The minutes of the previous meeting being read and confirmed, the report of the committee and statement of accounts (which we give below) were read by the secretary.

From the annual report we gathered that sixteen pensioners died during the year, five of whom left widows, who, having proved to the satisfaction of the committee that they were deserving of the charity, were placed on the pension list in accordance with Rule VII. With reference to the augmentation fund which was closed on February 28th, the amount collected, including the £500 generously given by the unknown donor, and the interest on investments was stated to be £4,987 4*s.* 6*d.*, and this sum had been placed to the general account. The committee, considering the success which attended the distribution of the collecting cards for the augmentation fund, caused similar cards to be issued last August, with the result that a clear gain of £143 7*s.* accrued to the institution; and the committee have determined to carry out the collection yearly. During the year the institution has been benefitted by legacies amounting to £450 from Mrs. Dodson, of Blackburn, and £100 from J. S. Law, Esq., Southgate.

The forty-second anniversary festival held under the presidency of the treasurer, Mr. Tidswell, was a great success, thanks to his earnest and able advocacy of the claims of the institution. Taking the financial affairs of the institution into consideration, the committee decided to purchase £5,150 consols, making the total amount of the reserve fund £21,100, from which an annual income of £633 will be derived. This amount is a sure guarantee that the claims of all those who have subscribed under Rule VI can be met. The committee are of opinion that for all practical purposes this sum of £21,100 is sufficient, and that except under special circumstances, such as legacies, &c., no more permanent investments should be made and that the whole amount of the annual income should now be applied to the general purposes of the charity. The committee were also of opinion that in order to keep pace with the improved resources of the institution, several of the rules should be revised, and certain new rules made; and this was done at a special general meeting of the subscribers held in March last, the principal alteration being that relating to the increase of the pensions.

The question of obtaining suitable offices had also been considered, and a warm friend of the Institution having offered a share of his offices on very advantageous terms, his offer was accepted, and the permanent offices of the Institution are now at 50, Parliament Street, Westminster, S.W. The report also stated that the forty-third anniversary festival will take place on Friday, July 2nd, when N. Sherwood, Esq., of the firm of Messrs. Hurst & Son, Seed Merchants, Houndsditch, will preside; and with reference to the election of the pensioners that day, the Committee had reason to believe that the course they suggested, as to putting the applicants on the list without the trouble of an election, had given great satisfaction to the subscribers. In conclusion, the committee desired to tender their thanks to those friends of the Institution who so kindly assisted with the loan of flowers and plants, &c., for the decoration of the banqueting room, on the occasion of the annual festival.

The adoption of the report and balance-sheet was carried unanimously, and the election by the committee of Baron Schroder as a vice-president was confirmed. It was next moved, seconded, and carried unanimously that Mr. Tidswell be re-elected treasurer, and that the thanks of the meeting be accorded to him for his kindness in taking the chair at the annual festival, and for the great interest which he takes in the affairs of the institution. Mr. John Lee, Mr. J. F. Meston, and Mr. Willard (Holly Lodge), were re-elected auditors; and in the place of the six gentlemen retiring from the committee in rotation, the following subscribers were elected to serve:—Mr. James Webber (Covent Garden), Mr. Sweet (Leyton), Mr. W. Y. Baker (Thames Bank Iron Co.), Mr. Watkins (Messrs. Watkins & Simpson), Mr. S. Osborne (gardener to the Earl of Fife, East Sheen), and Mr. J. F. Meston (Beckenham). Then came the election of secretary, and Mr. E. R. Cutler was re-elected by acclammation for the 45th year in succession. Finally came the question of the pensioners, and the recommendation of the committee that the whole of the applicants, with one exception, be put on the list without the trouble and cost of an election, was adopted *nem. con.*

Subsequently many of the subscribers present, and a number of others who could not attend the business meeting, sat down to a "friendly dinner," with Mr. Tidswell again in the chair. After the usual loyal and patriotic toasts had been given, and received in a very hearty manner, the chairman, in very happy terms, proposed "The continued success and prosperity of the Gardeners' Royal Benevolent Institution," coupling with the toast the name of Mr. John Lee, the father of the Institution who, in replying, expressed the great pleasure he felt in the pensions being raised, and in their being able that day to put twenty-five persons on the pension list without the trouble and cost of an election. Mr. Lee then proposed the health of the committee, to which Mr. Webber replied. Mr. John Fraser next proposed the health of the chairman, Mr. Tidswell, who responded in happy and felicitious terms, and this toast was followed by that of Mr. Sherwood, the chairman at the next annual festival, who, Mr. Nutting remarked, deserved the hearty support of the trade on the occasion, and he sincerely hoped he would get it. Mr. Sherwood, in reply, said that he should go forward heart and soul with the determination to make the next festival as great a success as any of its predecessors. The health of the secretary was proposed by Mr. B. S. Williams, who commented upon the enthusiastic and most admirable manner in which Mr. Cutler carried out the duties of his office. Mr. Cutler briefly replied; and with the

STATEMENT OF THE RECEIPTS AND PAYMENTS OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION, FOR THE YEAR ENDING DECEMBER 31ST, 1885.

Dr.

	£ s. d.	£ s. d.	£ s. d.
To Balance from 1884	..	..	386 8 10
,, Annual Subscriptions ..	1,204 13 0		
,, Donations at and in consequence of Annual Dinner	771 3 6	1,975 16 6	
,, Advertisements	56 0 6		
,, Amount of Collecting Cards	143 7 0	199 7 6	
,, Dividends on Stock ..	549 15 0		
,, Interest on Deposits ..	2 10 3	552 5 3	
		2,727 9 3	
,, Legacy from Mrs. Dodson	450 0 0		
,, ,, ,, J. S. Law, Esq.	100 0 0	550 0 0	
,, Augmentation Fund Account	..	4,987 4 6	
			8,264 13 9
			£8,651 2 7

Cr.

	£ s. d.	£ s. d.
By Pensions		1,655 1 4
,, Secretary's Salary		160 0 0
,, Printing		117 4 3
,, Furniture for Office		40 19 6
,, Hire of Committee Room		5 17 0
,, Stationery		17 16 4
,, Books of Cheques		3 9 2
,, Advertising		6 1 6
,, Expense of Annual Dinner		78 5 3
,, Postages, Travelling Expenses, and sundry petty Expenses		84 6 9
,, Solicitor's Bill		2 2 0
		2,171 3 1
,, Purchase of £5,150 £3 per cent. Consols	£4,992 13 9	
,, Amount placed on Deposit	1,100 0 0	
		6,092 13 9
,, Balances, viz.:— With Treasurer at Bankers....	371 19 9	
With the Secretary	15 6 0	
		387 5 9
		£8,651 2 7

Stock, £21,100 £3 per cent. Consols.

Audited 11th January, 1886 { JOHN LEE. JOSEPH F. MESTON. JESSE WILLARD.

toast of the visitors responded to by Mr. James Loney, of Gothenburg, son of a much respected Scottish gardener, the veteran Mr. Peter Loney, of Fingask Castle, Perthshire, brought the proceedings to a close. We must add that during the evening some admirable songs were ably rendered by Miss Mary Belval, Miss Flynn, and Mr. Chaplin Henry, and greatly appreciated by the company present.

DWARF ORANGES IN POTS.

Several small Orange trees in pots, recently exhibited by Messrs. Cannell, were admired by all who saw them, and called attention to the fact that these ornamental plants are not so popular as was the case some years ago. Plants about 1 ft. high, in 48 or 32-size pots, and bearing ten or a dozen fruits, many of a rich orange colour, are extremely attractive; and it is surprising that they should be neglected while the demand for decorative plants is so great, and the chief object is to vary the displays as much as possible. At one time the Myrtle-leaved Orange, which, I believe, is a variety of the Seville type, was a favourite in many gardens, and some nurserymen propagated it rather extensively for sale; whereas now it is seldom seen. The method of proceeding was to raise seedlings from the pips of the common imported orange, and when these were about the thickness of a lead pencil they were cut down to 2 ins. or more above the rim of the pot, according to the kind of specimen required, and scions of the Myrtle-leaved variety were then grafted on these after the manner of Camellias, a similar time of year being chosen for the operation, namely, when wood was moderately firm in the summer. The plants were then placed in a slightly warm frame and shaded for a few days, being gradually accustomed to the light and air, when it was seen that the scion and stock had united. By this means neat little plants were obtained in a year to eighteen months from the time of grafting. For securing the scions to the stocks a little matting and grafting-wax are the best. Some, however, employ Moss; but the latter is chiefly used for inarching, which is also practised occasionally. When it is desired to propagate varieties to afford fruit for dessert the same method may be adopted, but care must then be exercised to procure scions of reliable varieties, as there is much difference in the quality of those grown in England. As regards the ornamental plants, where a stock is required at once, it is better to purchase them and then additions can be subsequently made in the manner indicated.—*L.*

Obituary.

We regret to record the death on the 20th inst., after a long and painful illness, of Francis Erskine, youngest son of Mr. John Laing, of the Stanstead Park Nursery, Forest Hill, S.E., aged 22 years.

QUESTIONS AND ANSWERS.

Grape, Gros Colmar.—*W. Chambers:* Gros Colmar and Gros Colmar are the same, at least both names are applied to the same grape. It does not appear to be generally known which name is the correct one, but many adopt "Colmar," this being the name of a town in France, with which this particular variety may in some way be connected. Mr. Barron in *Vines and Vine Culture*, adopts the name of "Colmar," but Dr. Hogg in the *Fruit Manual* calls it "Grosse Kölner," of which Gros Colmar and Gros Colmar are stated to be corruptions.

Peas.—*J. R. Ayrshire:* Messrs. Hurst & Son, 152, Houndsditch, London.—You can only get them from the wholesale houses in the way you indicate.

The Moon Flower.—I should like to be informed in an early number, of the technical name of the plant alluded to in the following sentences, from "The Chersonese with the gilding off," if readily procurable, and how cultivated:—"Moonflower, a creeper, pretty to watch when its flowers are opening? The plant is covered with long green buds in the day-time, and there is not an open flower to be seen, last night's blossoms having faded and dropped off; as soon as the sun goes down the buds begin to open, and in a quarter of an hour, from a sheet of pure green the plant has become a sheet of pure white. When a bud begins to move, you may count ten, and it will have become a perfectly open flower. In Singapore, persons sometimes stand round and bet which will be the next flower to open."—*J. E. S.* [The Moonflower in this case is doubtless Ipomæa bona-nox, a greenhouse annual, seed of which can be obtained from any respectable seedhouse. Sow the seeds in heat in March or April; pot them on when large enough, and train the plants to wires or strings under the roof.—Ed.]

Annuals for Mid-Scotland.—I should be much obliged if some of your readers would give me the names of, say, a dozen of the best and most useful hardy or half-hardy annuals to grow out-of-doors in Mid-Scotland, and to be cut for market.—*W.L.B.*

Tomato.—*W.B.L.:* You cannot do better than depend upon a good strain of the old common red. Your other question we will deal with next week.

Names of Plants.—*F. D., Tunbridge Wells:* Odontoglossum maculatum, var. Donianum.—*C.H.:* next week.

Communications Received.—J. L.—E. J.—W. T.—S. S.—W. G.—H. W. W.—J. S.—J. T.—A. D.—R. G.—G. Fry.—J. F.—A. G.—J. S. T. (many thanks).—P. B. O'K.—J. R. P.—F. C. G.—F. K.—W. D.

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—Novelties in Vegetables, Flowers, and Potatos.

John Downie, 144, Princes Street, Edinburgh.—Vegetable and Flower Seeds, Gladioli, Implements, &c.

W. Tait & Co., 119 and 120, Capel Street, Dublin.—Garden and Flower Seeds, Seed Potatos, Plants, &c.

William Fell & Co., Wentworth and Fellside Nurseries, Hexham.—Spring Seed Guide, 1886.

Carduo & Darling, 80, Union Street, Aberdeen.—Select list of Vegetable and Flower Seeds.

James Cocker & Sons, Sunnypark, Aberdeen.—Vegetable and Flower Seeds, &c.

William Rumsey, Joyning's Nurseries, Waltham Cross, N.—Select Seeds for the Garden and Farm.

P. J. Kane, Kells, Meath.—Amateurs' Annual Seed List for 1886.

Richard Dean, Ranelagh Road, Ealing.—New and choice Potatos, Primroses, Polyanthus, and other hardy plants.

T. W. Edmunds, Westerham, Kent.—Vegetable, Flower, and Agricultural Seeds.

NOTICES TO CORRESPONDENTS.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor by sending him their Schedules and Catalogues as soon as published.

LONDON SEED TRADE.

January 20th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate enquiry for seeds, and owing to a large export and brisk home demand for Red Clover, continental prices continued very firm. New English Clover seed is offering more freely, but quality does not find favour with buyers. Alsike meets a steady sale at rates current last week. White Clover and Trefoil are neglected. No change in values of Rye Grasses. Bird Seeds and Blue Peas steady.

COVENT GARDEN MARKET.

January 21st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 6	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages .... per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 3	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	6 0	9 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 6
Asters, 12 bunches			— scarlet, 12 sprays	0 8	1 0
Azalea, 12 sprays	1 0	1 6	Poinsettia, doz. blms.	4 0	8 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	2 0	5 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	0 9	1 0
Carnations, 12 bunch.			Roses (coloured)	2 0	4 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (indoors), doz.	1 0	3 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses, Tea, French ,,	0 9	1 6
Cyclamen, 12 blooms.	0 4	0 6	Roses, red, French ,,	2 0	4 0
Daffodils, per bunch	1 0	2 0	Snowdrops, per bun.	0 6	1 0
Epiphyllums, 12 blms.	0 6	1 0	Stephanotis, 12 sprays		
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.	12 0	36 0	Tulips, 12 blooms	0 9	1 6
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, white, 12 blooms	3 0	4 0	— Czar, French, per bunch	1 0	2 0
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
Lilac (French), bunch	2 0	7 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsias, per dozen		
Arum Lilies, per doz.	12 0	18 0	Genesta, per dozen	10 0	15 0
Asters, per doz.			Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.	6 0	9 0
Begonias, per dozen	6 0	12 0	Hyacinths, Roman, per dozen		
Bouvardias, per dozen	9 0	18 0	Hydrangea, per dozen		
Chrysanthemums, per dozen pots			Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Solanum, per dozen	8 0	12 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 0			

THE
LARGEST BROAD BEAN IN THE WORLD
CARTERS' LEVIATHAN,
Per Pint, 2/6.
Post Free, 3/-.
Pods have been grown 21 inches in length.
CARTERS', SEEDSMEN BY ROYAL WARRANTS TO H.M. THE QUEEN AND H.R.H. THE PRINCE OF WALES.
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IMANTOPHYLLUM (CLIVIA) GRANDIFLORA.
Healthy 1 yr. seedlings, in twenty sorts of the best varieties—Lindeni, Van Houttei, maxima, robusta, Parkinsoni, &c.
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Delivered, free by Post, to all countries, for Cash with Order.
ED. PYNAERT, Ghent, Belgium.

HENDER'S SELECT STRAINS.
PETUNIAS, Single, striped, 500 Seeds, 2s.
,, ,, ,, 150 Seeds, 1s.
,, ,, fringed, 300 Seeds, 2s. 6d.
,, Double, fringed, 250 Seeds, 3s. 6d.
,, ,, ,, Smaller Packet, 2s.
The above are brought to their present perfection by nearly forty years' careful selection.
BALSAMS, Double, 8 Varieties, 2s. 6d.
,, ,, Mixed Packet, 1s. 6d.
HENDER & SONS, Nursery, Plymouth.

ROSES, LILACS, ORCHIDS, &c.
ONLY FRESH CUT FLOWERS SENT.
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COW-KEEPING by FARM LABOURERS,
BY
HENRY EVERSHED,
Author of "The Supply of Milk to Labourers:" (Journal of the Royal Society of England, 1850.)
On behalf of the Royal Agricultural Society, the author of this pamphlet visited the principal estates where cow-keeping by farm labourers is encouraged, including that of Lord Tollemache in Cheshire, where nearly 300 labourers and cottagers keep cows, and insure them in admirably managed cow clubs, presenting the most successful example of cow-keeping on a well-organized system in England. The pamphlet contains numerous Communications on Cow-keeping, by Land Proprietors, and others, with Plans of Cottages, Cow-houses, and Outbuildings
HENRY EVERSHED, HURSTMONCEUX, SUSSEX.

ORCHIDS,
THEIR STRUCTURE AND HISTORY,
By LEWIS CASTLE,
Author of "Cactaceous Plants.
London: 17, CATHERINE ST., STRAND, W.C.

SEASON 1886.

DICKSON, BROWN, & TAIT

Offer the following New and Select Vegetable Seeds :—

DICKSON, BROWN, & TAIT'S
NEW MELON, "PENRHYN SEEDLING."
First Class Certificate, Botanical Gardens, Manchester, May, 1885.
This new Melon was raised by Mr. W. Speed, The Gardens, Penrhyn Castle.—"A grand early Melon, of strong constitution, and most prolific."
Per packet, 2*s*.

DICKSON, BROWN, & TAIT'S
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One of the best varieties ever offered.
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A great acquisition specially for winter and spring work.
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"ECLIPSE" CAULIFLOWER.
Per ounce, 2*s*. 6*d*. ; *per packet*, 1*s*. 6*d*.

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Per packet. 1*s*.

DICKSON, BROWN, & TAIT'S
"BEST OF ALL" MELON.
Per packet, 1*s*.

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Per packet, 1*s*.

DICKSON, BROWN, & TAIT'S
"GIANT CABBAGE" LETTUCE.
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☞ For full descriptions of the above New and Select Vegetables, see our Illustrated Catalogue of Vegetable and Flower Seeds and Cultural Guide, now Published, and Free on application.

NOTICE.—A Copy of our Illustrated Vegetable and Flower CATALOGUE has been Posted to all our Customers. Should any not have received it, please inform us and another Copy will be sent.

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Seed Merchants, Manchester.

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LILIUM LONGIFLORUM (grand variety)
" EASTER LILY (from Bermuda)
" KRAMERII
" AURATUM
" HUMBOLDTII (from California)
" LEICHTLINII
" ELEGANS, rich apricot
" THUNBERGIANUM
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Our L. LONGIFLORUM, from same source, last year contained a large percentage of Eximium and Wilsonii.

The above fine varieties have just arrived from Japan. For price *see* our Wholesale Seed CATALOGUE, to be had on application. Special quotations for quantities.

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Seed & Bulb Merchants, Exeter Street, Strand, W.C.

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"Ye Primrose Dame,"
"Viscountess Folkestone,"

ARE NOW BEING OFFERED FOR THE FIRST TIME.

These beautiful varieties, raised by H. Bennett, will be distributed in May. Price, 5*s*. each.

Printed descriptions will be ready in February.

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Royal Horticultural Society.

THE President, Council, and Fellows of the Royal Horticultural Society will hold their First ANNUAL DINNER on TUESDAY, February 9th, the day of the Annual General Meeting, the President, Sir TREVOR LAWRENCE, Bart., M.P., in the chair. The Dinner will be held at the Criterion, at 6.30 p.m. precisely.

Tickets, 30s. each (including wine) must be applied for on or before Saturday, February 6th. Further information, and tickets, can be obtained from WM. LEE, Esq., Downside, Leatherhead, or at the office of the Royal Horticultural Society, South Kensington.

N B.—Each Fellow can purchase one extra ticket for a friend.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

The ANNUAL GENERAL MEETING of the ROYAL HORTICULTURAL SOCIETY will be held in the Conservatory at SOUTH KENSINGTON, on TUESDAY, FEBRUARY 9th, to receive the Report of the Council and of the Auditors, and for the election of Council and Auditors, and for the removal from the Society of certain Fellows under the provisions of Bye Law 22.

Chair to be taken at 3 o'clock p.m.

N.B.—At this Meeting Candidates for Fellowship will be elected.

The President, Council, and Fellows will dine together at the Criterion at 6.30 p.m. the same evening.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 30, 1886.

AN ORCHID SOCIETY.—The demand that has been formulated in our columns for the establishment of an Orchid society must be accepted as indication of the progress in Orchid knowledge, interest, and cultivation found in this country. The formation of special societies for the encouragement of special subjects in horticulture is nothing new, they seem to be the natural outcome of earnest anxiety on the part of fanciers of this or that subject for some stronger bond of unity, and more active working force in the direction they wish to go, than can be found in any general body such as is the Royal Horticultural Society. And yet, some potential arguments have been urged from time to time as to the injurious effects calculated to result from disjointed action on the part of specialists, so far as the "Royal" Society is concerned; but as regards the Orchid Society there is no reason, so far as we can see, why it should not be under its wing. The specialist, perhaps, feels that for him other horticultural products or subjects have little interest compared with that particular one which he cares for and cultivates; hence, to him, a special society, devoted to the encouragement and probable exhibition of this specialistic subject, becomes of paramount importance.

Without doubt, by the establishment of an Orchid society, Orchids will materially benefit, and Orchidists be specially interested. The Rose, the Dahlia, the Carnation and Picotee, the Auricula, and some other specialities have their special societies, and why not Orchids? The reasoning is good enough for the purpose although it takes little heed of the fact that the marvellous strides made in Orchid expansion, cultivation, and interest, so far, have all grown up without the aid of any special society. Perhaps, some will ask whether even with the aid of a special society for Orchids more could have been done; but that is a very hypothetical question. What is certain, first, is that Orchidology has become a marvellous element in our horticultural life; and, second, that whether a society specially devoted to that "ology" be formed or not, Orchid culture will continue rapidly to spread.

This expansion of culture of the most quaint yet beautiful of all flowers is the natural product of increased wealth amongst us, and of improved floral tastes; perhaps, we should say of more cultivated tastes, because there are few flowers which give to us more points of natural beauty in form and coloration than Orchids do. If, therefore, no special society be formed, we shall look to the future of Orchid culture in this country with complete equanimity, and if one should be created, we shall still feel that whilst its success must tend to do good, its failure will still leave Orchidology permanently and durably established among us. Indeed, there seems to be only two dangers to the continued expansion of Orchid culture. One is the possible exhaustion, by and bye, of those natural fields in the native habitats which seem still to furnish such a mine of wealth to collectors and dealers; the other, such a natural decadence as shall render Orchid culture no longer possible. Both these eventualities may be very remote, and not worth a moments consideration. There is one, however, that may at some time have to be faced, and that is the possibility of the ruling powers of those climes from whence our present abundant supplies of tropical epiphytes are received, putting a bar upon any further exportation, fearing that many beautiful native varieties may in time be absolutely destroyed. Were such an unlooked for course to be taken, we should still have in Europe a magnificent collection, perhaps, the best nature has yet produced; but the shutting up of the sources of our supplies would naturally increase the value of Orchids greatly, because propagation is comparatively slow.

There is one thing, however, we have been too much in the habit of overlooking in relation to the rapidly progressive culture of exotics in this country, and that is the happy fiscal reforms by which some few years since glass, and other important elements in the construction of hothouses, were cheapened. The numerous improvements made in the heating of houses have also greatly helped, and we may not well forget that these non-romantic things have done very much to make a great deal in horticulture possible that our forefathers dared only to imagine. It is very natural, having regard to the emphatic encouragement given to orchidists of late by the Royal Horticultural Society, that some consideration should be shown to the probable effects on the parent society, that the formation of a special Orchid society would have. With a president, an enthusiastic and devoted Orchidist, with several hardly less enthusiastic Orchidists as members of the council, and with quite one-half of the floral committee Orchidists, it would seem as if South Kensington was itself the very focus and centre of Orchidology.

Assuming that this special body be formed, we shall almost certainly see Sir Trevor Lawrance, Bart, M.P. elected as its President, and many who are already Fellows of the Royal Horticultural Society also allying themselves to it. Yet, it may be asked, as these are already members of the "Royal" why cannot that body accomplish for us, especially with its prestige and experiences, all that a special society can, without inflicting upon us the additional cost

that a new society will create. The financial element is one that cannot be despised—commonplace as it may seem. Suppose it were determined to create an Orchid committee of the Royal Horticultural Society, apart from the floral committee, and give it considerable powers, would that answer all the requirements of the case? It seems to us that a scheme of this sort merits full consideration, and we shall be glad to know what others have to say on the subject.

GARDENING MISCELLANY.

Flower Show Fixtures.—The annual exhibition of the Wiltshire Horticultural Society, of which Mr. Walter H. Williams is the hon. secretary, will take place at Salisbury on July 29th. The Trowbridge Horticultural Society will hold its annual exhibition on Wednesday, August 18th. The Chiswick Horticultural Society will have an exhibition in the gardens of the Royal Horticultural Society on July 15th, and an autumn show of Chrysanthemums on November 18th.

"The Treasures of the Snow."—Mr. James Douglas writes:—"I have before me a series of lithographs of flowers from the Arctic regions, from paintings by Madame Ebba de Ramsay. The flowers were collected during the various Swedish expeditions to discover the north-eastern passage through Beriugs Sound, and to find the North Pole, between the years 1858 and 1880. About sixty distinct plants have been painted, and the first series of eight have been published, they are—Carex gloriosa, C. lagopina, Polemonium pulchellum, Saxifraga nivalis, S. cæspitosa, S. oppositifolia, Potentilla pulchella, and Taraxacum phymatocarpum. The object of this lady in publishing the plates is to devote the profits to mission work at Whilhelmsro, Sweden. She has also presented a number of sets in aid of the "Missiou to the Kaybles" in North Africa. I can truly say that the pictures are not only interesting but beautifully executed. If any reader of these lines feels inclined to aid in a good work, they can do so by purchasing a set of the "Treasures of the Snow" from my old friend Mr. E. H. Glenny, Linton Road, Barking, Essex."

Grafting Bulbs.—A correspondent of the American *Gardeners' Monthly* recently described an experiment he had made in grafting bulbs, chiefly Hyacinths, which deserves a note, although no definite results could be given. Possibly, however, some amateurs might like to try the plan for themselves. Several bulbs were taken of differently coloured Hyacinths, these were cut clean down the centre, the halves of two distinct varieties were then joined together evenly and bound securely with mattiug or string; the grafted bulbs were then either potted in the usual way or placed iu glasses. We have never heard of the experiment being tried before, but scarcely anticipate the success which the describer seemed to expect, namely, the production of spike showing the two varieties on opposite sides.

Gladiolus Ville de Versailles.—We have received from Mr. W. B. Hartlaud, Cork, a cut spike of four flowers of this Gladiolus, and which was grown in a cool house. The segments of the blooms are very narrow, white flushed with pale rose, with a rosy magenta band down the centre of all but the two upper segments. Though there is nothing of the florists' flower about it, the blooms are pretty, but whether it is worth while flowering it at this seasou is another matter.

Special Prizes.—The following special prizes are offered by Messrs. James Carter & Co. for competition on the following dates, at the meetings of the Royal Horticultural Society:—May 25th, best brace of Carter's Model Cucumbers, three prizes. June 22nd, best specimen of Carter's Blenheim Orange Melon, three prizes; best brace of Carter's Model Cucumbers, three prizes. July 13th, best fifty pods, each of the following Peas—Telephone, Stratagem, Pride of the Market, and Telegraph, four prizes. July 27th, best twelve pods of Carter's Leviathau Beau, three prizes; best examples of Lettuce, comprisiug two specimens each of Carter's Giant White Cos, Carter's Longstander, and All the Year Round, three prizes; best three specimeus of Carter's Heartwell Early Marrow Cabbage, three prizes. September 7th, best dish of nine fruit of Denham Favorite, or Carter's Perfection Tomato, three prizes. October 12th, best six of Carter's Tennis Ball Onion, three prizes; best three of Carter's Mont Blane Cauliflower, three prizes; best twelve pods of Carter's Champion Runners, three prizes. October 26th, for the best four dishes of Potatos, nine tubers each, to comprise Carter's Ashtop Fluke, Sukreta, Village Blacksmith, and Cetewayo, four prizes.

Jasminum nudiflorum.—The yellow autumn aud winter flowering Jasmine is so well known that it is almost needless to call attention to its beauty. As a town shrub it is very useful, the bright blossoms are borne in great profusion, and though not possessing the fragrance of so many of its relatives, it is invaluable, owing to the season at which it flowers, when there is scarcely anything else outside at all attractive. There is one quality not generally recognised which deserves remark, and that is the long time the flowers last when the shoots are cut and placed in water. The flowers on the lower portion of the branchlets open first, and if the shoots are cut then the flowers will open in succession to the tips, thus lasting for nearly a fortnight. The stems seem to contain an abundant support for the blooms, for a few placed in a glass without water have opeued similarly, but did not last so long.

Starting Tuberous Begonias.—A simple but excellent plan of starting the tubers of choice varieties for early flowering is the following:—Prepare a bed of light sandy dry soil in any house where an intermediate temperature is maiutained, and where the moisture in the air is rather less than required by plants other than succulents. The bed should be as near the glass as convenient, aud the tubers can be arranged upon it according to the varieties. They are much subject to mildew and other forms of fungi in this state, and they will need careful watching to prevent the loss of the smallest and most delicate; but it is an excellent plan to give them a good dusting with sulphur, both as a preventer aud destroyer of mildew. As the shoots appear the tubers can be potted in light rich turfy loam, leaf-soil, and well-decayed manure, the latter preferably in a small proportion, as the encouragement needed can be given later on in the form of liquid manure. The majority of the free-growing varieties can be increased at the time of potting by dividing the tubers, with some of the delicate sorts, this is, however, rather a critical operation, and it is best to wait until they are three or four years old before attempting it.

Sulphide of Potassium for Mildew on Roses.—A summary of the experiments made by various persons with this substance to test its efficacy as a destroyer of mildew on the Rose and other plants, is given by Mr. E. W. Badger (who some time ago called attention to the subject in our columns) in the *Rosarians' Year Book for* 1886, and as the matter possesses much interest for horticulturists, attention may be profitably called to the success achieved. It has been chiefly tried upon mildew, but green-fly and red-spider have also been submitted to its effects with equal satisfaction. Mr. W. Coleman, of Eastuor Castle, has giveu it a careful trial, and communicates the result, assuming that it proved an excellent remedy. "The first trial was made on old winter Cucumbers badly infested with mildew. One syringiug uearly killed them; a second completely destroyed the pest. This was in April, aud the plants still remain clean and healthy The second attack was made on red-spider, also on Cucumbers. Two dressings destroyed the spider, and the plants were in no way injured. The third and most important trial was made on an old Vine attacked by spider and mildew, and although my stock of sulphide ran short, the result was equally satisfactory." Many iustances of its application to Roses affected by mildew are also given, and the results in every case seem to be similar, uamely, the destruction of the fungus, and the non-injury of the plants. It is advised to make a solution of the sulphide, a quarter of an ounce to a gallon of water, and as the compound readily dissolves, it cau be then syriuged on the foliage of the infested plants. It is said that double the strength named did not injure the foliage in the slightest degree. No doubt the effects are due to the preseuce of sulphur in the substance; but it is far more useful in this form than as a powder, and it is evidently well worthy of a trial by gardeners or amateurs.

Mr. W. F. Fancourt, son of the late Mr. Fancourt, of the Fulham Nurseries, and a pupil of Mr. Richard Gilbert, at Burghley, recently read a capital paper on the Cyclamen before the Florists' and Growers' Association of Philadelphia.

Tradescantia zebrina is described by an Austrian gardeuing paper as "a real barometer." The flowers are stated to open twenty-fours before rain, snow, or auy storm. If placed in a light room, where it can receive the rays of the sun, it will soon bloom and flowers abuudantly.

Rainfall at Kingston Hall Gardens in 1885.—It will be seen from the accompanying columns of figures that the rainfall of 1885 was below the average during ten months of the year, September and October being the exceptions, October giving us one-fifth of the total fall. The four mouths of autumn gave us nearly 1 in. more than the half of total fall. Taking the months of February, June, August, September, October, and November we have 18·46 ins., leaving only 6·42 ins. for the other six months. Heaviest fall iu oue day, October 24th, 1·32. Rain fell upon 171 days. Total fall for year was 24·89 in.

	Inches.		Inches.
January . .	1·21	July . . .	0·15
February . .	2·37	August. . .	2·10
March . . .	0·86	September. .	3·10
April . . .	1·81	October . .	5·11
May . . .	1·79	November .	2·97
June . . .	2·89	December . .	0·53

—*J. W. Bayne.*

THE "R. H. S."

I QUITE agree with the suggestions of "A Fellow" iu his letter to you ou the Royal Horticultural Society as to the desirability of throwing off the yoke of the South Kensington Commissioners, and holding shows throughout the country after the manner of the Royal Agricultural Society; but the council of the R. H. S. would have to consider and provide for some amusement in the way of flower shows, for the majority of the Fellows who find the siuews of war, care in reality little for horticultural science. A small minority only are interested in the good work which the society carries out at Chiswick; few, iudeed, have paid their subscription for that purpose, but are attracted by the promenade and flower shows.

It appears to me that both classes of subscribers, who may be called the scientific and ornamental, might obtain their money's worth if the couucil of the society could induce the couucil of the Royal Botanic Society to permit the R. H. S. to hold their flower shows in the gardens at Regent's Park, to which the fellows of both societies should have free entry. No doubt a house might be obtained or built suitable for holding the Lindley Library and accommodation for the various committees; whilst the gardens at Chiswick, as at present, might continue to carry out the experimental work which is so usefully done there, under the superintendence of Mr. Barron.—*S. H. A.*

STARTING EARLY VEGETABLES.

PEAS AND POTATOS.

I was recently visiting an experienced gardening friend, and was much struck with his arrangements for having an early supply of vegetables, the varieties he used, and his limited facilities. It strikes me a few observations thereon would be of very wide interest where millions in the British Isles are similarly circumstanced, if not much better, and equally desire the same. To confine my remarks I shall allude now merely to Peas and Potatos. There is little gained by starting Peas in cold frames iu November, when they are ultimately to be planted out; ou the contrary, when started in sods, or in trays—much the best plan—too early, they grow puny, aud frequently get infested with green-fly. It would be ruinous to put them out in this state before February, or, even then, as they would be much more liable to be injured by frost than if permanently planted out. My friend avoids this by only planting his Peas in shallow zinc troughs towards the end of this month, and transfers them from the cold frames to prepared lines in the garden when the weather gets mild, about the same time that the young roots have exhausted the soil iu his little wee shoot-like trays. In this way I have seen splendid dishes of Peas with him ou the 10th of May. One other point of culture worth noticiug was that he transplants them as you would Celery in sunken trenches, well

manured, and with the drills running north and south. By this method the banks on each side protect the young growth from the fierce March winds, while they catch and retain every southerly ray of sunshine—indispensable for perfecting the foliage, and ripening and filling the pods. I have heard this described as the perfection of culture, but, probably, some of your readers may be able to tell us of equally satisfactory plans for having early Peas.

As to the varieties for early use my friend has a natural weakness for Daniel O'Rourke; but even if he had not, no modern introduction—and I try every novelty I can get—can beat this except Carter's First Crop. If other varieties are desired, I can guarantee, and have seen with others, American Wonder and Mr. Laxton's Earliest of All. For late use I have yet to find a better dwarf Pea than Stratagem, but unfortunately, like many other good things, the difficulty seems to be to get this variety true. It is an immense convenience, especially in villa gardens, to have a Pea such as this, requiring no staking, and yet so large and full. I like variety, but I would only name two more for the general crop, Culverwell's Marrow and Telegraph.

Flowers of Ivy-leaved Pelargonium Fürstin J. von Hohenzollern.

Potatos.—The frame culture of Potatos and Peas differ in this respect that the former has a mild heat from stable-manure and leaves, and is not transferred. My friend, however, adopts a plan I have not seen elsewhere; he starts a score or more of Eight Weeks in 10-in. pots, sunk in such a frame about this time, and transfers them to an open border besides a wall, facing south. He tells me no other variety is so quick in maturing—as the name indicates—as this; and as to the peculiar plan of transferring to the open air, he says, and I believe truly, without ample sunshine and air, frame Potatos, or any Potatos, have little or no flavour or consistency. Nothing I have ever grown to my mind for early use supersedes Myatt's Ash-leaf, if you can get it true. There is a certain amount of wisdom in the old couplet:—

"Be not the first by whom the new is tried;
Nor get the best to lay the old aside."

But for the open ground one of the heaviest croppers among kidney's is Carter's First Crop, and then Mr. Dean's Cosmopolitan. To come on immediately afterwards, add Ash-top Fluke and Beauty of Hebron. What has become of Extra Early Vermont? I suppose degenerated, and ultimately got lost, like all the American introductions. This is an excellent time to examine stock on hand, or to add new varieties, or well-tested or established ones.—*W. J. Murphy, Clonmel.*

PEARS VERSUS PEACHES FOR A SOUTH WALL.

Probably, what I am about to write may provoke some good-tempered criticism; should it do so, some good may result in obtaining the practical experience of men with whom I may now differ. From experience and the result of carefully-kept notes, I am quite of opinion that if the south walls in most gardens were planted with our better kinds of dessert Pears, the result would be more gratifying to employer and employed. With us the past two seasons have proved most disastrous to outdoor Peach trees; in fact, the produce was an eyesore, notwithstanding the excessive heat which has prevailed, and also that the trees were carefully netted and protected during the spring months.

Were I alone in my failures I would persevere; but some of my neighbours, with treble the number of trees, are in a similar plight, so that I have come to the conclusion that there is something in it, and which is, in my opinion, that unless under favourable conditions with regard to soil and subsoil, Peach-growing outside had much better be abandoned. Anyone with an ordinary lean-to house planted with Peach and Nectarine trees (say four) will obtain more good fruit than from fourteen planted on the open wall, and what is of more advantage, they can be had just when wanted, and under fair average treatment the quality will not be questioned.

I well remember it being said that Peaches from under glass are not to be compared with those grown out of doors, and I particularly remember once handing a fruit which I had grown to a gentleman a believer in that doctrine, which elicited the remark, "I never tasted anything like this before—delicious!" He was quite convinced—and so, I may hope, will others be—of the desirability of planting Pears instead of Peaches on their south walls, where Peaches do not succeed. Our Peach wall is about 100 yds. long, with two doorways through it, thus dividing it into three parts. As an experiment, I have planted the top part with the following varieties of Pears, and have been more than rewarded by the splendid fruit which I gathered during the past season:—Madame Treyve, Beurré de l'Assomption Pitmaston Duchess, Easter Beurré, Doyenné du Comice, Josephine de Malines, and Citron des Carmes. Madame Treyve, although only the second season, gave me nine beautiful fruits; Pitmaston Duchess, planted the same time, eleven fruits, the largest weighing 15 ozs. and of better quality than I had before tasted, having little or no grittiness about it; and of Easter Beurré I will say no more, Mr. Editor, than ask you to give in your paper your own opinion of the fruit I send you, gathered from quite a young tree, and certainly in anything but a favourable season for large fruit on account of the extreme drought that prevailed. I may add that from press of work the trees were not once watered during the whole of the summer. All being well, I hope I may send you next season specimens of some of the other kinds planted on the same wall, that you may judge whether the experiment is worth a trial.—*W. C., Croome.* [For size, colour, and the luscious, melting character of the flesh, the fruits of Easter Beurré received were all that could be desired. They were, in fact, a revelation in comparison with what fruits we ordinarily get of this variety. The experiment in this case must be regarded as a decided success.—Ed.]

IVY-LEAVED PELARGONIUMS.

In a recent number, when noticing the plants in flower at Swanley at Christmas, we called attention to the great merits of the new Ivy-leaved Pelargonium, Fürstin Joseph von Hohenzollern, which, by the courtesy of Messrs. Cannell, we are now enabled to illustrate. The figure, though of course giving no idea of the great beauty of the flower as regards colour, shows its great size and depth of petals to perfection. The individual pips are exceedingly fine—an advance on all others that have come under our notice; and as the plant has a fairly good habit, and seems to bloom as freely in winter as in summer, it certainly deserves high commendation. The colour is a rich shade of red suffused with purple, approaching in brightness some of the rich tints now so common in the zonal section.

HERBACEOUS PHLOXES.

These are unquestionably among the most beautiful and useful of herbaceous plants, and must always take a prominent position where hardy flowering plants are grown. Their extreme hardiness and adaptability to almost all situations renders them everybody's plants, for they can be grown to perfection by amateurs and professionals alike, upon the most limited of resources. Their wide range of colour, and the delicious odour of the flowers, claim the admiration of all. They are divided into three distinct sections. The first, to which we shall only make a passing allusion, consists of such dwarf trailing kinds as P. verna, P. setacea, P. Nelsoni, and others, which are very beautiful and admirable for front lines, and trailing over rockwork. The two sections principally grown are P. suffruticosa and P. decussata. In many places the latter is grown to the entire exclusion of the former; but as the suffruticosa are a month earlier in blooming, quite distinct in habit, and mostly dwarf growers, they come in well for front lines. The flower spikes of these are more compact, the flowers being arranged round the centre stem in such a way that I have had them compared to spikes of Hyacinths, while the spikes of the decussata section are more loose and spreading.

The main reasons why the decussata section are the most popular are to be found in their great range of colours, and more vigorous habit of growth, possessing as they do a robustness of constitution, which is wanting to some extent in the others. Plants of varieties of P. suffruticosa purchased from the nursery in 60 pots in the spring, if shifted on into 48's will give two or three trusses of bloom in the summer, and in many places will be found useful for conservatory or indoor decoration. I remember that some years back Mr. Barron, at Chiswick, grew large quantities of the P. decussata in 48's for the baskets at the Conservatory at South Kensington. This was managed by taking strong cuttings in the spring, and when rooted, potting them into 60's, and then into 48's, gradually inuring them to the weather. These plants make excellent stock for planting in the borders the following spring.

When cultivating them for exhibition purposes, select a site free from shade and sufficiently removed from the vicinity of large trees and shrubs to prevent their roots from encroaching on them and impoverishing the soil. Those commencing their culture will find early in April a very good time to procure a stock. The soil should have a liberal dressing of half rotten manure, and be well broken up to a depth of 10 ins. to 12 ins., and as they are very shallow rooting plants, a good mulching of well decayed manure spread among them early in the summer, is a great help to them. The young growths

when 9 ins. or so in length, should have efficient supports placed to them, and during dry weather they must have liberal supplies of water. The flower spike will not be so good the first season as may be expected the second, when in many cases the young shoots will require thinning out, never leaving more than six to a plant. After the third year the plant should be removed to fresh ground, which may be furnished by dividing the old stools; this gives far less trouble, but is not productive of equal results to the renewal of the stock by propagating afresh from cuttings, which may be struck in a cold shady frame during August, from the side shoots, or in spring using the strong shoots from the stools. In either case pot into 60's, and get them well established previous to planting.

They are easily raised from seed, but it is only a small percentage which come distinct from, or superior to, existing varieties, so that unless as a special hobby, or there are unlimited resources at command, there is not much in the practice to recommend it. The seed may be sown in shallow pans in March, and placed in a brisk heat where it will soon germinate, and when fit to handle pot them singly into small 60's, gradually harden off and treat them the same as cuttings; if well attended to many will flower the first season. The seed will vegetate equally well if sown on a warm rich border early in spring, by keeping clear of weeds and watering them during dry weather, a stock of nice young plants may be reared with little trouble, which will flower during the second summer, when the best should be selected and marked for removal to the flower borders during the winter or early spring. To grow large specimen plants in pots, select plants in 48's or 32's with from six to eight growths, and before they have made much progress, disentangle the roots shifting them into No. 24's or 16's, and plunge them in a bed of old tan or leaf mould. Use in potting a mixture of three parts of turfy loam and one of well decayed manure, with enough sharp sand to ensure sufficient porosity, packing it in moderately firm; when the pots get full of roots commence giving liquid manure every third watering, and continue it till the flowers show colour. Keep them well tied out, so that the spikes stand clear of each other.

These plants if thought desirable will make good stools for shifting on the next season into No. 12's or 8's, when six to twelve spikes may be allowed to each plant, and when well done contrast favourably with some of our choice stove and greenhouse plants. Like many other hardy plants they are apt to be excited into growth during mild winters before their proper time, and when biting windy frosts set in late in the season they sometimes get much damaged by it. A vigilant cultivator will always be on the alert, and can always devise some ready method of safe-guarding his pits from its ravages; the simple and best plan is to place an inverted pot over them, it will generally be only nights that this will be required. I have never known frost to kill them, but it may seriously damage their beauty for the season.

The following is a selection of the very best varieties up to the present time:—Suffruticosa, early-flowering; Lady Musgrave, pure white; Mauve Queen, mauve; Mrs. Hunter, white, crimson eye; Mrs. Miller, reddish purple; Purple Emperor, purple; The Queen, pure white; W. W. Platt, rosy purple, dark eye. Late-flowering, P. decussata; Alexander Shearer, deep rosy-scarlet; Amabilis, salmon, purple eye; Bianca, French white; Boule de Feu, fiery red; Coccinea, rich vermilion; Coronet, lilac, shaded rose; Dr. Duke, lilac, shaded rose, carmine eye; Edith, white, crimson eye; Gaston Olivier, pure white; George Ramsey, dark amaranth; Heloise, white, variously striped and spotted with lilac; James H. Laing, salmon-rose; John Laing, deep purple-crimson; Le Verguer, white, large violet-rose centre; Madame Austin, crimson-purple; Mons. Crousse, dark rosy crimson, crimson eye; Mons. Rufrain, amaranth red; Princess Louise of Lorne, shaded white, dark eye; Princess of Wales, white, shaded rose; Telephone, violet, magenta-rose eye.—*W. B. G.*

Voluntary Allotments.—Representations having been made to Lord Radnor, asking that some land in the neighbourhood of Folkestone might be let at a small charge to working men, his lordship has determined to give the small allotment system a trial, and has ordered a large space of land to be let in allotments of from ten perches to half an acre, at from 9*d.* per perch. There are already upwards of one hundred applicants for the allotments.

MANAGEMENT OF SHRUBS.

The remarks at p. 311 of "W. B. G." upon the pruning and general management of shrubs are judicious, and deserve special attention. I quite agree with him when he says that shrubs should be gone over annually from the first, *i.e.*, train them up in the way they should grow, with the object of securing in their early stages of growth the necessary requisites to ensure ultimately well-grown handsome specimens, if such be desired. I have had considerable experience in the management of shrubs, and I am fully convinced that too much attention cannot be given to the cutting and regulating of the growth of almost all kinds. I speak more particularly in reference to evergreen shrubs, having due regard to the situation that it is intended they should occupy, whether planted in borders to form a dense background, or planted in beds of an ornamental character, though the first require less severe cutting than the latter.

I have commenced with shrubs in beds from 1 ft. high and upwards, not allowing one shoot or branch to have the advantage of the other in the precedence of growth; I scarcely stand to a fixed rule, as during the growing season it has been my practice to check the strong growths where necessary for the benefit of the weaker shoots, so as to reduce the whole as much as possible to one uniform standard. I am speaking of such shrubs as Aucubas, Hollies, Laurestinus, Evergreen Oaks, Portugal Laurels, Phillyreas, Arbutus, Box, Yews, &c., &c., which are capable of being grown into dense bushes of almost any form by judicious treatment; even the Privets may be made to assume an ornamental character if a little painstaking care be devoted to them.

One thing to my mind has been pretty clearly demonstrated as regards the practice of cutting and pruning shrubs annually, and that is the fact of a corresponding fibrous root-growth taking place simultaneously with the dense bushy growth of the shrubs so operated upon. I have found this to be apparent when engaged in removing plants of large size from one position to another, some of them, perhaps, measuring from 9 ft. to 12 ft. and upwards in circumference, such as choice Hollies, Portugal Laurels, and many other evergreen shrubs; and there are other advantages resulting from the constant cutting or pruning that are obvious to my mind. It very materially conduces to their hardiness; the strain put on the plants causes a comparatively stunted growth, numerous latent buds are forced into action, and hence for the most part arresting or impeding strong, vigorous, succulent growth.

I am not speaking of lopping large neglected shrubs, as I feel disposed to repudiate that practice altogether; I have a very great objection to large wounds being made, and oftentimes have remarked that it is far easier to make a wound than it is to heal it, viewed in its literal and broadest sense. I have cut shrubs, perhaps, once or twice during the season, shrubs that have been under my special care since they were many of them from 1 ft. to 2 ft. high, and which measure from 12 ft. to 20 ft. in circumference at the present time, and which are perfect models in contour; these exhibit no wounds, and form a dense opaque surface of healthy foliage, with a bold perspective; care being taken that no one plant interferes with the growth of another.

The advantage of the close system of pruning has shown itself only during the past heavy snowfall; shrubs of a straggling loose growth suffered considerable damage, while the others escaped injury, having been uniformly enveloped as with a beautiful white mantle. Some may say that they object to any mode that is formal or mechanical in appearance or design, however tasteful the arrangement may be. Assuming such to be the case, and that such persons take charge of shrubs that have been thus treated, they can at once allow the plants to assume their natural growth, and only cutting away or shortening any superfluous growth as may be considered absolutely necessary, so as to preserve a symmetrical form, which is a task of no difficulty whatever, care having been taken, perhaps, for years previously to render that object a permanent one; and although I like system and order in the arrangement and the grouping of shrubs, more especially when planted in beds, and where they form a distinctive feature in garden and landscape scenery, I can fully appreciate the natural and attractive beauties of the wild and romantic scenery when localised with telling effect. In some situations art would be entirely out of character, in others, in perfect harmony with good taste in the skilful grouping of choice trees and shrubs.—*George Fry, Lewisham.*

THE FOREIGN FRUIT TRADE.

Grapes, packed in ground cork, and of the kind retailed in the streets at 6*d.* per pound, are known as Almerias, taking their name from the port of consignment. In twenty years the trade has grown from 20,000 barrels to 160,000, in addition to immense supplies from Denia and Malaga and from Lisbon. An attempt to place Australian Grapes on the market in fair condition has so far been unsuccessful. Melons in great numbers are imported. The best—usually to be had in September—are from San Lucar, in the Cadiz district, and are of a rich golden olive, but the varieties in season just now are the green or white, shipped from Denia or Valencia. Pines, excellent and cheap, grown under glass at St. Michael, have been freely imported, to the almost entire displacement of English Pines. Quite two-thirds of the American Apple trade is done in Pudding Lane, and the varieties are many, a highly recommended kind being the Spitzbergen, a red cooking Apple. Two well known sorts are given singular and unrecognisable names, such as "Seeks"—a contraction of "Seek-no-Further"—and "Northern Spy," the latter a cooking Apple, red in colour and somewhat striped. Of Nuts the consumption is enormous. No fewer than ten millions of Cocoa-nuts are disposed of in one year. Spanish Nuts which come to hand at this season are conveyed loose in the holds of small vessels from the north-west coast of Spain, the cargoes ranging from 1800 to 6000 bushels. Chestnuts in bags from the north of France and Bordeaux district. Walnuts from France, and Barcelonas shipped from Tarragona, go to make up the Nut trade; and the imports from Brazil, a trade almost wholly done in Liverpool, must be added to the general consumption; also the Black Sea Nuts from Trebizonde, transhipped at Marseilles.

Altogether distinct from Pudding Lane, and dealing principally with the "softer" fruits, is Covent Garden Market. In summer business commences at about 4 a.m., and the wholesale trade is over by nine o'clock, after which hour and during the rest of the day the arcades are open to retail customers. To the salesmen large quantities of Apples, Pears, Grapes, &c., are consigned by home growers and French exporters. Fruit from France is despatched, per Grande Vitesse, three times a week. There is just now a feeling of depression in Covent Garden, for, although supplies have been plentiful and prices low, there has not been a corresponding increase of consumption. There is an abundant choice of dessert fruit here on sale. Against foreign competitors English Apples hold their own, commanding top prices. The Ribston and Cox's Orange Pippin are considered best for eating. Perhaps the most popular winter cooking Apple is the Wellington. For Blenheim's Oxfordshire is especially noted.

Amongst other English counties, Cambridgeshire and Worcestershire chiefly contribute to the metropolitan supply. Boston, Nova Scotia, and Canada augment the Covent Garden supplies by forwarding in the best condition neatly-coopered three-bushel barrels of yellow Newtown Pippins, or of ruddy Baldwins, and of other distinct sorts of Apples, which, however, all go under the general name of "American." Pears consumed at this time of the year come from France, the great bulk of them having been bought up by dealers in Paris, who store them in caves specially constructed, until the market here is ready to receive them, when a daily despatch of cases and hampers takes place to London, where they are put up to auction. The importations of French Pears are very extensive, and it frequently happens that 10,000 cases may be disposed of in one day at Covent Garden. The number of Pears contained in each case varies with their size, and ranges from twelve to forty-eight. A day or two ago a couple giant Belle Angevine were sold for 18*s.* wholesale, and the outlay was only justified by the value of the fruit as exhibition specimens, for they were perfectly uneatable. Fine Chaumontels come from the Channel Islands. For stewing, Catillac Pears are recommended. Bananas come from Madeira, Walnuts from Naples (dried) and from Grenoble, Cob-nuts from Kent, and Forbidden Fruit and Custard Apples are also now fairly plentiful.—*Daily Telegraph.*

SCOTTISH GARDENING.

Small Fruits.—CURRANTS.—It is seldom that much attention, either to thinning or training of Currants, is given during the summer months, though some cultivators assert that such labour is well bestowed and remunerative. This advice would be specially applicable to the north, where less influence from sun in summer and autumn is experienced; consequently, maturation of the growth is at a minimum rate. In ordinary gardens (which, in most cases, have a minimum of labour power) there is a tendency—in fact, dire necessity—of letting as much of the work referred to slip and have attention in a summary manner during the winter months. As the Currants, Gooseberries, and Raspberries seen at Scotch provincial shows are equal to any seen elsewhere, it need not be considered a matter of moment whether labour in summer is expended on the bushes or not; but to keep up a healthy free-fruiting state of the bushes, attention to pruning, propagating young plants, re-planting, manuring, &c., must be given while they are denuded of their foliage.

Red and White Currants are often seen grown in a variety of forms, such as circular bushes, somewhat open in their centres, and as standards, with clean stems 2 ft., 3 ft., or more high, and a head of shoots on them. Provision must be made for such modes of cultivation when the young wood is put in to root, keeping the stems as near the desired height as possible, the bottom buds picked out of the straightest and strongest of the young shoots, three left at the top to form the young growths, and all the other buds picked clean out to prevent the growth of suckers. The cuttings are then ready to be put into the ground to root. A cool place with soil free from excessive damp suits them well, and the first season after they are planted roots and shoots will be formed, and the plants ready for transplanting at the close of the season, if they be really wanted, but two seasons' growth or more gives strength, which makes the bushes more manageable. When preparing ground for young plantations, it is well to trench and manure the land; but with the great breadths in the hands of market-men no such pains are taken, but they are more anxious to secure bulk of fruit than quality.

The Currants may be planted from 4 ft. to 6 ft. apart—why we make such an allowance of 2 ft. is, because in dry gravelly soils growth is very small and puny compared with such land as we have to do with at present, strong tenacious, and in good heart; the bushes being placed equi-distant in rows may have a good mulching before the soil is entirely replaced, so that the mulching may retain its virtue longer than when exposed. If the bushes are standards they may have stakes placed to them after the holes are made, and the bushes put close to them and neatly tied twice to keep them secure against wind. Often Currants are cultivated to give late supplies, and are planted on north sides of walls and other buildings where they can be netted. With a good soil at the roots of these, and a little more attention given them than ordinary bushes, good supplies under the protection of nets (hexagon kind) or scrim can be had very late in the autumn, and are of more value than one at first consideration might imagine. The training of plants for such positions is necessary; a good well rooted cutting should be planted, and a shoot taken at first right and left, and three, four, or six young shoots taken uprightly 1 ft. apart, will soon cover extensive wall space. Cuttings put in against such walls in the usual way and three shoots taken from each, trained uprightly 1 ft. apart is a simple method of obtaining the end in view. We have seen black Currants (which will have special reference anon) nicely grown on walls, but they are not pruned like reds and whites.

Often when bush fruits have for years been subjected to what is understood as close pruning (spurring into one or two eyes every season), allowing an accumulation of old hard wood which produces small fruit; such bushes may be rejuvinated by cutting them down pretty well half way, lifting entirely, and replanting in fresh soil in new positions if possible. New wood will soon grow up, and the old worthless looking bushes will be in good condition; but such labour is only advisable where supplies of fruit cannot be dispensed with till young bushes have grown up to meet the requirements. Three years ago we gathered a large quantity of worn-out looking bushes, transplanted them, and have had good value for our trouble; but a larger plantation of young plants are now of such a size as to give good supplies of fruit. Their crop last season was large—we can now dispense with a good number of the old bushes, but they are really worth retaining. Pruning is generally practised upon the "spur" system (cutting close to a bud or two), but we prefer in addition to this to cut out some older shoots, annually supplanting a few strong growths of the current year; trees managed in this way give an abundance of fruit of the best quality. Young bushes, we consider, are cut in too closely, we prefer leaving the strong shoots from 12 ins. to 15 ins. long, cutting the weakly ones out or well back; in a few years good-sized and well-established bushes are formed. Now is a good time to prune and scrape off moss and other accumulations, and follow this with a washing of lime and soot mixed.—*M. T.*

THE LATE SEVERE WEATHER.

IT may be interesting to some readers of THE GARDENING WORLD to know what has been the state of the weather here in the north during the present month of January. So far as it has gone, we have only had four days clear of actual frost—the 1st, 2nd, 3rd, and 13th. Taking the days in their order, the actual minimum temperature recorded at 3 ft. above the ground has been 39°, 37°, 35°, 32°, 27°, 17°, 13°, 17°, 22°, 19°, 25°, 22°, 33°, 29°, 31°, 21°, 26°, 15°, 9°, 9°, 23°, 26°, 28°, 25°. I think that so far as frost has to be considered, we are almost justified in reckoning the winter of 1885-6 as an unusually severe one. Having in November an aggregate of 105° of frost, with 17° on the 17th and 21° on the following morning; in December an aggregate of 184°, with 22° on the 7th; and commencing that week's frost on the Sunday, the readings were 12°, 22°, 18°, 14°, 16°, 18°, 9°—a goodly amount for one week only. It will be seen that our aggregate this month already reaches 203° of frost, 23° being registered on two mornings, the 19th and 20th of the month. I may add that the weather set in most severe on Saturday morning, and continued so, with snow and sleet, up to last night.—*R. Stevens, Paston, Northumberland, Jan. 26th.*

IT is five years since we experienced in this part of the country anything like such severe weather as we have had this month. Our thermometer, at 3 ft. from the ground, on the morning of the 6th registered 10° of frost; the 7th, 17°; the 8th, 9°; the 9th, 8°; the 10th, 9°; the 11th, 10°; the 12th, 10°. On the 10th we had a fall of snow about 3 ins. deep, and from the 12th to the 16th the weather was very stormy, and frost set in again. On the morning of the 17th we had 3°; the 18th, 12°; the 19th, 20°; the 20th, 21°; the 21st, 12°; the 22nd, 3°; the 23rd, 7°; the 24th, 11°; the 25th, 9°. On the 19th we had another fall of snow 7 ins. deep, which still remains on the ground, and yesterday we had 2 ins. more.—*William Connelly, North Hall Gardens, Wigan, Jan. 25.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Primulas, Cytisuses, Cyclamens, and Cinerarias are all contributing now to the increasing attractions of this house, and it is wise to treat them liberally in order to prolong their season of usefulness as much as possible. This can be effected to a great extent by supplies of liquid manure about three times a week, or more frequently if the liquid be used in a weak state, as it should be. Amateurs too often inflict an injury upon their plants in their attempts to aid them by applying manurial stimulants much too strong. The soil becomes sodden and the plant charged with more nutriment than it can utilise, leading to decay of the roots, stagnation in the plants, and general failure. This is equally the case whether the liquid be prepared from ordinary stable manure or from the numerous artificial manures now advertised, all of which possess some qualities to recommend them; make the solution weak, and if the plants are in need of much assistance, give it frequently, but exercise the same care as in the usual watering, which needs especial attention at this time of year. Primulas need close watching, as they are apt to damp off very suddenly when they are injudiciously supplied with water. There is less danger if they have been potted properly, but the soil must never be allowed to become thoroughly dry or be unduly saturated.

FUCHSIAS.—Where there is a good stock of last year's plants stored away, some may now be brought out from their winter quarters and prepared for an early start, as the flowers will be welcome as soon as they can be obtained. Cut-in the shoots to firm wood, rendering the plants shapely and of such a size as required, turn them out of the pots, removing the old soil and shortening the roots; prepare a light compost of loam and leaf-soil for the first potting, employing pots of a size that will hold the roots without allowing too much space, as the plants will need another potting later on; place them in a warm position in the greenhouse, or preferably in a frame with a mild bottom-heat, where they will quickly start into growth. Until the shoots are well advancing, very little water need be given to the roots, as a moderate syringing will be all that is necessary. Fuchsias like a warm moist atmosphere at all times, but when in active growth water must be liberally supplied, as owing to the soft succulent character of their shoots and foliage, a great quantity of moisture is requisite to supply the loss occasioned by evaporation and rapid growth.

Fuchsias are favourites with all, and few plants yield a better return for the labour expended upon them. If it is desired to increase the stock of the varieties at present grown, it can be easily done by taking cuttings of the young shoots when they have advanced 2 ins. or 3 ins., inserting them in light loam, leaf-soil, and plenty of sand, and plunging the pots in an ordinary dung frame where the cuttings will strike quickly. If the forced plants are not wanted very early, this topping will render them more compact and bushy, but in the majority of cases it will be preferable to defer this mode of increase until another batch is started. Where only a few varieties are grown, a selection of at least a dozen should be made, and there is now an abundance to choose from, so many in fact, that it is rather puzzling to amateurs. We will therefore name a dozen distinct free-growing and useful varieties that may be safely depended upon. Single dark varieties: Try Me O!, Sir W. G. Armstrong, Resplendent, Roderick Dhu; single light varieties, white tube: White Souvenir de Chiswick, Beauty of Trowbridge; white corollas: Miss Burdett Coutts, Cannells' Gem; double dark varieties: Champion of the World, Avalanche; double light varieties: Miss Lucy Finnis and Edelweiss.

TUBEROUS BEGONIAS are invaluable plants for summer, and though the quickest way is to obtain tubers and grow them on in the usual way, yet it is advisable to purchase a packet or two of seed from some seedsman or nurseryman who makes a speciality of such plants. These Begonias have been greatly improved in the past five or six years, and by careful continued selection the strains have been rendered so good, that some charming varieties can now be obtained from seed, equal to many that are named, and occasionally novelties of great beauty are secured. Begonia seed is very minute, and the purchaser must not be surprised to receive a small quantity, but he will find an abundance to raise a good stock of plants from. It is necessary to be very careful, however, in sowing this seed or failure will certainly result, and unless there is a warm frame or another house kept at a slightly higher temperature, it had better not be attempted until later in the season. With such convenience as that named, some seed may be sown within the next fortnight. In preparing the soil for this purpose it should be sifted very fine, light loam and leaf-soil with about one half silver sand being employed, giving a thin layer of the latter for a surfacing. Upon this scatter the seed thinly, having previously well moistened the soil so that it will not be necessary to apply any water for some days afterwards. Place a piece of glass over the pots, plunge these in the frame and cover the glass with paper as shading, and to prevent evaporation; watch closely, and if the soil becomes dry, an extremely fine rose water pot must be used to give water with, but it is better to avoid this if possible until the seed has germinated.

ORDINARY WORK.—The principal ordinary work now will be attending to the ventilation whenever the weather is suitable, and for the majority of the plants avoid giving too much water, as damping and mildew prove destructive to both foliage and flowers. If there is room for storing soil place some under cover when it is getting moderately dry outside, as the season is approaching when there will be much potting to perform, and it is then inconvenient to seek for soil especially as it may be in a very unsuitable condition just when wanted. Stakes, pots, baskets, labels, or anything else likely to be needed should be similarly prepared at leisure time, and the advantage of the forethought will be fully appreciated when the busy season arrives.—*Scolytus.*

THE PROPAGATING HOUSE.

Damping Off.—This term which is applied to the premature decay of cuttings or seedlings, is usually attributed to excessive moisture, or a stagnant atmosphere, and it is, probably, often accelerated by either, and especially the latter; but the primary cause may have originated from quite a different source. From careful observations I have come to the conclusion that the three following are the chief causes from which damping-off arises. In the first place it may be brought about from some of the cuttings having been slightly bruised in making or putting them in, secondly, if the cuttings of any tender plants are allowed to get a little too much withered, they will not be able to revive when water is given, and consequently the damaged leaves will not be able to absorb the moisture, and therefore it will help to complete the destruction that has already commenced.

The third cause is the most deadly, and the most difficult to deal with; it is brought about by a fine thread-like fungus which spreads with great rapidity, and destroys every cutting or seedling that it comes in contact with. It is difficult to properly account for the appearance of this fungus; it may sometimes arise from one of the causes previously mentioned, or from some substance that is in the soil or plunging material. If due regard be paid to the instructions given at p. 329, it may be warded off to some extent, but the most careful management will not always prevent it making its appearance. It is most destructive among soft-wooded cuttings, such as Verbenas, Heliotropes, Fuchsias, Bouvardias, Carnations, Begonias, &c., but it will also destroy cuttings of more substance if it comes in contact with them. It requires a sharp and practised eye to detect its first appearance. At first sight the cuttings may look healthy enough, but, on close examination, they will have the appearance of having been scalded just above the surface of the soil, and if held up to the light the fine threads of fungus will be visible.

In any case where a pot of cuttings can be spared, it is best to remove it from the pit, if affected with this disease, and to stir in some hot cinder ashes in the plunging material where the pot has been taken from. Or, if it is desirable to try to save any of the cuttings, those that are affected should be pulled out and a little hot dry sand shaken over the surface of the pot; this will sometimes effectually check the disease. It is more difficult to deal with seedlings that are affected. The best plan will be to remove the pots to a shelf in a sunny position; but, of course, there is a risk in doing this if the seedlings are not sufficiently established.—*A. Hemsley.*

THE MARECHAL NIEL ROSE.

It is often said that this Rose will not continue from year to year to yield flowers and keep in health as other Roses do. The great mistake that is made with this most beautiful of all Tea Roses is in planting it in a heated structure, and expecting it to furnish Roses from the month of February onwards. Under such treatment it is no wonder that a few years works havoc with its constitution. Here we have a house 24 ft. by 14 ft. with a single plant of Marechal Niel in it, and that house is an unheated structure. The Rose is planted inside the house, but can ramble anywhere with its roots—either inside or outside in the vegetable quarters. Our method of treatment is to give plenty of air, summer and winter (unless the thermometer goes below 5° or 6° of frost), and plenty of water at the roots, with occasional syringings in very hot weather. Our greatest enemy is mildew and green fly, mildew being the worst to contend with—the house being unheated.

Last year we tried sulphide of potassium for the mildew, but as yet we are not in favour of it as an insecticide. If applied too strong it is apt to harm the tender foliage, and our trial of it lead us to the conclusion that unless strong it would not kill mildew. Greenfly it will not kill even when strong, and another bad quality is that wherever it goes on white paint it discolours it immediately, so that where neatness is desired we would say do not use it. Sulphur is the old-fashioned cure for mildew, and we think not the worst yet; after syringing dust the leaves, this very soon stops all traces of the disease, and a syringing or two helps to clean the sulphur off the leaves.

We prune very little, only the very smallest and weakest twigs being taken away. By pruning the Marechal Niel as has been recommended by some, we consider that they are only cutting away good bloom to begin with, and in the end it is ruination to the tree. Rather carefully tie in the shoots and the reward will be an abundance of flowers. We give for a dressing annually, a good coat of cow and pig manure, with three or four times a thorough drenching of guano in a liquid state. The size of the plant is as follows:—Stem, 10½ in.; union of stem and branches, 19 in.; four branches going off from stem are, 8 in., 7½ in., 6 in., and 5 in., respectively, in circumference.

Last years yield of flowers was 3,400; for the year 1884, 3,200; 1883, 3,000; 1882, 2,800; and 1881, 3,500, making a total of 15,900 Roses in five years. It was planted about fourteen years ago with eleven others, but we gradually cut the others away to give it room, and now for the last six years it has had entire possession of the house. We got, in 1881, as high as 5*d.* to 1*s.* each for Roses taken from this plant in the month of July, from one of the leading salesmen of Covent Garden Market, not for a dozen flowers only, but for a few hundreds. Last years, month of July, prices were 5*d.* and 7*d.* each for several hundreds. This I give to show that the Roses are no mere tiny specks that a lady would not care to use, but blooms of good substance and quality. The same plant bids fair to keep up its good character during the present year from the growth it made during 1885. We therefore say that those who want to see a bower of Marechal Niel Roses in May, should plant it in an unheated structure, not prune it over heavy, give plenty of water and good food at the roots and keep the foliage clean, and success will crown the endeavour.—*J. W. Bayne, Kingston Hall Gardens, Derby.*

FORCING ASPARAGUS.

This delicious vegetable is appreciated by all, and in the past few years its consumption has largely increased, the importations still being enormous, though the home culture has been extended, and the markets are now abundantly supplied with Asparagus from Christmas onwards. There are few private gardens where it is not in demand as early as it can be procured, and fortunately it is very easily forced, so that it can be had without much difficulty as soon as required. Some will have been cutting for a month or more now, but there is plenty of time to make a start now and secure some valuable supplies long before it comes in naturally from out-of-doors beds. Where forcing is carried on extensively, properly constructed frames are indispensable, being deep enough to permit of the formation of good hot-beds, upon which Asparagus, Sea Kale, Rhubarb, and other vegetables can be hastened into condition for cutting, or in a few cases small well-heated houses with beds are provided for the purpose. In the latter case, the heat is usually provided by hot-water pipes, their advantage being that the heat is then maintained more regularly, and less labour is incurred in preparation for forcing, all that is necessary being sufficient suitable material for plunging the plants in.

Some time ago, however, I had charge of a garden where there was neither of these conveniences, it was necessary to adopt a cheap contrivance to answer this end, and we accomplished the task satisfactorily in the following manner. One of the houses, a wide lean-to, was kept at an intermediate temperature, being chiefly used to bring on plants for the conservatory, and at the back of this was a large stage well elevated to bring the plants near the glass, as the house was rather lofty. Beneath this stage, next to the wall, we built a simple wooden frame about 3 ft. wide, the sides and front were formed of ordinary floor boards, and the wall formed the back, the top was made to slope forwards slightly, and was covered with lids 6 ft. long hinged at the back so that they could be readily removed. The outlay for this frame was small, and it proved all that could be desired, giving an abundance of Asparagus with Sea Kale and Rhubarb early in the season.

Before commencing the forcing season, we prepared a good quantity of stable manure and leaves, which was placed in the frame to a depth of about 3 ft.; the roots were introduced at intervals and covered with a layer of light finely-sifted soil, 3 ins. deep. This was well moistened with tepid water from a rose-can, and very little further attention was needed beyond propping up the lids occasionally for ventilation, or seeing that the soil did not become too dry. Asparagus we usually obtained fit for cutting within three weeks or a month from the time the roots were started; but we have cut a few heads in a fortnight, and there is much difference as to the quickness with which the shoots are obtained dependent upon the way they have been prepared and their strength. They can be now purchased very cheaply each season when required, and this suits some establishments better than growing their own roots.

Where, however, there is an outdoor quarter of the kitchen garden devoted to this crop, as is usually the case, I have found the following plan the most convenient. Annually, or every alternate year, according to requirements, some seed is sown in rows to keep up the stock; then, if the seedlings are duly transplanted and liberally treated, they will, in three or four years, be large enough for yielding the ordinary outdoor supply. When it is thought of forming a new bed, an old one being destroyed for the purpose, we cut rather sparingly from the latter the season before, give a very liberal top-dressing, and allow plenty of growth to strengthen the roots. Then we take what we require of these in the following autumn to be forced, and after undergoing that operation they are thrown away. This has proved the most economical system, but some prefer young roots for the purpose; but there is not much difference in my experience, as if the old roots are suitably prepared as stated, and were not previously absolutely exhausted, they give quite as good results.—*R. T.*

ARALIAS FOR TABLE DECORATION.

Graceful plants are always in request for this purpose, and that it is difficult to make a suitable selection is evident from the very different kinds of plants entered in classes provided for them at exhibitions. For several years there has been a growing favour for those with finely divided light looking foliage, instead of the bolder but too obstructive plants that are better suited for groups than tables. We have a few narrow-leaved Dracænas and Crotons, with such Palms as Cocos Weddelliana or Geonoma gracilis that are indispensable for the work; but perhaps the most elegant of all, and certainly the most generally admired, are the Aralias, at least the species or varieties that have leaves with narrow divisions. Of these the most slender and graceful are Aralia Veitchii and its variety gracillima, the latter being the lightest and most charming plant in cultivation; the leaflets which radiate from the top of the leaf-stalk, being thread-like in fineness, while they are very slightly broader in the ordinary form which was the first introduced.

It seems as if some confusion had arisen respecting the variety named above, for in some gardens a totally distinct and less beautiful form is grown under that name, the leaflets much broader and more like the older A. reticulata, sometimes it is also named gracilis; the true form once seen cannot, however, be mistaken for any other. Next to these two must be ranked the charming A. elegantissima, which has greenish brown leaves and white midribs, the leaflets are very narrow and graceful. A. leptophylla has rather drooping dark green narrow leaflets, but broader than those already named. A. reticulata is a graceful plant, but the leaflets are still wider in this; it is chiefly valuable for its vigorous constitution, being more readily increased than the others, and it is on this account much employed as a stock to graft the delicate varieties upon. Osyana is somewhat like A. leptophylla, but the leaflets are rich green with brown ribs. These are half-a-dozen of the best for table decoration, and should have a place wherever really light and elegant plants are required.

These Aralias must be grown in the stove, and though not difficult to obtain in satisfactory condition, they need more attention than many other plants. The compost should consist of loam, leaf soil and sand, or peat may be substituted for the leaf soil, but in either case the loam must be light and sandy. Give the pots good drainage, and be particularly careful that the plants are not placed in sizes too large for them, or they soon suffer. Sixty and forty-eight sizes are large enough for the majority of the plants, unless they are required as specimens, when they become too large for the table. The stronger sorts are increased by cuttings, but A. Veitchi and gracillima are grafted on stocks of A. reticulata, as they do not give so much satisfaction in any other way.—*W.*

NEW VARIETIES OF POTATOS.

As of making books there is no end, so in the matter of the production of new Potatos there appears to be no limit. Year by year some new sorts are sent forth to stand or fall according to their merits; but it ought to be stated in strict justice to raisers, that no new Potato should be condemned until it has been grown two or three years.

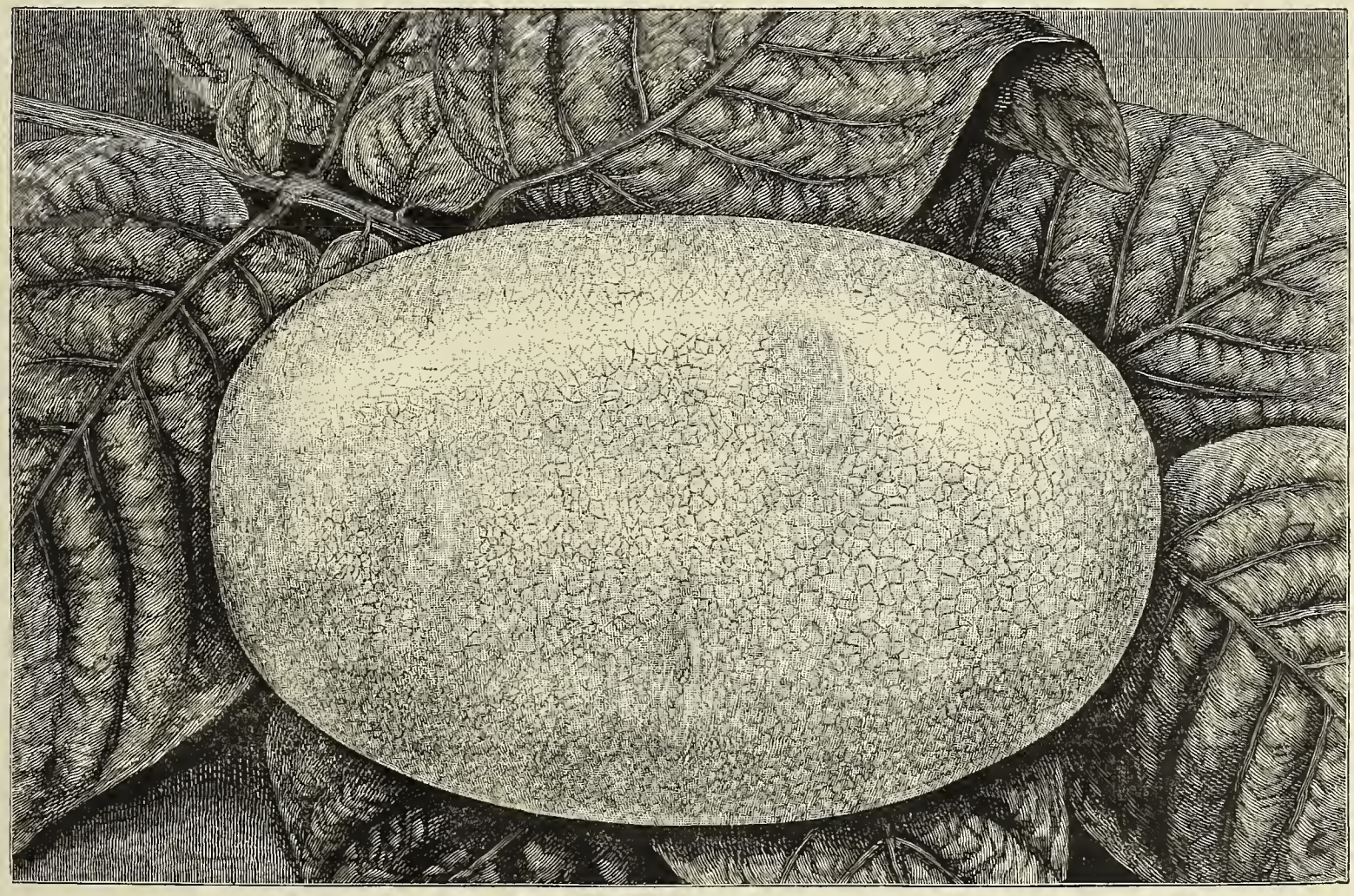
Our illustration represents a new variety in course of distribution by Messrs. Sutton & Sons, of Reading, under the name of Sutton's Seedling. It will be seen that it is a very handsome kidney, the tubers large, elongated, with eyes of a very shallow character, a russeted skin, which is a great recommendation with many; and having during the past year been subjected to trials in many different kinds of soils, it has, according to published reports, proved itself a very valuable variety. It was raised by Mr. James Clarke, who also raised Magnum Bonum; the foliage is of moderate height, it is fit to dig at the same time as Beauty of Hebron, and produces a large crop. One who has cooked it reports, "as good as any Potato could possibly be—floury, flavour super-excellent." What higher praise can be given to it as a table variety? Another new variety is Sutton's Abundance, also raised by Mr. Clarke, and said to have resulted from a cross between Magnum Bonum and Beauty of Hebron; the tubers are white, flattish-round in shape, medium haulm, a good cropper, and regarded as likely to make a standard main-crop variety.

Messrs. Carter & Co., of High Holborn, and others are offering The Village Blacksmith, a second early, white round that attracted much attention at the last exhibition held by the International Potato Committee at the Crystal Palace, because of its handsome shape and singularly rough netted skin. It is so named because raised by a village blacksmith in Scotland; it is a heavy cropper, and of excellent quality when cooked. The same firm are also offering a veritable black Potato, under the name of Carter's Cetewayo, which many may be, perhaps, disposed to grow because of its great novelty of character. It is said the original stock came from Zululand, and we are further informed that this Potato forms the staple food of the Zulus for a certain portion of the year. The shape of the Potato is that of the kidney, somewhat irregular, and when cooked the flesh is black veined with white. It is recommended for exhibition purposes; but what chance will it stand with those judges who are prone to pass over a yellow-fleshed Potato as inferior to a white one?

Messrs. W. W. Johnson & Son, of Boston, Lincolnshire, are offering one of the best new Potatos of last year, viz., The Colonel, raised by Mr. J. Hughes, of Eydon Hall, Byfield. This received a First Class Certificate of Merit from the International Potato Committee in 1885. It is a white Potato of very handsome kidney shape, an excellent cropper, and an excellent main crop and exhibition variety. It will be remembered that it was finely shown at the Crystal Palace in October last. The same firm is also offering Dean's President, one of the fine strain of Bedfont-raised seedlings; it is a fine and handsome white round, mid-season, of first-rate quality, and strongly recommended for market-garden work.

Mr. C. Fidler, of Reading, who is showing a great amount of enterprise in the dissemination of new varieties of Potatos, this season offers five new varieties, foremost among which is General Gordon, which was awarded a First Class Certificate of Merit at the International Potato Show at the Crystal Palace in October last. It is a handsome white round variety, of medium size and fine russety skin, a heavy cropper, and a valuable main crop variety. Reading Giant is a long, flattish, round variety, white, the haulm strong, and a very heavy cropper. Snow Queen is a second early white round, somewhat resembling Paterson's Victoria, a heavy cropper, and an excellent quality variety. Bountiful is a half-round white variety, a heavy cropper, and promising to make an excellent market Potato. Perfection is an early white round, being fit for table early in July, a heavy cropper, and capital table quality.

As nothing new is announced from Ealing this season, we may assume that Mr. Dean has exhausted his late break of Bedfont-raised seedlings; but London Hero, Chancellor, and Bedfont Rose demand a passing notice, for they are yet scarce but deserving of an extensive cultivation. Whether the new crosses obtained by Messrs. Sutton & Sons and others from Solanum Maglia will produce a new, distinct, and valuable break remains to be seen. One thing is quite certain, that seeing we now possess a strain of English-raised Potatos of an exceedingly valuable character, any production obtained from S. Maglia needs to be of a very decided and distinctly good character to make headway in this country; but the seedlings so obtained will be certain to have an interest for many as botanical curiosities.



Sutton's Seedling Potato.

THE CULTIVATION OF VEGETABLES.

At the usual fortnightly meeting of the Manchester Horticultural Improvement Society, held on the 21st inst., at the Memorial Hall, Albert Square, a paper was read by Mr. Atkinson, of Reddish, on "Some of our most important vegetables, their cultivation and diseases." Mr. Tait occupied the chair. Mr. Atkinson said that hitherto the scientists had been in a majority in the society, so far as the reading of papers was concerned, and with a view to bring out the experience of practical gardeners, he was pressed some weeks ago to write one. He consented, and as it was his first attempt in that line, he hoped they would bear with any little mistakes that might appear in the paper. He had not written it with the intention of giving instruction, because he knew there were gardeners connected with the society who were much better able to deal with the subject than he was. His purpose was to invite a discussion amongst those who are acquainted with the growth of some of our most important vegetables and their diseases, such as "clubbing," "maggot," &c. He had, therefore, selected seven vegetables and one herb: Peas, Asparagus, Celery, Cauliflower, Tomatos, Onions, Marrows, and Parsley.

Peas.

He directed attention to these in the first place because in his estimation they are the most important of vegetables. There is no other so great a favourite, and a good crop of Peas reflects greater credit on the gardener than that of any other vegetable. His experience was, that where the land is spent, and he has a large quantity of rubbish, such as leaves or other decayed vegetable matter, it is best to mix this with a quantity of fresh lime. This mixture affords something to work upon, and this he trenches into the ground two spits deep, or what is known as double digging, some in the bottom and some in the middle, say early in the autumn. In spring he marks out the

ground, putting the rows for the Peas 5 yds. apart, thus leaving plenty of room for other vegetables to be grown between them. By this means the Peas obtain a good supply of light and air, which greatly tends to improve their growth and increase the crop. A trench for the Peas is then made, and filled with well-rotted manure to a depth of 3 ins., and upon this is placed about 2 ins. of good turfy loam; the seed is then sown and covered with wood ashes and old potting soil. By adopting this latter plan the seeds germinate and grow much better. As regards the time for sowing, his practice has been to put the first sowing in about the third week in January, and in most years they do well, though in others—for instance, when there have been very cold springs—they have not been earlier than those sown in March. He does not believe in sowing inside so as to plant out, as his experience is that you get them no earlier for it.

ASPARAGUS.

In the planting of this vegetable he makes his beds in the ordinary way, and plants two-year-old roots. He never plants it in the winter, but towards the end of May, in which case the roots begin to grow soon after they are planted, and are not so liable to rot as when planted in winter. He believes salt rots the roots, though a solution of salt and water—say 4 oz. to one gallon—has more beneficial effect on the plants than one of nitrate of soda. He also thinks that mulching with manure rots them, but has found well-decayed leaves to be better for them.

CELERY.

Any person who calls himself a gardener can grow this vegetable as long as he has ground and plenty of manure at his disposal, but there are one or two points requiring attention. In the first place, it might be asked, which is the best way of growing it—in single, double, or in more rows? A friend of his grows it in beds with eight or ten rows in each, and finds he can get four times as much Celery from the same ground, but he (Mr. Atkinson) questions whether it will be of as good a quality as that grown in single or double rows. He finds that Celery likes a solution of nitrate of soda, say 3 ozs. to one gallon of water. The second question arising on this subject is, what are the best means of removing the Celery-fly or maggot from the leaves? He has tried several methods, but they have failed. Soot may stop them from spreading, but it does not destroy them. The best remedy he had found is to pluck off the leaves on which they first appear, but then a gardener cannot always be there to do this. The third question is as to the best way of bleaching Celery. He has found nothing to answer so well as sand mixed with a little salt, as slugs and grubs of all kind do not like it. Sea-sand, when it can be procured, is the best. By using two boards, the length of your rows and the depth of your plants, one on each side of the rows, filling in round the plants with sand, and earthing up, afterwards taking out the boards and filling up the space with sand, you will always have a good clear Celery.

CAULIFLOWER.

They all knew what a pest maggot or club root is to the Cauliflower. His experience is that the best course is to sow all the plants required for the following year in autumn, say the following kinds: Walcheren, Early London, Eclipse, and Autumn Giant, are the best, and by planting these out all at the same time, they follow each other in succession up to November, and even later. They also get well rooted before the hot weather sets in, and are thus able to resist the maggot or fly better than if sown in spring. If they are required later than this, sow Autumn Giant or Eclipse early in spring on a hot bed, and you will have Cauliflowers until Christmas, always taking care to remove any that have any heads in them, and put them in a cool shed away from frost, not heeling them in, but hanging them up by the tops, as they keep very much better by this method.

TOMATOS.

These should never be grown but by the single stem system. By having one stem only, you will have larger fruit and finer crops than by growing them on more than one stem. If sown in pots, place the pots close together, and trace up a wall or trellis. He finds the month of January is the best time to sow for general crop. They should be grown in good turfy loam and cow manure. They don't like water until they get well set. By making another sowing in March he gets Tomatos until near Christmas.

ONIONS.

Onions like a good soil dug deep and well manured. Horse manure is the best when well rotted; other kinds encourage the maggot, one of the greatest pests they can have. He has tried to destroy them by fresh soil, soot, lime, and a solution of nitrate of soda, which latter is certainly one of the best things to give to Onions, and best enables them to resist the depredations of the maggot. When outside, those sown in autumn resist the maggot better than the spring-sown ones. The autumn-sown Onions should be transplanted in the spring to make fine bulbs, and by planting in rows you are able to feed them in dry weather with liquid manure.

VEGETABLE MARROWS.

For the last three years he has had good crops by growing them in the following way:—From mounds of earth or rubbish, about 8 ft. wide, and 12 ft. to 14 ft. long, 2 ft. deep at the front, and 4 ft. deep at the back, sloping towards the south. Cut a square hole in the centre, place manure—not too rotten, as you want a little bottom heat to start them—about 1 ft. deep. Make the hole deep enough to allow sufficient soil to plant them in. Make the square large enough to fit any old lights you may have to spare, and by putting in good strong plants you will be able to cut Marrows early in July. He has been able to supply his employers with Marrows up to Christmas by cutting them before they get too old, and hanging them up in a dry shed where the frost cannot reach them.

PARSLEY.

He has been told that anyone could grow Parsley, and that it only requires to be sown in some corner of the garden to flourish, but this is not the case. He has tried several methods to overcome the Parsley canker or disease, but has only found one successful. This is, to sow the seed about the middle of February in boxes or pans in a gentle bottom heat, and when large enough, to prick them out in a warm frame or in boxes, and when the weather is fit, to plant them out. He has lost all his Parsley this year by not sowing in the way here described. He would like to ask what is Parsley disease? Is it a fungus or due to maggots?

DISCUSSION.

Mr. Hudson said the disease amongst Parsley had always been a trouble to him, but he believed it was due to a maggot. He was of Mr. Atkinson's opinion, that early sowing of Parsley is the best, and he thought, also, that new soil was preferable to old. Mr. Rogers said he had now and then spoken in this society in support of a little scientific knowledge being possessed by gardeners, and the necessity for such knowledge was shown by what had just transpired. For instance, Mr. Atkinson asked whether the disease in Parsley was due to a maggot or fungus; then a gentleman got up and said it was a maggot. He thought if gardeners would carry with them a pocket-lens they could soon discover whether a disease was the result of a maggot or a fungus. Mr. Upjohn (the hon sec.) said he was one of the unfortunate minority who stood up in defence of practical gardening, for whilst he did not despise scientific knowledge, he considered it was a little over-rated sometimes. He had been for years past convinced that the disease in Parsley is attributable to a maggot, but his difficulty of dealing with it still remained. The only way he could produce Parsley satisfactorily was by sowing it amongst Onions. On several occasions when he had followed out that plan he had found that whilst the Parsley that was planted amongst Onions was good, that which was sown in other parts of the garden was bad. There were many points in the paper well worthy of discussion; it was eminently practical, and did Mr. Atkinson great credit. As to Peas, he entirely agreed with Mr. Atkinson's plan; and with regard to Celery, his own experience was that double rows are better than others. He also strongly approved of the single stem of Tomatos. Mr. Hadfield said he had had some of the finest Parsley ever produced, and that was grown amongst Onions. He thought heavy clay soil was the best for Parsley, as the maggot has the greatest power in the light soil. Mr. Nield said he always sowed Onions on wood ashes, and covered them with the same material, which he generally found to be successful, and this year he had treated Parsley in the same way. He suggested the application of soda and paraffin, mixed with sand, as an antidote to the grub in Parsley.

Mr. Butterworth did not believe in vegetables being grown by anybody except good gardeners, who have plenty of ground at their disposal, and, therefore, he confined his amateur gardening to fruit and flowers. He believed the principal reason why vegetables are not more generally appreciated in this country as food, is because, to our shame be it said, we don't know how to cook them properly. Mr. E. Griffiths Hughes said there were three essentials to the growth of vegetables, which all gardeners should remember, viz., climate, manure, and good seed. They could none of them alter the climate, but they could materially alter the manure, and they could make a choice of the seed to be used. One thing he would point out, that if they would always use fresh soil, they would never have grubs; and another important matter was that they should never allow the soil to be too much impregnated with manure or decayed vegetables. The chairman said he was exceedingly pleased with the paper, and also with the discussion. To his mind it was one of the most satisfactory discussions the society had ever had, as it had elicited a considerable amount of information from practical gardeners, which was the primary object for which the society was formed. On the motion of Mr. Butterworth, seconded by Mr. Hughes, a cordial vote of thanks was given to the reader of the paper. Mr. Atkinson, in reply, observed in answer to a suggestion of one speaker that it would be well for gardeners to know something of chemistry, that practical gardeners, as a rule, had no time for studying chemistry or botany either.

ENGLISH SEEDLING GRAPES.

IT is often remarked that cultivators of the Vine have been somewhat neglectful, and that they have done very little to increase the numbers of the varieties by raising seedlings; yet this does not seem to be deserved when attention is given to the matter. Some of our standard varieties have been obtained in this way, and the list of all that have been recognized as distinct by the authorities is considerably larger than might at first thought be supposed. Of the black varieties for example we have at least eight English raised Grapes, and a good proportion of these are very meritorious. Lady Downes Seedling, Madresfield Court, Mrs. Pince's Black Muscat, West's St. Peters, and Alnwick Seedling, may be cited as instances, and ranking nearly in the order named.

Then of other black varieties less generally useful, we have Ascot Frontignan, Muscat Champion (reddish), and Royal Ascot. Venus Seedling and Abercairny Seedling are also of English origin, but Mr. Barron and Dr. Hogg do not consider them sufficiently distinct, though the former has the reputation with some Bristol growers, of being stronger and more reliable than its assumed parent Muscat Hamburgh, with which the pomologists named consider it is identical. Abercairny Seedling, too, at the establishment where it was raised, is still considered a distinct and superior Grape, though now usually regarded as the same as West's St. Peters, at least that is Mr. Barron's firm opinion, and I am not prepared to dispute the point with him. It is quite possible that when such seedlings are first fruited they show well marked characters, and then after a few years cultivation they revert to the parent form.

Similar results are seen in other plants, and when a break from a particular variety is secured by seed, the best course is to again cross the seedling with other varieties, for it is a well-known fact in hybridising or crossing that when once a tendency to changing is induced, it can often be increased, and the varieties caused to depart still farther from their original types by crossing with other forms. In a few instances the seedlings mentioned have resulted from systematic crosses, as with Madresfield Court (Muscat of Alexandra + Black Morocco) and Muscat Champion (Mill Hill Hamburgh + Canon Hall Muscat); but in other cases they have been either raised from seed produced without artificial crossing, or no particulars of the parents employed have been preserved.

The white seedling Grapes are more numerous than the blacks, fourteen having been accepted as distinct, of these Forster's Seedling and Buckland's Sweetwater are two of the best known and most generally cultivated Grapes; Duchess of Buccleuch stands at the top of the list for flavour, while Doctor Hogg is of similar flavour, but of much better constitution, and more fitted for most gardens. Duke of Buccleuch has caused much dispute, but is unquestionably a grand Grape where well grown, as it is in several northern gardens. Canon Hall is the only seedling usually considered

quite distinct from Muscat of Alexandra, its parent, but it does not equal that in quality. Bowood Muscat, which is also a seeding from Muscat of Alexandra, is thought to be distinct by several eminent gardeners, amongst whom is Mr. W. Coleman, of Eastnor Castle; but the remarks already made in reference to the reversion of seedlings seem to apply equally in this case. If there is a form recognisable from the Muscat of Alexandra by its earliness and better constitution, as some maintain, it is very difficult to procure, and must be scarce.

Other white seedlings are Ferdinand de Lesseps, Ascot Citronelle, Golden Champion, Golden Hamburgh, Golden Queen, Waltham Cross Seedling, White Lady Downes Seedling, and Mrs. Pearson, the last-named being much the best, for the others are seldom satisfactory, even under the care of the most experienced Grape-growers. Perhaps, compared with other fruits, the preceding list may not appear a long one, and there is unquestionably room for still greater advance, especially amongst the white Grapes. We want a Grape of the Muscat of Alexandra quality of better constitution, one that will set more freely, and succeed in a lower temperature; a good late-keeping white Grape is also needed to accompany Alicante and Lady Downes. In the black class, Black Hamburgh is such an all round useful variety that there is little chance of its being surpassed; for size and fine appearance we have Gros Colmar, while Gros Maroc, Madresfield Court (where its peculiarities are mastered), and the two late varieties already mentioned are established favourites in the majority of gardens.—*Vitis.*

FRUITS, FLOWERS & VEGETABLES.

Acacia platyptera.—Many who see this plant in a flowerless condition might be inclined to regard it simply as a curiosity. Its strangely flattened leaf-like branches have such an uncommon appearance that it resembles some of those vegetable abnormalities which one sees in botanic gardens, and its usefulness would never be suspected. Yet there is no Acacia to equal this for early flowering, and as a winter plant its value is inestimable. Though at present only comparatively few gardeners have discovered the merits it possesses for this time of year. Readily and quickly propagated, easily grown, and flowering in all stages, from recently rooted cuttings to small specimens 2 ft. or more in height, it can be employed in numbers for the conservatory with great advantage, either for decoration or cutting. Useful plants in 60 or 48-size pots can be grown in a short time, and then with annual re-pottings and generous treatment they can be cut as freely as is desired, the result being that they are rendered more bushy and compact than they are naturally. From December to February they may be had in flower if sufficient are grown to bring a few on at intervals, and they require very little heat to force them into flower in the first-named month, this chiefly depending upon the way they are prepared earlier in the year.

Cuttings of the young shoots can be taken at any time after the plants have flowered, they should be 3 ins. to 4 ins. long and not too soft. Insert them in light sandy soil, cover them with a bell glass and place the pots in a temperature of about 60°, where they soon make fine roots, and it is seldom that we lose a single cutting. When it is seen that they are rooted and are commencing growth, pot them singly into small thumbs, using a light compost of loam, leaf soil and sand, and encourage growth in a temperature about the same as that named above, supplying water carefully but syringe them frequently. When sufficiently advanced they may be placed into large 60's, and as it will be advisable to retain some in that size for flowering, add a small proportion of old dry manure to the soil, also repeating this if they are to be re-potted into 48's to form larger specimens. When the growth has ceased place the plant in a light cool well ventilated house, where the shoots can be matured, starting them as advised for early flowering by replacing them in moderate heat. The bright yellow globular flowers are produced most freely along the margins of the flat branches, and have a pleasing appearance.—*T., Wimbledon.*

The Profits of Celery Culture.—It seems to be a common practice in these days to represent the profits of market gardening as extremely small; and, no doubt, there has been a diminution in the value of some crops; but, although the consumption has increased very largely, the numbers of producers have been similarly extended. Still, there is plently of crops which when judiciously managed afford substantial returns—sufficient to satisfy the most sanguine expectations, and amongst these must be reckoned the Celery crop. Celery has long been regarded as one of the most profitable vegetables grown in the low-lying districts near the Thames, both east and west of London, and especially in the direction of Woolwich, whence some of the finest samples have been sent to the metropolitan markets. Hundreds of acres of what might be termed marsh-land have been reclaimed and rendered the source of considerable incomes by the culture of this vegetable, and the importance of this is enormously increased when it is considered that the land so occupied would otherwise have been fit for little but Willows. For many years the greatest part of the Celery supplies were derived from the London market-gardens, but of late the enormous demand in the populous provincial cities has induced numbers of enterprising persons to take up its culture in other districts. In the midland and northern parts of England especially there is scarcely a town of moderate extent, and where the soil is suitable, but what we find the Celery forming a good proportion of the local market-garden crops. Next to the London growers probably none in one district produces a larger quantity than those around Bantry, where its production constitutes an important local industry. There some hundreds of acres are devoted to Celery, and the yield per acre ranges from £30 to £50, according to the season at which the produce is placed in the market, and the quality of the "heads" or "sticks," exceptionally good samples realising still higher prices. This is about the same as the average returns from Onions, and leaves an ample profit for the growers. In London the wholesale price per bundle of a dozen sticks varies from 1*s.* 6*d.* to 3*s.*, the latter price being seldom exceeded, though in the retailers' shops 6*d.* per stick is by no means an uncommon price for the best quality, though large quantities of inferior samples are now sold for stewing and soups at nominal prices. Such crops as these yield handsome profits—even on the highly-rented land near London, where £10 per acre is the rule rather than the exception, and it can be imagined that there ought to be a good opportunity for growers who need not pay more than 30*s.* per acre, as plenty of suitable ground can be obtained at that rental.—*A. G.*

The New Melons.—No summer fruit that grows under the sun is so welcome, or so thoroughly appreciated as a well flavoured Melon. Are we ripe, Mr. Editor, for a Melon congress? Perhaps not, or a more fertile brain than mine would have suggested it ere now. But if we cannot have a congress we can at least originate a competition for new Melons, in or out of commerce, to take place during June or July. It might take the form of a sweepstake among the raisers of new Melons, to which I should be happy to subscribe from five shillings to one guinea, and I have no doubt many other Melon growers would do the same. But to remove the contest out of the category of anything in the shape of gaming, I would suggest that the amount collected be given by the winner to the Gardeners' Royal Benevolent Institution, the honour of showing the best flavoured variety, being, in my estimation, an ample reward. What do other Melon growers say to the project?—*R. Gilbert, Burghley, Stamford.*

Rhus Cotinus.—Too much cannot be said in favour of this charming deciduous shrub. We have several good sized bushes of it here—about 7 ft. through, and nearly as high—which I should say have been planted about eight years. Last autumn I gathered some seeds from them, and have raised some young plants, which are now about 2 in. high. I believe it rarely seeds; at all events, I had never observed seeds on them before last autumn. It has two seasons of great beauty; when in flower nothing is more striking than its feathery plumes, and again, just before the foliage falls, the colour of its leaves vary in brilliancy from a bright scarlet to the softest yellow. Some time ago I put in a lot of cuttings of it, but failed to root one, so cannot say that it is propagated very freely from cuttings, which probably accounts, in some measure, for its being somewhat scarce. My experience of it is that it never flowers in a young state.—*J. T. Fletcher, Coppins, Iver.*

Ringing the Branches of Fruit Trees.—Your correspondent "R. D." is anxious to ascertain if this practice is still continued by fruit growers. It would, no doubt, be interesting to ascertain to what extent it may be done, as I have not seen it anywhere for very many years. I well remember, about twenty years ago, it was almost universal among the older members of the profession, but I think must be now almost discontinued. As a rule, modern gardeners do not use the knife in such an indiscriminate fashion as was the custom in those days, having learned that trees may be brought into fruitfulness by less use of the knife and judicious root-pruning. However, I myself sometimes resort to a practice very nearly akin to it, but for a very different purpose. That is in the case of a tree where a branch may be wanted to fill up a rather wide space on the stem, so as to look neater than where parallel running branches may have too wide an interval between them, I then cut a notch in the stem above a dormant and likely bud. It does no harm, generally closing up the next summer, but is very often successful in meeting the want.—*R. Stevens, Paston, Northumberland.*

Hedychium coronarium.—I presume that what is grown under this name is really H. aurantiacum. I have never seen finer plants or better done specimens of this than Mr. R. Greenfield grows at the Priory Gardens, at Warwick. There it seems to luxuriate under the treatment given it; it is potted in good strong fibry loam, and it is copiously watered, and when growing it is treated to frequent soakings with liquid manure-water. Treated in this manner, the flowers are produced freely at the points of the strong growths which are thrown up from the crowns of the plants. It is an easy plant to grow, and it requires little attention beyond what has just been set down.—*R.*

Forwarding Early Crops of Peas.—Many and various contrivances are resorted to forwarding the first crop of Peas, but of all I have tried none satisfies more than using large 60-size pots. I have found great advantage in this system for several years past, and have during the present month filled several hundreds, and placed them under glass in cold frames or wherever a little room could be spared out of the reach of mice, &c. My plan is to place a pinch of moss or a little half rotted rather dry dung over the hole in the bottom of the pot just merely to keep the soil in, and half fill them with a mixture of loam and leaf mould, then sow eight or nine Peas in each pot and fill up with the soil; one good watering will generally suffice until the Peas are up, air must then be admitted on favourable occasions. About the end of February, all being well, they will be about 1 in. high and will be fit for planting out. In the meantime a nice sheltered south border is prepared to receive them, and choosing a favourable day a deepish drill is drawn with the hoe, and the contents of the pots are then carefully turned out entire and planted with a trowel and at once covered with galvanized Pea protectors, on the top of which a slight covering of dryish litter from the dung heap effectually shelters them from cold winds, and from the attacks of birds and other depredators, and they are safe and comfortable and grow away at once without any check whatever. As soon as the tops reach the wires, the latter are removed and the sticks are placed to them at once, the result being a fine border of early Peas. I find ten pots will plant a yard run, so that it is easy to calculate how many to sow for a given border. I know some people say why take all this trouble, why not sow in the borders at once? but although theoretically it may seem a tedious job to them, I say that practically it is astonishing what a couple of handy men will do in a few hours. Again, what looks worse than thin and ragged rows of Peas; I hate the look of them, and in cold wet seasons, and on some soils especially, how is it to be avoided except by the planting out system. I only practice it for the earliest crops, but I know of one grower who told me that he sows all his Peas in pots, both early and late, as in no other way can he get a satisfactory plantation.—*W. Harris, Denne Park, Horsham.*

Poinsettias.—There has appeared just lately several communications from different correspondents in the columns of THE GARDENING WORLD, each and all giving their different modes of cultivating this most useful autumn and winter decorative plant, and I have no doubt all their methods of culture have many points to recommend them. I had several times heard of

Poinsettias being planted out in summer, but never had an opportunity of seeing any until last August when on a tour in Herefordshire. I visited the fine and well-kept gardens of the Earl of Chesterfield, at Holme Lacey, under the very able management of Mr. Charles Denning; there I saw planted out on a warm border as fine a lot of Poinsettias as anyone could wish to see, the plants being as healthy as Groundsel and not more than 12 in. or 14 in. high. Of course this mode of culture would not do in the north, we cannot venture to risk our plants in colder quarters than a cold frame; but if I lived in the South of England, from what I saw at Holme Lacey, I certainly should grow all my Poinsettias planted out in summer. Some years ago, I saw what I thought a novel way of growing the Poinsettia, at Seaham Hall, Durham. Mr. Draper, the able gardener in charge, had the back wall of a lean-to house, I should think, speaking from memory, about 30 ft. long and 12 ft. high, covered from end to end with this charming plant. It was planted out in a border and trained against the wall; and, when covered with its richly coloured bracts, some measuring over 13 in. in diameter, it looked most beautiful. If this note should catch the eye of Mr. Draper, perhaps he would give us a few more particulars respecting it, how many bracts it bears in one season, &c., it would be interesting at least to the writer.—*W. C.*

Planting out Poinsettias.—I am sorry I did not give the date on which we were visited with rather a severe frost last September; to the best of my recollection, it was the third, but am not quite certain, as I am not very particular about dates in such matters. I can only say, that, had "all" our Poinsettias been planted out, they would have been killed, hence my reason for recording my experience. I have nothing to say against Mr. Denning's advice, indeed, I should be only too glad if circumstances would allow me to follow it. The planting out system has a good deal to recommend it, but I maintain that it is unsafe to allow all one's stock of so valuable a subject as the Poinsettia out of doors.—*G. Merrit, Kimpton, Herts.*

Jasminum grandiflorum and hirsutum.—Many times I have heard it asked, what shall I grow that will yield me plenty of white flowers in winter? I say grow these two plants; grow them well and they will amply repay you for your trouble. Their cultivation is quite easy, and should be adopted by everyone who has a stove, and are fond of sweet-scented flowers. Either of them make grand companion plants for Euphorbia jacquiniæflora. They seem to thrive best grown in a compost of loam enriched with rotten manure. Young plants should be struck in the spring from strong wood, and kept growing on in a good heat all the summer; they should be potted into their flowering pots not later than the middle of August, and kept growing in a moist stove. They will begin to show their flower buds about the middle of October, and from this time they will continue to bloom till the middle of February. Plants of either variety will flower in a small state; but it is when they become strong that the grower reaps the benefit of a large quantity of flowers. When the flowers are required for cutting it is well to drop a little Floral Cement into the calyx to secure the flowers to it. They can then be used along with other flowers for table decoration, or as sprays for ladies, who appear to be very partial to them.—*W. G.*

Baumforth's Seedling Raspberry.—Seeing this variety advertised in your columns, you may be interested to know that with me it has proved a heavy cropper, yielding large and well-flavoured berries. I can strongly recommend it to everyone about to plant.—*S. S., Ireland.*

Phormium tenax variegatum.—A plant of this in my cold house has had the soil about the roots frozen hard on a few occasions, but to this time it does not appear to be in any way injuriously affected thereby. On one or two occasions I have trembled for its safety, but I am again assured. P. tenax is regarded as almost hardy, but I think it may be put down as quite so, though my plant, had it been standing in a pot out of doors, might have succumbed. It is in the coldest part of the house, on a slate floor that is open below completely, and simply raised on an inverted flower-pot. As a matter of course, water has been very sparingly applied during the winter. In Ireland magnificent masses of P. tenax have stood unscathed the rigours of an Irish winter. I should have no hesitation in showing it in a collection of hardy variegated plants, though in all probability some would object to my doing so. That would raise the question of what constitutes a hardy plant?—*R. D.*

The Gardeners' Calendar.

THE PLANT HOUSES.

With out-door operations suspended on account of the unfavourable state of the weather, all hands can be profitably employed inside. Bedding Pelargoniums may now safely be potted off, thus giving employment to some. A good place for them will be on the border of the early vinery, or other similar structure where a moderate heat only is maintained. Pot them singly, give a good soaking of water to settle the soil, and they will be ready to remove to the cold frames before they become much in the way of the necessary work on the Vines.

Let the potting of stove plants proceed as time will permit, but do not over-pot; in the case of specimen plants which have attained goodly proportions a surfacing will be preferable to a shift, more particularly this applies to Palms and Crotons; of course, in the way of plants of soft growth, such as Clerodendrons, of the climbing types, Stephanotis, and such like, annual potting is almost imperative, because, in the case of the former, they are (or should be if properly treated), subject to greenhouse temperature during the latter part of summer to thoroughly ripen, consequently from being kept comparatively dry the soil is quite unfit to sustain the plant the following season.

If not already done let the Gardenias be subjected to a thorough cleansing; the buds of these should now be well pushing, and if not quite cleaned at this period no amount of after care can remove that greatest of all pests—mealy bug from the flowers, added to which, nothing is more disgusting than to hand a flower to a lady with the stench of bruised bug still clinging to it, and this will have to be done unless extra vigilance is now used. A friend of mine who grows a quantity of these plants allots two men to go over the whole stock of plants every morning until breakfast time, and his plants are a pleasure to look at.

Zonal Pelargoniums for indoor work will also now need attention, look over the stock, see what require to be increased, and put the cuttings in at once; from the quantity of forced plants now to hand, of course, these can well be spared from decorating, and if turned out and re-potted, placed in gentle heat, they will soon start away and come in extremely useful later on. Sow without delay the main lot of Cyclamens.

FORCING HOUSES.

With an almost utter absence of sunshine, progress in this department must be necessarily slow, more particularly in the way of Vines and Roses, the young growths of which, if pushed too hard, will become positively sickly to look at, and no amount of after care can thoroughly restore them, so that be extremely careful that the temperature at night is rather low than high. Where the early Peaches are in bloom, damp as little as possible until a favourable change in the weather takes place; keep the pipes chilled only, except in the case of sharp frost, when 45° may be maintained at night, 55° by day; more damage is done to Peach trees forced by high night temperatures than is generally acknowledged or ever known.

See that the supply of Rhubarb, Sea Kale and Asparagus is fully maintained; also small salads and the like. Cucumbers make but little progress, the fruit, about 6 in. long, remaining almost stationary; we have applied fresh bottom heat around the pots, and we now perceive a change for the better; to-day we are making up a hot-bed for Melons, and one for soft-wooded propagating. Keep the sowings of French Beans regularly made so as to avoid gaps in supply.

Where the early Vines are well started away, I would advise a good watering to be given, but be sure the water is given of a temperature not below 90°; very frequently at this stage a great deal of injury is caused to the crop by the soil in the border becoming too dry, for it must be borne in mind that the Vine is a very thirsty subject, and, if neglected in its earlier stages of growth, the bunches as a rule become blind at the points, and also do not set properly although, as may be stated, every care has been taken during the time they were in flower; in short, insufficient drainage to the borders, together with a corresponding decrease in the supply of water, is one of the most certain causes of failure in the cultivation of the Vine.

Introduce Hyacinths, Tulips, Spiræa, and all such plants into heat, according to the demand, a few of each placed in heat at short intervals is far better than putting a quantity in at one time, as, after being forced at this season of the year, they soon fade and become most objectionable if used for house decoration; in fact, for this purpose Tulips are, in my opinion, far more suitable than Hyacinths or Narcissus.

THE KITCHEN GARDEN.

Here, unfortunately, as far as ground work is concerned we are completely at a standstill, snow falling every night for the past five days leaving the ground perfectly unworkable, in fact, if digging were attempted it would be a long time before any crops could be planted, and the soil would not recover the whole of the season. Look well to the covering of the Radish-bed, and any other seeds that may have been sown. Keep the soil between the rows of winter Spinach well stirred as weather permits; it is too soon yet to make a sowing of spring Spinach, as if sown a month hence little time will be lost.

Now will be a good time to make the principal sowing of Brussels Sprouts, this, of course, must be made inside, treat them the same as advised in last week's calendar for Cauliflowers, and a good supply all through the season will follow. With us this vegetable is never too early or too late, always being in demand; at the same time I never place any reliance on the out-door sowing for my supply, in fact it does not pay so uncertain is the result.

When very early Celery is required for soups (or exhibition) a pinch of any variety most fancied by the cultivator may now be made; when sufficiently large to handle, let them be potted off singly into 60's using a rich compost, transfer them from heat to cold frames when ready; finally plant out under glass in a pit or large pots, as space will allow. Prepare Pea sticks and stakes of all kinds; and while this weather continues, keep the wire guards over the rows of Peas and Beans. —*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Potting Cool House Orchids.—On reading Mr. O'Brien's directions for potting cool Orchids in The Gardening World for January 16th (p. 315), I find that his advice as to the time when they should be potted differs somewhat from my practice. As it takes a long time with us to get all the Odontoglossums potted, I like to begin in the autumn, before the blinds are taken down, and finish by December. If it is a span-roofed house I keep the blind up a little later on the side most exposed to the sun, and after the plants are potted I have them damped on the surface with a rose syringe, my idea being that the moisture on the surface helps to keep the bulbs from shrivelling. This syringing is repeated before the sphagnum gets quite dry, damping the foliage as little as possible, until about February, after which time, as the sun gets stronger, they require more water. My reasons for choosing the autumn and early winter for potting are that there are few plants in flower, so that nearly all can be potted, and it gives cool house Orchids time to make roots before the spring, so that the plants do not suffer so much; but at this time of year, after a snow-storm has cleaned the glass, the sun shines in quite strong, and no one thinks of putting up shading yet. With north houses, to my mind, the time for potting is quite another question. I should pot Odontoglossums in these at any season of the year, providing in hot weather there is sufficient shading on, with plenty of moisture in the house and not much ventilation. Masdevallias I like to pot at the beginning of winter, even in a north house.

Respecting the sand "idea," I remember about thirteen years ago turning out some Cattleyas, in the potting compost of which sand had been used, being thrown in by handfulls. It was very fine sand but I noticed that the roots ceased to grow when they came in contact with it. After seeing this I had a thorough dislike to sand for Orchids until about a year or two ago, when I began to drift back into the "sand error"

again, but not for Cattleyas yet, indeed I scarcely know how we should use it for these unless we shook a little among the crocks, as my ideas of potting Cattleyas now are different to what they were years ago. We use a little sand (of which I enclose a sample) for Odontoglossums, Masdevallias, Cypripediums, and a few other things; we have the coarse Bedfordshire sand, and with a fine sieve separate the smaller particles from the larger, taking the coarser particles for Orchids, and the finer for potting greenhouse plants, &c.—*C. Woolford.* [The sample of sand, or rather grit, received, is similar to that which was extensively used, mixed with sphaguum, in more than one good collection a few years ago, but with disastrous results as the plants went rapidly back. It is probable, however, that those who tried the experiment we allude to, used the sand much more freely than does our correspondent. As regards the proper time for potting we should remark that Mr. O'Brien's advice was given more for the benefit of the hundreds of amateurs who have small collections, and who have more to learn than growers like our correspondent who have charge of a large number of plants, and to whom autumn potting is more a matter of convenience than of necessity. With small collections in or near large towns it is of vital importance that the plants should not be disturbed during dull, foggy weather.—Ed.]

Odontoglossum crispum.—"J. T." has misconstrued the meaning of my query. If he had written on p. 299 "one plant had its," there would have been no need to question his statement, but his wording of the paragraph that called forth my query reads as if one *spike* bore the 140 flowers. I am quite satisfied with the explanation, and if this meets Mr. Grossart's eye, I should be very much pleased if he would send me sample blooms of the largest and the smallest size on the plant. "J. T's" references to large spikes on other Orchids than Odontoglossum does not touch on the question, except that collectively they may all be taken together to prove that northern and mountain air is I believe more conducive to heavily bloomed spikes than our southern air is in regard to cool house Orchids. In Lælia superbiens I can match his "nearly 7 ft. long" in my own plant (though the buds are not yet in sight), and perhaps even beat that length when they have completed their length. His conclusion on p. 332 is correct, as were there any exaggeration in "An account of Orchids in Scotland," it would be even more questioned than I did in asking for an explanation of a paragraph which "J. T. must allow on a second reading is not clearly stated, that the *plant* and *not* the *spike* bore the 140 blooms. England is pleased! Is Scotland?—*De B. Crawshay, Rosefield, Sevenoaks*

Odontoglossum crispum.—Mr. Crawshay denies that flowers of O. Alexandræ deteriorate in size and shape after the first year of blooming in this country. Is he also prepared to assert that they do not lose their colour, especially the roseum varieties?—*B. D. K.*

SYRINGING ORCHIDS.

As I have some very decided experience in the good results to be obtained in Orchid culture by totally abandoning the use of the syringe on them overhead, I think it will be in the interests of your readers if I briefly state it. Some years ago I had charge of the collection of Geo. Wood, Esq., of Rochford, Essex. Before going there the syringe was no favourite of mine, but I was hardly prepared to agree with the strict rule which Mr. Arnold, the head gardener, enforced, viz., "Not a drop of water overhead, either from syringe or water-pot, on any pretence whatever." However, I submitted, and during the whole of the four years I had charge of the plants the rule was worked out to the letter, and I may say that never did I see plants make such satisfactory progress before. The Saccolabiums, Cattleyas, Lælias, Odontoglossums, and Vandas were especially grand, some of the Vandas being over 7 ft., and leaved down to the pots. Some of your readers will doubtless remember the praise they received when sold by Messrs. Protheroe & Morris. One nice plant of Vanda suavis, I recollect, fetched twenty-two guineas, a Cattleya speciosissima twelve guineas, an Angræcum sesquipedale fifteen guineas, and so on.

My opinion is that anyone who has once grown his Orchids without syringing them will never return to the practice, although I know that many of them will bear it for a time. Noting that Mr. Dumper includes Odontoglossum Roezlii among the few he waters overhead, I may say that it was one of the last plants I gave up syringing, but now I know that although most growers syringe it, those who grow it successfully without get finer, broader leaves and better flowers. Those who want evidence of this need only go to Messrs. Veitch's, where, in their north Phalænopsis house, they will see some grand masses of it which have never had water overhead, and which, for size of growth, more nearly resemble O. vexillarium than O. Roezlii as usually seen. Syringing certain Orchids may be done by a clever grower mindful of degrees, times, and seasons, although, in my experience, it is unnecessary even where not harmful; but for a beginner I am sure it multiplies his sorrows exceedingly.—*H. A. Tracy, Greville Lodge, Twickenham.*

THE NURSERY AND SEED TRADE ASSOCIATION.

The annual meeting of this association was held at 25, Old Jewry, E.C., on the 25th January, instant, Mr. Sherwood (Messrs. Hurst & Son, 152, Houndsditch) the president, occupying the chair. From the ninth annual report, which was read and adopted, it appeared that in 1884 it was proposed to wind up the association, as the principal members had withdrawn their support in consequence of the want of energy on the part of the executive, but as several members were of opinion that an association was a necessity to the trades, it was decided to resuscitate it and to amend the articles of association enabling members to join in January or July of each year; and that the members should give mutual information to each other, through the secretary, concerning the stability of persons with whom they had business transactions, and thereby obtain reliable information which could not be obtained through the channels of ordinary trade protection societies. The operations of the association since its resuscitation had been very satisfactory, and the association was considered to be on a satisfactory basis and was being energetically worked. Many foreign members who sent goods to the United Kingdom had availed themselves of the advantages afforded by the association. The balance sheet which was read was also of a very satisfactory character, a balance of £48 7*s.* 5*d.* being carried forward to the present year.

In the evening several of the committee and members dined together at the Guildhall Tavern, Mr. Sherwood, the president, again taking the chair. Mr. Harrison, of Leicester, in proposing the toast of the officers and committee, referred in detail to the report and thought the executive had, in a short time, done wonders. They had rescued out of the fire the burning brand and saved the association from collapsing, and the condition in which it had been now brought forward was most satisfactory. Mr. A. H. Clarke, the treasurer, in responding referred to the state in which the association was allowed to drift, and that when the committee met there was a desire in their minds that it should not be allowed to break up, but that they should do all in their power to resuscitate it and make it a success; but, as a great deal had to be done, and the committee had worked very hard to get the association into its present shape. He asked those who were not on the committee to wake the committee up if necessary, and it would be found that if they fell short in any respect they would answer to the whip.

Mr. William Paul, who also responded on behalf of the committee, thought that too much praise could not be bestowed upon the solicitor and the secretary for what they had done to resuscitate the association; but, although it had done a great deal in the way of giving status reports and collecting debts, that was only a small part of what the association ought to accomplish. He thought more ought to be done for the purpose of uniting the members of the nursery and seed trades. Singly their power was small, but united it would prove for the good of both. There were a great number of intelligent people in the trades. Horticultural literature was now represented by nine weekly papers besides those issued monthly but these did not exercise the influence they might if the nurserymen and seedsmen were a more united body, in which case they might retain their rights which they were not then doing. Mr. Paul referred particularly to the question of rates and income-tax, and stated that nurserymen were paying far more than they ought to be called upon to pay, and instanced this by what occurred on a re-valuation of his parish being made for the purpose of rating, on which occasion he (the speaker) appealed to the Quarter Sessions, and succeeded in reducing the amount of rating by one-half. If this question had been taken up by such an association as the present one, a principle would have been established which would have affected nurserymen all over the country; but as it was only an isolated case, it could not be utilised on behalf of others. He also referred to the question of railway rates, which required consideration, and which could only be effectually dealt with by a large body engaged in the nursery and seed trades with any hope of bringing the same to a successful issue. Speaking as a contributor to the horticultural papers, he was of opinion the latter had not stood by the nurserymen as they ought to, but he thought that if they made their power felt as a body, not only they but the trade itself would find it to be of great service. He referred to the rules of the Royal Horticultural Society, which precluded nurserymen being on the council, and thought that if this matter were properly represented by an association of nurserymen, such as the present, an alteration would be effected.

Mr. Hooper proposed the health of Mr. C. Butcher, the solicitor to the association, and, in responding, that gentleman pointed out that the articles of the association were sufficiently large to enable the matters referred to by Mr. Paul being taken up by the association, and that if those engaged in the production of seeds and flowers thoroughly united themselves as a body they would be sufficiently strong to have a voice in the Chamber of Commerce upon the matters considered by that body. He advocated legislation in the interests of nurserymen, giving them the right to demand compensation on expiration of tenancy from their landlords or succeeding tenants in respect of buildings erected and improvements to the land.

Mr. Harry Veitch proposed success to the Nursery and Seed Trade Association, to which Mr. Sherwood, the president, replied in suitable terms. Other toasts followed, and a very successful meeting was brought to a close.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.—*January 25th.*—The 58th annual general meeting of this society was held at the Town Hall on the above date, Dr. R. F. Ainsworth presiding. The report of the retiring council, of which an abstract has been already published, was taken as read, and its adoption was moved by the chairman and seconded by Mr. J. Hough.—In the course of a brief explanatory statement Mr. Bruce Findlay, curator and secretary, said reference was made in the report to the new house about to be put up in the gardens. Had it not been an absolute necessity it would not have been taken in hand. Any one who would at the present time take a walk through the exhibition and other houses would see at a glance that it was a question of either destroying some two or three hundred magnificent specimen plants—some of them above a century old, and natives of various parts of the world—or providing a home for them. The council had, he thought, wisely adoped the latter course. Operations had already commenced, and by Whitsuntide the new structure would be complete. He ventured to predict that the building would be an ornament to the gardens and a source of great attraction to visitors. The financial question was the only one about which there was any anxiety, inasmuch as an additional £1,000 would have to be raised during the present year to pay for the building. It was a most unfortunate circumstance that all these extraordinary items of expenditure should have come upon them at once. Two years ago they had to build a new exhibition-house, which cost £2,000. Four years ago the old range of glass-houses had to be removed and a new one erected, and various other additions had to be made, so that in about nine years £6,000 had been spent upon the property in the way indicated without adding anything to the liabilities of the institution. The reason for all this was explained by the statement in the report that the present was the 58th

annual meeting of the society. During so long a period tropical plant houses must of necessity decay. The question was, how were they to raise the sum required? He found that they had a constituency of about 900, consisting of about 300 life members, and nearly 600 paying £2 2*s.* and £1 1*s.* per annum. His suggestion was that an appeal be made to each of these 900 members asking their kind co-operation in the way of getting an additional subscriber. If 500 of this number would each get a subscriber of £2 2*s.* per annum the difficulty would be overcome, and if a resolution to this effect were passed he believed it would have the desired effect. So far as he was concerned, he would promise that nothing would be wanting on his part to make such a resolution successful. The object would, he was sure, commend itself to a large number of persons, inasmuch as the money was required to protect and exhibit to the people the most beautiful objects in the world, for he supposed all would admit that there was nothing in the world so beautiful as plants and flowers. He thought it must be admitted that the society had done important public work during the period of its existence. The report stated that during the last twenty years the large sum of £25,000 had been distributed in prizes, and there could be no doubt whatever but that this had had an important influence upon horticulture in this and the adjoining counties. It was admitted that the great exhibition held at Whitsuntide was the best of its kind held in the country, and some 50,000 people were admitted annually to see these magnificent displays. Every nation that boasted civilisation, elegance, refinement, taste, had shown a love for gardens and gardening; and it was certain that a city like Manchester could not afford to dispense with such a civilising and humanising agency as its botanical and horticultural society; and although the times were not propitious for an appeal of this kind, he felt sure that when all the circumstances of the case were fully made known the council would receive the support to which he thought they were fairly entitled. The motion for the adoption of the report was then put to the meeting and carried.

In answer to a question, Mr. Bruce Findlay stated that the new Palm-house was to adjoin the Fernery. On the motion of Mr. John G. Meller, seconded by Mr. W. Nall, thanks were accorded to the retiring council for their services during the past year. Mr. W. C. Fogg moved the election of the council and officers for the ensuing year, which was adopted. A motion was next submitted by Mr. Robert Tait to the effect that each proprietor and subscriber be asked to give his kind co-operation in securing additional subscribers. The motion was seconded by Mr. F. Robinson and carried. A vote of thanks to Dr. Ainsworth for presiding, accorded on the motion of Mr. John Galloway, jun., seconded by Mr. J. R. Hampson, brought the meeting to an end.

National Chrysanthemum.—*January 25th.*—The annual general meeting of this society was held at the "Old Four Swans," Bishopsgate Street Within, on Monday last. The President, Mr. E. Sanderson, occupying the chair. The Secretary, in his report of the last season, referred to the high quality of both the cut-flowers and trained plants at the November show; calling attention also to the mid-winter show, which far exceeded the expectations of the most sanguine, and was both interesting, instructive, and successful. During the past year no less than seventeen societies have become affiliated with the National Society, and the medals and certificates have given universal satisfaction. It had been proposed that in the season 1886-7, a special effort should be made to encourage both early and late-flowering Chrysanthemums, by holding competitive exhibitions in September and January, in addition to the grand November fête. This would necessitate a larger expenditure, and to meet this an increased income is absolutely necessary.

The balance sheet was then read, and showed that £213 16*s.* 6*d.* was paid for prizes at the November exhibition, and £14 10*s.* at the show in January. The total expenditure for the year amounted to £393 15*s.* 7*d.*, shewing a deficit of a few pounds.

A list of members whose subscriptions were in arrear was read by the Secretary, the total of which amounted to £12 18*s.* It is to be regretted that some members do not give more prompt attention to the payment of their subscriptions, as in this case, the arrears exceeded the deficit, and would have allowed a balance to be carried over to the next season.

The report and balance sheet were adopted, and a resolution passed to draw the small deficit from the reserve fund, which was instituted for the purpose of meeting any deficit such as the present, and which now amounted to about £80. Having closed the work of the past season by a vote of thanks to the auditors, Mr. Drain, junr., and Mr. Crane, the meeting then proceeded to the election of officers. Mr. William Holmes in proposing that Mr. E. Sanderson be re-elected, said it gave him great pleasure to again be able to make this proposition, and spoke in the highest terms of the President, who was again unanimously elected to the important office of President of our National Society; Mr. R. Ballantine, Vice-president; and Mr. J. Starling, Treasurer, were again re-elected. The enthusiastic and ever popular Hon. Secretary, Mr. William Holmes, was re-elected unanimously. The auditors for the season are again Messrs. Drain and Crane. The election of judges, floral and other committees was then resolved to stand over until the first meeting of the general committee.

The election of a general committee was a tedious task, as there were forty-eight nominations out of which to select the thirty-six to form this committee. The following gentlemen were ultimately elected to form the general committee:—Messrs. R. Bevan, R. Dean, E. C. Jukes, J. Marden, J. P. Kendall, W. Blake, S. Gilbey, H. Mobbs, G. Stevens, Geo. S. Addison, C. Harman Payne, J. J. Lowry, Gibson G. Prickett, C. Swift, Geo. Gordon, W. Challis, N. Davis, W. E. Boyce, E. Kemp, R. Payne, H. Cannell, R. Reeve, J. Springbett, G. Drain (sen.), G. Drain (jun.), J. Williams, Berry, G. Langdon, Figgins, M. Butcher, B. Wynne, J. Wright, L. Castle, W. Goldring, Drake, and Long.

Some slight alterations were made in the rules of the society, the only material one being upon the proposition of Mr. G. Stevens, to the effect that subscribers of one guinea and upwards were to have conferred upon them the title of Fellows of the National Chrysanthemum Society; but gentlemen who are content to pay the usual subscription, which is 5*s.* per annum, are only to be known as members, and there are upwards of 300 who pay this subscription.

Some correspondence was then read by the secretary containing suggestions from members for both early and late Chrysanthemum shows; but those questions were directed to stand over until the general committee meeting. During the evening fifteen new members were elected. Votes of thanks to the president, vice-president, and hon. sec. brought the business of the evening to a close.

QUESTIONS AND ANSWERS.

Books.—*C. A.*: There is no better book on the subject than Baltet's *Grafting and Budding*, published by Macmillan & Co.

Orchid Baskets.—*Com.*: Teak is the principal wood used now, and they are sold at such a cheap rate, that it hardly pays to make them oneself.

Primulas.—*G. B.*: Your strain must be very much improved before it is worth anything commercially. The flowers want size and substance, and greater depth of colour, as compared with those of the good strains now common.

Carpet Bedding.—*Grampian*: We do not know of any cheap book specially devoted to this subject, but you will find much useful information as to suitable plants and designs in Mr. Graham's *Guide to the Gardens at Hampton Court Palace*.

Ants.—*J. Brown*: If it is not convenient to pour boiling water in their runs, sprinkle some guano in their tracks, we have often known this simple plan to answer the purpose.

Tomatos, Cucumbers, and Strawberries.—1. In a forcing house, 225 ft. long by 15 ft. wide, for growing Tomatos, could you inform me what weight of Tomatos (under good management) should be produced in one year? 2. In a forcing house, 225 ft. long by 15 ft. wide, for growing Cucumbers, could you inform me the quantity of Cucumbers that should be produced in one year? 3. In a forcing house, 225 ft. long by 15 ft. wide, for forcing Strawberries, can you tell me about the weight that should be produced. Also the number of plants that should be put in each house.—*T.M.*

Communications Received.—Wright & Co.—R. G. W.—J. L.—P. S.—H. Dunkin.—E. J.—S. & S.—B. & S.—J. Dick.—J. Fraser.—W. G. S.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley, Kent.—Complete Illustrated Floral Guide for 1886.

E. J. Jarman, Chard, Somersetshire.—Choice New Seeds for the Kitchen and Flower Gardens.

John Gough, Harefield Grove Gardens, Uxbridge.—Vegetable and Flower Seeds, Plants and Roots.

William Bull, 536, King's Road, Chelsea, S.W.—Select Flower and Vegetable Seeds.

Eric F. Such, Maidenhead, Berks.—Catalogue of Chrysanthemums and other Florists' Flowers.

W. Baylor Hartland, 24, Patrick Street, Cork.—Year Book of Seeds for the season, 1886.

William Kerr, Dargavel, Dumfries.—Choice Seed Potatos.

NOTICES TO CORRESPONDENTS.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

LONDON SEED TRADE.

January 20th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark lane, London, report no change in values of Clover seeds. America is still buying Red Clover from the continent. White Clover of fine quality is now offering at moderate prices. Alsike and Trefoil continue remarkably cheap. Rye Grasses are unchanged with a small demand, holders are not anxious to sell at present figures, they are looking for better prices ere long. No change in value of Bird Seeds.

COVENT GARDEN MARKET.

January 28th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 6	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Melons, each		
Melons, each			Plums		
Peaches, per doz.			Canadian Apples, brl.	10 0	14 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 3	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches	2 0	4 0	Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	6 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	1 0	1 6	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	8 0
Camellias, 12 blooms.	2 0	5 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea, French ,,	0 9	1 6
Daffodils, per bunch	1 0	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, per bun.	0 6	1 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	36 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 0	2 0
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	10 0	15 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, per doz.	6 0	9 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen		
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Chrysanthemums, per dozen pots			Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Narciss, per dozen	8 0	12 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Daffodils, per dozen	9 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Solanum, per dozen	8 0	12 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 0			
Fuchsias, per dozen					

SITUATION WANTED.

A GERMAN GENTLEMAN of great experience in Stove and Greenhouse plants, desires a re-engagement either as traveller, or in the office; highest references in England and Continent.—38, Cavendish Square, London, N.

THOUSANDS OF FERNS FOR SALE, botanically named and Labelled.—40 different Irish Ferns for 12*s.*, free to any part of the United Kingdom; 30 ditto for 8*s.* 25 for 6*s.*; 15 for 3*s.* 6*d.*; 8 for 2*s.*, all large and well-rooted plants.—P. B. O'KELLY, Wholesale and Retail Fernist, Florist, Botanist, Geologist, &c., Glenarra House, Ballyvaughan, Co. Clare, Ireland.

CHOICE ALPINE FLOWERING PLANTS, adapted for Horticultural Societies, &c.—Dryas octopetala (the beautiful silver Mountain Avens) and the evergreen trailing Arbutus, 6*d.* each, or 10*s.* per 100. Gentiana verna (the exquisite Blue Spring Gentian), 6*d.* each or 10*s.* per 100 clumps.—P. B. O'KELLY, Glenarra House, Ballyvaughan, Co. Clare, Ireland.

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	Per packet—s.	d.
ALPINUM, clear yellow	0	6
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NUDICAULE, yellow and orange	0	6
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Comprising many new, beautiful, distinct, and pretty sorts of various shades. Per packet, 1s. 6d.

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A new bright rose-pink variety; a most attractive and desirable addition to our hardy border plants. Per packet, 1s. 6d.

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A new, distinct, and most desirable variety for pot culture, throwing up numerous stout flower stalks, terminated by extremely broad spikes of delightfully scented bright red flowers. Per packet, 1s. 6d.

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ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, FEBRUARY 9th.

ANNUAL GENERAL MEETING at 3 p.m. in the Conservatory.

At this Meeting Candidates for Fellowship will be elected.

The President, Council, and Fellows, will dine together at the Criterion, at 6.30 p.m. the same evening.

N.B.—Exhibitors' Entrance, East side of Royal Albert Hall.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 6, 1886.

GARDEN TRAINING.—The winter, which so far has been even more marked by rough and unsettled weather, and by dirt, damp, and discomfort rather than by exceeding severity, is at last rapidly passing to its end, and in a very few weeks we shall have ample evidence that nature is not dead, but has only been sleeping. We hardly know, in our uncertain climate, whether to hail with satisfaction the comparative rest which the winter brings, or not. Certainly winter always creates enforced rest for nature, and as gardening is absolutely dependent upon the operations of nature, whether we appreciate the rest or not, we must endure it.

But there is found for us ample compensation for any unpleasant winter features, when in the spring the face of nature once more assumes a verdant aspect, and the earth is clothed in green. Gardening then comes to us with renewed freshness and delight. All the discomforts of the past winter, or the failures of the preceding summer are forgotten in the renewed hopes and aspirations which fill our minds as the spring developes. We rarely despond in the spring, because the season itself is so full of hope and promise that the mind naturally follows the course of the season, and almost certainly, that whatever may have been previous misfortunes, the spring season is sure to be full of success and prosperity. Gardening is not always the highest development of human pleasure, because it often ends in comparative failure; but Lord Bacon's apothegm is fully applicable to the art in the months of spring, as then failure is not only remote, but to sanguine minds is not held possible.

None the less, gardening will be successful, more or less, just as the labourer in it brings to his work skill and knowledge or otherwise. Too many persons assume, perhaps, because Adam was a born gardener, that all humanity are such also. It is true they may be, as far as mind and flesh are concerned, but if both are untaught, they make as poor gardeners as they would engineers or architects. True gar-

dening necessitates for its successful application true skilled labour, perhaps as fully skilled as any form of labour found in civilisation. As we find only educated and well-taught men may become good workers in other forms of labour, so also can only highly trained and intelligent men make successful gardeners. Probably there are few vocations which more severely tests any man's average capacities or his readiness for adaptability, than does gardening. There may be in its operations much that is by rule of thumb, just as there must of necessity be in all vocations; but the rule of thumb gardener, or, if we may so put it, the man who has no mind above hard and fast practices, will never make a real gardener, although he may, in some respects, secure a certain degree of success.

It is a curious and instructive fact, that in this country, where gardening is such a widely honoured profession, that we have no schools of horticulture of any sort. On every hand we see young men, the gardeners of the next generation, picking up their horticultural education as best they can; some in private gardens, where the mind of the head improves his pupils, or else his ignorance crushes them; some in our numerous nursery establishments, where knowledge has to be picked up or let alone; and some in our market gardens and nurseries, where the style of culture is exclusively for the securing of a pecuniary success. Without doubt private gardens are the best schools of horticulture in this country, imperfect as these are in many ways. They, however, give us able gardeners in spite of their deficiencies as schools, but the success comes from the inherent capacity of Britons to contend against difficulties. It would be of exceeding interest could we test the best of our self-trained gardeners with the best products of the several continental horticultural schools. If one has forms of scientific and technical training in their favour, the other has the support of that indomitable energy and perseverance which, after all, helps to create the most successful race of cultivators.

But whilst we cannot but have some concern for the technical training of our future gardeners, we may also have some interest in the welfare of that section of the community which garden, and yet are not professional. Happily for the amateur and cottage gardener, to whom equally with the professional gardener the season of work and of hope is fast opening, they have in the horticultural press an unfailing and ever available guide, mentor, and friend. Few professions are so favoured intellectually, and few professions have such need for serial literature devoted to its operations as gardening has. The merest tyro in gardening only needs taste and love for his work, and he will find in his gardening literature a mine of wealth of a technical kind, from out of which may be obtained almost all the information he needs. In that respect, and it is a wide one, the gardening press of this country becomes a school of horticulture such as no other people possesses, and we may rest assured that its work will be well performed.

Practically the home professors of horticultural science find their lecture rooms in the columns of the gardening papers, the only difference being that their discourses are written and not oral. That has its advantage, however, that as gardening is essentially experimental, the student can in his own garden practice the teaching found in the press, labour which could hardly be conducted in a class room. We have no desire to see the gardening press become in its work dogmatic, didactic, or pragmatic; these are elements of the professional school of teachers, from which the ordinary garden writer and teacher is happily free. Gardening literature must of necessity be often dull, because much of its teaching must be simple and practical, but equally much of its parts possess real charm and considerable pleasant reading. The more the family of man become gardeners the better for all; the more the true knowledge of gardening is acquired the happier for all; and the more gardening is practised amongst us, the better will it be for the welfare of the nation and the prosperity of the people.

GARDENING MISCELLANY.

Meetings for next Week.—*Monday*: General Committee of the National Chrysanthemum Society. —*Tuesday*: Fruit and Floral Committees of the Royal Horticultural Society at 11 a.m.; Annual General Meeting of the Society at 3 p.m.

Bomarea frondea.—This lovely climber has just bloomed with Messrs. James Veitch & Sons, of Chelsea. It has twining stems clad with lively green leaves, and bears large pendant clusters of bright golden yellow flowers, splashed with orange, the inside canary-yellow dotted with crimson. It was introduced, together with many other fine Bomareas, by Messrs. Shuttleworth, Carder & Co. Some are blood-red, some pink with black spots, some orange, some red, and all are clean-growing plants well adapted for climbers in conservatories, greenhouses, or those of intermediate temperature.

A New Carnation, named Quaker City, is much praised by *The American Florist*. It is stated to have been raised in Philadelphia, where it was tested for three years before being sent out. It is a very dwarf variety with broad thick foliage; the flowers are large, pure white, of fine shape and are produced in great profusion. It is not recommended as an *early* bloomer, but should be grown cool and comes in about the middle of February and continues to bloom very freely until July. As an Easter pot plant it is considered a decided acquisition, is entirely hardy and when wintered in a cold frame will prove very profitable for cut flowers; when grown in this way it comes in at a season when cut flowers are scarce.

Indications of Spring.—Many of these present themselves to view to the observant gardener as he makes a circuit of his garden. We are rapidly approaching that time when all bounteous nature works her inexhaustible miracle on the face of the earth, and makes the spring time one of ceaseless surprise. Already the Hepaticas are thrusting their pretty blossoms through the soil, the single blue leading the way, closely followed by the double red. Snowdrops are pushing up their delicate sheaths through the soil in sunny spots, and bearing them company is seen the rising shoots of two charming species of Crocus, C. imperatonius and C. biflorus, the Scotch Crocus as it is termed. By the way, what a singularly hard shell-like covering this bulb has, and it does not lose its outer covering like some others. The Pulmonarias, always early to flower, show signs of movement; so does Saxifraga ligulata, and under a sunny wall there is to be seen the movement of the Daffodils, while the lovely blue creeping Forget-me-not—Omphalodes verna —is awakening from its winter sleep, these are but a few of the *avant courrieres* of the spring. Now is the time (weather of course permitting) to brighten up the garden, so as to be in readiness for the great awakening. Pruning and trimming should be finished, permanent borders dug over where necessary, taking care not to injure any of the herbaceous treasures not yet showing themselves through the soil; rolling the grass and paths, &c., so that when the spring flowers appear the surroundings may be as presentable to them as they are always to human eyes.

Pansies in Beds.—Plants of these put out in the open ground in autumn show the disturbing effects of the snow. The shoots are flattened down and battered, and the question arises, what is the best to be done under the circumstances? Our advice is to prepare a good light sandy compost; the siftings of the potting-bench, with the addition of some leaf-soil, sand, and well-decomposed manure that will crumble almost to a powder, well mixed together, will do admirably, and when the weather is dry enough gently stir the surface without injuring the roots. Add a good surface-dressing of the compost, and then carefully peg down the shoots into it. Some Fern-pegs, like those used for layering Carnations, will prove very useful for the purpose; and failing these twigs will do. Taking a piece 9 ins. in length and first bending it, insert the ends into the soil, one on either side of the shoot. They keep the shoots in position, prevent them from being blown about by the wind, and assist them in rooting into the soil.

Grafting Bulbs.—Mr. James O'Brien writes:—"With reference to this subject, mentioned at p. 340, I may say that some years ago I made a good many experiments in grafting Amaryllis, Nerines, and other bulbs, but not with the object attributed to our American cousin. The late Charles Darwin heard of my experiments, and asked me certain questions about them. Mr. Romanez also frequently talked the matter over with me and experimented himself. I am sorry to say that chiefly, I believe, owing to my being unable to give the necessary time to the work, I am not in a position to say that I brought any of the experiments to a satisfactory conclusion, although I saw enough to satisfy me that good results might reasonably be expected. I might have been able to settle the point, but unfortunately the grafted Hippeastrums or Amaryllis got mixed with the seedlings, and so my labour was lost so far as accuracy was concerned, and conjecture will not do. I also intended grafting the bulb-like seeds of Crinum, however wild it may appear, and any of your readers who have time on hand could not do better than pursue bulb-grafting, as if they miss the cake at the end of their experiments they will be rewarded with many unexpected morsels as they proceed."

Gardening Appointments.—Mr. William Young, late gardener to W. F. Stanley, Esq., Cumberlon, South Norwood, S.E., to Mrs. Fleming Hamilton, Craighlan, Kukcowan, N.B.; Mr. John Johnston, late gardener at Ascot Hall, to Robert Menzies, Esq., Viewfield House, Whitburn; Mr. John Dewar, late gardener to L. Henderson, Esq., Gracemount, Liberton, to Robert Douglas, Esq., Springbank, Berwick-on-Tweed; Mr. Andrew Proudfoot, late gardener to Colonel Craufurd, Bracheed Cramond, to Wm. Stevenson, Esq., Polmont House, Polmont; Mr. Robert Dickson, late gardener to Wm. Orr-Ewing, Esq., Rhu Lodge, Helensburgh, to Mrs. Fergusson Home, Bassendeau, Kelso; Mr. Thomas Ingram, late gardener at Bassendean, to John Haxton, Esq., Markinch; Mr. James Chalmers, late gardener to George Collie, Esq., Hatton House, Wilkieston, to Mrs. Peddie Waddill, Balquhatstoue, Hamannan; Mr. Hugh Dewar, late gardener at Rockville, Edinburgh, to R. Hill, Esq., Low Lynn, Beal; Mr. Robert Arbuckle, late gardener to Mrs. Dawson, Bonnytoun, Linlithgow, to W. E. Otto, Esq., Jedneuk, Jedburgh. All through the agency of Messrs. R. B. Laird & Sons, Seed Merchants, Edinburgh, Mr. Thomas Jebb, late gardener to Sir C. Wolseley, Bart., Wolseley Hall, Stafford, has been engaged as gardener to Mrs. Rodgett's, Darwen Bank, Preston.

ANTIPODIAL FERNS.

Occasional visitors to the Royal Horticultural Society's Gardens, at Chiswick, and who have not failed to notice the large span-roofed house just within the gardens occupied with Roses, will be interested to learn that the whole of the Rose trees have been removed and planted out in the gardens; the house has been admirably furnished with heating power at considerable cost, and is now filled with Ferns from the Antipodes, sent over here by the Australian and New Zealand authorities to the care of the commissioners of the coming colonial exhibition at South Kensington, who have utilised the Royal Horticultural Society so far as to place them in the charge of the council at Chiswick.

The entire cost of the changes thus made in the former Rose-house, putting in of heating power, and the labour of potting up all these dormant Fern-stems, have been borne by the commissioners in the interests of horticulture, so that it will be seen that body which is so much scouted by Fellows of the Royal Horticultural Society, is not without some virtue. Probably few Fellows who have had, during the past few years, the pleasure of seeing the fine exhibitions of plants, fruits, and vegetables, held at South Kensington, were aware that the prize money was furnished by these same well-abused commissioners.

With respect to this interesting consignment of Ferns at Chiswick, it is stated that they are now being gently forced into root and growth, that they may form an interesting feature of the colonial exhibition next summer, and if they come up to expec

tations, will be utilised to furnish some artificial rockery or gorge, or other artificial formation intended to display natural growth and features. Much may be obtained from dry stems in five months, for it is hardly probable that any of the Ferns thus forced into activity can be safely exposed to our climate before June. Whether the consignment contains any new or rare kinds remains to be seen; but there can be no doubt but that should these stranger Ferns grow well they will be regarded with exceeding interest by visitors, and may lead to the introduction of some few more hardy kinds into our gardens.—*Z.*

THE CULTIVATION OF THE CHRYSANTHEMUM.—V.

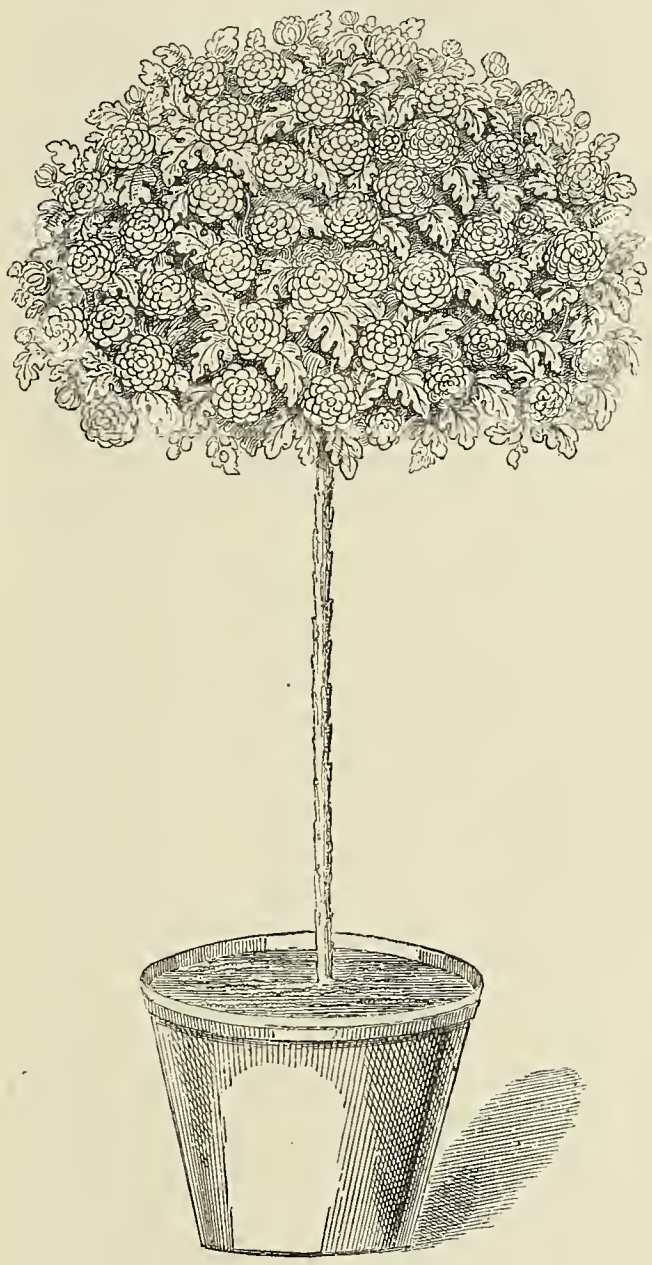
Standard Chrysanthemums when well grown and neatly finished off make very showy plants. To produce plants as shown in the accompanying illustration, the grower should commence work early. Strong healthy cuttings should be selected for the purpose, and if they can be obtained about the end of October it will not be too early, as the plants will then have plenty of time in which to make growth to form the head. The cuttings should be inserted singly in small pots (thumbs) and placed in a warm greenhouse, and be kept lightly sprinkled to keep them from flagging. As soon as the roots reach the sides of the pots, the plants should be potted into 6 in. pots. A stake should now be put in the centre of the pots, to which the plants should be tied as they grow.

Let the plants remain in these pots until the required height is attained, which is generally 3 ft., when the plants have attained this height, stop them, this will induce them to break and throw out shoots. As soon as these are about 1 in. long, the plants should be potted into their blooming pots, but before doing so, rub off all shoots up the stem to within 4 in. of the top, these should be let grow to form the head. When the plants are potted, a wire hoop should be procured, about 1½ ft. to 2 ft. in diameter, to which a few sticks should be securely fastened crossways and then to the centre stake, and three more stakes should be inserted in the pots, at equal distances apart, and securely fastened to the hoop so as to keep all secure and rigid.

When the plants are housed, these supports can be cut away The plants should now be stood in a sunny position outdoors, and be carefully attended as to watering, syringing, &c., as previously directed. When the shoots are about 4 in. long they should be stopped; from this stopping more shoots will be obtained, and when these are about 4 in. long, they must also be stopped, and so continue until early in June, after which time it is better not to stop them.

As to the training, this is a very simple matter. As soon as the shoots are long enough draw them down very gently and carefully, and tie them to the stakes across the hoop. Do not draw the shoots down too close at the first tying, or they are liable to break off. If the shoots will not draw into the position desired at the first tying, try them again after they have been tied a few days, and they will then be found easier to get into the position desired. Continue training the plants as above during the summer, and let the final tying be done a few weeks before they are required to be exhibited.

If the above directions are carefully attended to, the plants should, by the time they are housed, appear as shown in the accompanying illustration. As to varieties, only free-growing sorts should be grown; the following are a few useful varieties for this purpose:—*Incurved:* Prince of Wales, Mrs. Geo. Rundle, Lady Hardinge, George Glenny, Guernsey Nugget, Gloria Mundi, Golden George Glenny, Mrs. Sharpe, Refulgence. *Japanese:* Red Dragon, Frizon, Mdlle. Lacroix, To Kio, Mignon, Mons. C. Hubert, the Cossack. *Reflexed:* Annie Salter, Christine's (peach and golden) Dr. Sharpe. In my next communication I will give you a few hints upon growing plants for decorative purposes.—*W. E. Boyce, Yerbury Road, Holloway.*



Standard Chrysanthemum.

ENGLISH SEEDLING GRAPES.

The interesting remarks in your last issue by "Vitis," on the seedling Grapes of the past few years, bear rather a misleading title, as several of the Grapes mentioned are not English, but Scotch seedling Grapes. We, in Scotland, are often finding fault with some of our *British* Statesmen, when they come down seeking our votes to return them to Parliament as representatives of Scotch constituencies, and discourse to us on all that *England* has done in the past, and is going to do in the future!

Now we are well aware that as compared to England, Scotland is a small country, but its past history, and the prominent positions so often occupied by its countrymen, warrant us in at least asking that *Britain* may be used instead of *England*! I may mention Duke of Buccleuch, Golden Champion, White Lady Downes, and Duchess of Buccleuch, as all being Grapes which were for certain raised in Scotland, and by a Scotchman. Then if there is an Abercairney Seedling it certainly must have been raised at Abercairney, or why the name? Of course Mr. Barron thinks it is identical with West St. Peters, though some doubt this.

Mr. H. W. Ward writing in a contemporary, describes a seedling raised in Ireland by Mr. Roberts, Charleville, which may prove a useful white Grape for autumn and winter supply. It is a cross between Gros Colmar and Duke of Buccleuch, and is said to partake freely of the various good qualities of both its parents. A white Grape possessed of some flavour, and which will keep till, say the end of February, would undoubtedly be an acquisition, if as large and noble looking as either the Gros Colmar or the Duke of Buccleuch. This seedling from "The Emerald Isle" may prove to be one capable of filling the place that "Vitis" says is vacant, viz., that of a white Grape to accompany Black Alicante and Lady Downes.

Raising new varieties of Grapes is in most cases somewhat of a lottery; a very promising looking lot of seedlings may prove when fruited very far from acquisitions, and when a really good one is obtained it should be much appreciated. Much diversity of opinion has often been expressed regarding the merits and demerits of the various seedling Grapes which have been offered to the public; and it must be admitted that good cultivators have sometimes failed to grow some of the varieties to as great perfection as they can be and have been grown by others. Difference of situation, and also of soils and treatment, no doubt have all contributed to failure in some cases and success in others.

Sometimes, however, the peculiarities of Grapes have been hard to account for, the same variety under almost identical conditions showing different behaviour. Madresfield Court cracks in some cases in an inside border where water is most carefully applied, at other times when apparently not so well situated it does well, and again when treated as first-mentioned it also does well; thus it offers somewhat of a puzzle to cultivators. Then again, Mrs. Pince's Black Muscat, under most favourable conditions, fails to colour well in some cases, and in others it is found perfectly finished.

Duke of Buccleuch, carefully attended to by able Vine growers, has sometimes baffled all their efforts and produced gross wood that would not ripen, and consequently its fruitfulness was impaired. Again it has been got to fruit freely, and the cracking made its appearance to disappoint and annoy; again we know of its being grown to great perfection in many places, fruiting freely, abstaining from cracking, colouring beautifully, and taking many prizes at exhibitions in all parts of the country. Alnwick Seedling sets freely with most people, and yet instances have been recorded of its refusing to do so even under most favourable conditions.

There seems to be some slight confusion regarding the seedling Grape John Downie, which at one time was considered identical with Alnwick Seedling by Mr. Temple, who stated in October 1885, that having fruited a Vine he got as John Downie, and finding it exactly like Alnwick Seedling he mentioned it to Mr. Downie, who stated that he believed a mistake had occured in the sending out of the Vine. The original variety is said to be more like Gros Colmar than Alnwick Seedling, and when Mr. Temple had the opportunity of seeing fruit of what was said to be the right John Downie, he concurred in that opinion. Such mistakes are rather awkward and sometimes lead to confusion.

There are a few seedling Grapes at various places in the country, which are said to possess qualities which will gain for them places in popular esteem, but I think it will be sometime ere such old favourites as Muscat of Alexandria, Black Hamburgh, and other well known kinds will find their places taken possession of by seedlings, whether emanating from England, Scotland, or Ireland. I hope "Vitis" will take my remarks on his use of "English" instead of "British" in no unkindly fashion; I enjoyed reading his notes, and only differ from him seriously in regard to the title of them.—*Imperias.*

AN ORCHID SOCIETY.

There seems to be something in the wind, and rumours are afloat that a plan is being matured by the R. H. S. Is such the case and who are the wire pullers? Early this year, allusion was made to the formation of a "Scotch Society." This week the editor of The Gardening World, having evidently heard some whispers, sends out a feeler. Let us hope that no revelations will be made at the dinner on the 9th instant, as the subject should be properly ventilated before any definite steps are taken. We all agree that

an Orchid society should be formed, but what should be its object, its organisation, and its means ?

First of all, what should be the objects of the society? To keep a national herbarium and register of all known species ; to settle the nomenclature which is daily becoming more and more puzzling ; to take cognizance of all new kinds, and fix a proper name without exclusive reference to foreign authorities ; to check the importation of old species under new names ; to keep a technical library for reference ; to investigate, and make known, the best methods of cultivation ; to hold meetings, to enable members to give and receive information ; to popularise the culture of Orchids by holding shows, not one, but several yearly shows, &c.

Professor Reichenbach has hitherto been our great, I may almost say, our only authority ; should health fail him, what are we to do unless the society is prepared to train competent men for the kind of work he has done ?

Secondly, how should the society be organised? Should it be a sub-committee of the R. H. S. ? I hardly think this is advisable. The editor of THE GARDENING WORLD points out that the president, the secretary, and a few members of the council and the floral committee are Orchid-growers ; but these Fellows may vacate their office at any time, and what then ? He says, that it would diminish the costs ; but I am not aware that the R. H. S. has large funds at its command. He may be better informed than I am ; but my belief is that a society, in order to succeed and perform good work, should be independent and above want. This leads me to the

Third and next important consideration, the financial one. A meeting-place is to be secured ; the herbarium is to be kept by a competent and responsible person ; the expenses for the preparation and maintenance of this herbarium must be provided for ; a technical library must be provided ; funds must be obtained to grant prizes at shows ; a paid secretary, who might be herbarium keeper, must be engaged, &c., &c.

No doubt a few liberal patrons would assist the formation of the society with their donations ; but there are limits to liberality, and the society must rely on its subscribers. A large number of members must therefore be enrolled, otherwise the subscription would be too heavy.

Having so far sketched the outline of these requirements, may I suggest that this subject be mooted and discussed on the 9th ? A small fund could then and there be raised for preliminary expenses ; they would be advertising and sending circulars to known growers and amateurs, thereby ascertaining what donations could be relied upon, and the number of members likely to join. This done, we ought, by the end of the month, to be in a position to know whether there is a prospect of success or not.—*A. F. L.*

PARSLEY AND ONIONS.

I NOTICED in the interesting paper which was read at the Manchester Horticultural Improvement Society by Mr. Atkinson, on the 21st. ult., and printed in your last issue, p. 345, that not only Mr. Atkinson, but also several other gardeners, who took part in the discussion, have experienced some difficulty in growing Onions and Parsley by reason of their being attacked by maggots. I beg to say that if a good surface-dressing of fresh soot is laid on the ground prior to drawing the drills (1 ft. asunder and 1 in. deep), and scratched into it with a rake, afterwards sowing the Onion seed therein, covering, rolling, and raking over the bed in the ordinary way, there will be no cause to complain of crops thus treated suffering from the attacks of the maggot or any other insect at the roots. The presence of insects injurious to vegetable life in the ground indicates that the latter requires purifying, and for this purpose there is no better agent than fresh soot put sufficiently thick on the ground to completely cover it ; it is also a capital fertiliser. The application to be successful should be repeated every year for all crops of Onions, Turnips, Carrots, Parsnips, Lettuce, and Parsley when being transplanted. We use cartloads of soot every year, fresh and dry ; it being had up from the Castle every time the sweeps are at work (every week or two during the winter), and kept in a house in the dry to preserve its virtue until required for use. Parsley, as a rule, we raise in boxes in February for early summer use, afterwards transplanting in rows 1 ft. apart, and 6 ins. or 7 ins. in the row. We transplant direct from the boxes with a small setting stick when the ground is moist, and afterwards water when necessary until the roots have taken to the soil ; in this way the plants only experience one check in the process of being transplanted. About the middle of June we sow a patch of seed (about a square yard) in a warm situation out of doors, and subsequently transplant the necessary number of plants for yielding an adequate supply of this much sought-after herb during the late autumn, winter, and spring months.—*H. W. Ward, Longford Castle.*

THE "R. H. S."

THE letters of "A Fellow" and others indicate a healthy vitality in the "Royal" society, and a desire amongst members that it should become more worthy of its name in the future than it has been in the past. For years it has only been a place of amusement for the inhabitants of South Kensington, and its shows a means of enabling the enterprising florist to "push" his wares with triumphant success; while the young fry of the neighbourhood bask and play in the warm sunshine of maternal smiles, or the cooler rays of the British nursemaid's languid eye. Indeed, it is difficult to resist the conclusion that our society has been wrongly named, and that it should have been designated the Nurserymen's and Nurserymaids' Mutual Benefit Association. During the past four years another element has been introduced, still less connected with scientific horticulture ; I mean the sort of Cremorne *redivivus* which Her Majesty's Commissioners have instituted and find so profitable.

If anyone doubts the *dilettante* and amateurish character of the society, I would refer them back to the Orchid Conference of last May. There for nearly two whole days the society tried to be serious and scientific. I say nearly, because, as I will show, the attempt broke down on the second day. On that memorable occasion the R.H.S. went so far as to have papers read and attempt discussion. Even Professor Reichenbach contributed a paper, which no one understood ; and Mr. Harry Veitch succeeded in imparting a scientific glamour to a communication which, after all, was perhaps not of very general interest. Then came a pretence of discussion, for it was painfully evident no one present knew how these things were usually managed. Thus far, nevertheless, things went smoothly enough, but during the reading of the next paper the catastrophe to which I have already alluded occurred, and the mask of seriousness was thrown to the winds. For it became known that royalty were about, and the announcement caused such a flutter of excitement amongst the members of the council that they quite lost their heads in anxiety to do obeisance to their social superiors, and the meeting terminated in a somewhat undignified manner.

All this is sufficiently condemnatory of the old Society as at present constituted. What intelligent men want is either a new Society or the old one reorganised and removed from its present quarters. Also a council sufficiently influential to command the respect of the scientific horticultural opinion of the world. Such a body with suitable premises *in* London —not in the suburbs—would be the means of greatly advancing botanical and horticultural knowledge by holding meetings once or twice a month during the season, where papers would be read and discussed—as in other learned societies. These discussions would be published verbatim under the form of "Proceedings," and sent free of charge to every Fellow. Curious and interesting plants and blooms might be shown at the meetings, but nothing approaching to flower shows would be permitted and no prizes or rewards given, that stupendous farce a "Vote of Thanks" being also swept away. The subscription should not exceed a guinea a year, and as the absurd connection between our Society and the Commissioners would be severed, free passes to the Exhibition would no longer be given.

Were the changes I have roughly indicated carried out, the R. H. S. would rise like a Phœnix from the commercial debris at South Kensington, and then be able to claim that respect from scientific men—which it cannot command now. For who would think of announcing any botanical discovery to our Society, indeed it does not offer any opportunity, as papers are never sent there, and if they were the members are not capable of understanding or discussing them.—*Vanda, February 3rd.*

I AM pleased to see that the few remarks of mine which you published in your issue for January 16 have not all fallen upon stony ground. Mr. Burbidge considers that I hit the nail on the head pretty fairly, and remarks that the dinner, which is to be held next Tuesday evening, is a "new move," that inspires hope in the wavering mind. As to his first point, let me say how pleased I should be if he would help me to drive the nail further home. Mere platitudes will not do it ; vigorous action is what is now required. As to the dinner, well, I am not so sanguine as to the good that will come from it, as only the members of the council and a few millionaires can be expected to be present, and it is not of such materials alone that a strong and powerful society such as I desire to see, and such as the rank and file of horticulturists would delight to support, can be made. "J. S. T." appears to be much of the same mind as myself as regards the guinea subscription, and the necessity of severing the disastrous connection with the commissioners ; and he may be glad to know that many others of his class—for I take him to be a gardener—are of the same way of thinking.

"S. H. A." also agrees with me as to throwing off the yoke of the imperious body, responsible only to themselves who rule the roast at South Kensington ; and also of holding provincial shows. I thank him for his support on these points, but cannot say that I share his views as to providing amusement in the form of shows for the majority of Fellows who find the sinews of war. If the council is going to continue the unwise policy of catering for this class of Fellows, to the neglect of the genuine horticultural element, of course shows, sweet music, and popular lectures on Fertilisation (which I notice always draw) must be provided for their amusement, and I do not object providing the class is big enough ; but I contend that it is the catering for, and consideration that has been shown to this La-di-dah element for so long a period that has helped to a very great extent in reducing the society to its present deplorable condition. Then away with it, bag and baggage, let the loungers go to Regents Park, as "S. H. A." suggests. Devoted horticulturists care nothing for this class of patrons (save the mark !) ; they are strong enough to sail their own ship, and like the members of the Royal Agricultural Society can do without such "amusement." Your correspondent need have no fear about the sinews of war, if the R. H. S. is re-organized on a popular basis, and placed under the management of men in whom the horticultural body has confidence ; plenty of funds will be forthcoming, when the work done by the society is of a more worthy character than providing amusement for mere drones. The Royal Botanic Society is the proper place for this class of supporters. The Royal Horticultural Society should cater for better fibre.

Mr. William Paul (a man respected by all his fellows, for the good work he has done in promoting floriculture) I see alluded, at the late meeting of the Nursery and Seed Trade Association, to the existing rule of the Society, which precludes nurserymen from being members of the Council. The rule in question is certainly a standing disgrace to the practical members of the Society, but it rests only with themselves as to how long it shall remain so. This, if I remember rightly, is a legacy of the Lord Bury *régime*, but if Mr. Paul and his friends are only true to themselves, it may soon be swept away. Let them ask themselves the question, what would the Royal Agricultural Society be like if it had no practical farmers on its Council ? or what would be the position of the Royal College of Surgeons, if its management was confined only to that respectable body of men who sell sticking plaster ? Yet both of these suppositions would only be on a par with the present position of the R. H. S. The thing is ridiculous.

Since I last wrote you, I have received a circular intimating that the authorities are again about to commit the folly of recommending for election, and it practically means electing to a seat on the Council, a gentleman who has no claim whatever to the honour. I allude to Mr. Mitford, of course, for we all know that Baron Schroder and Mr. Sydney Courtauld have won their spurs in the horticultural world, and, if elected, may be expected to do good suit and service. But what are Mr. Mitford's qualifications for a seat on the Council ? What has he done for horticulture ; and how long has he helped to provide the sinews of war, that he should be selected over the heads of the many abler and better

men who have supported the Society for years? It is true he was not elected a Fellow a week or two ago, for I find he has been a subscriber since the 9th of June last; and it is equally true that as Permanent Secretary of H. M. Office of Works, he has a certain amount of control over the London Parks, which, I understand, he exercises with great amiability, but he is in no sense of the word a horticulturist, he is not a botanist, and I have never heard any one claim for him the possession of a scientific knowledge of anything—then in the name of common sense I ask again what are his qualifications for a seat on the Council of the R. H. S.?

It is in the highest degree unfortunate, that in discussing questions of this character, one cannot well speak plainly without appearing to tar all the members of the council with the same brush; yet, I would say there are several gentlemen among that body for whom I, and all warm supporters of the society, entertain nothing but feelings of the greatest respect and esteem. I need not mention their names, they are well known to all frequenters of the South Kensington Gardens as life-long supporters of horticulture in its widest sense; but there is no disguising the fact that their position is not a happy one, and I should like to see it altered and improved.

The annual general meeting of the society takes place next Wednesday, and it is rumoured that it will be of more than usual interest; but be that as it may, I do hope that every lover of gardening will take up arms, and see if something cannot be done—and done soon—on the lines indicated in my last, to raise the society from the Slough of Despond it is now in.—*A Fellow.*

Scottish Gardening.

Bush Fruits.—Winter Treatment of Black Currants.—Black Currants are of the greatest value to all classes of the community, and a most wholesome fruit; but for preserving purposes its uses can hardly be surpassed. Among the working classes of Scotland, in country districts, there are few who do not aim at having a few bushes, and these if in good health and well managed produce great quantities of large fruits. The finest black Currants which I have ever seen were at cottagers' shows. Last year I noted some samples like small Grapes—certainly as large as black Grapes I have often seen cultivated on buildings and ends of dwelling-houses in southern parts. The cheap rate at which preserves can now be purchased (and of excellent quality too) places them within the reach of the majority of the working classes. The impetus given to this trade of late years is very commendable. The demand must be great, if we are to be guided in our calculations by the quantities which are to be seen in the grocers' shops.

The use of fruit of every description is greatly on the increase among the working classes, and I wish some qualified person would give instructions as to the cooking and proper preserving of the various kinds of fruits. I would, for one, make an endeavour to have the same transferred to some of the rural newspapers. All Scotch households have their daily or weekly newspapers, and we know how readily information on domestic economy is read. The cultural remarks on Black Currants is of a necessity very distinct from the red and white kinds. They do best in a deep, cool and somewhat rich soil, and after they have been in that position for a few years, the bushes are greatly improved by being carefully lifted, replanted in rich soil, and well mulched. They then make stiff wood and shorter growths, necessitating less thinning; and the roots being near the surface, getting abundant supplies of food, they become a dense mass of fibre. Fruit is thus increased in size and flavour.

When I was an under-gardener I asked my superior to allow me to lift and replant a number of Black Currants; the scheme being approved of, we lifted them, carefully prepared the soil, turning the same over and enriching it as the work progressed. The first year an improvement was noticeable in the appearance of the bushes, and they continued to improve; and though many years have passed since this operation, I think the bushes are still standing and doing well. I have a distinct recollection, when a boy, of gathering Black Currants from a north *stone* wall, which yielded excel-crops of very fine fruit. The bushes were of great age; a walk over the roots seemed to do no harm, and the shade of a row of Filbert trees was within a few feet of the walk. Though these fruits do well in many positions which seem untoward, I would always like to give them a good part of the garden, allowing a fair exposure. A plot which we planted three years ago have not had the knife applied to them yet; they bore excellent crops during the past year of Lee's Prolific, as fine in appearance and flavour as ever I saw that kind. The weight of the fruit seemed to pull the branches into proper position, and only a few shoots will be trimmed this season to clear the bush from the ground.

I prefer strong cuttings to make plants, and though the system of growing the bushes from a bunch of suckers is advocated by some, I prefer a stem 9 in. to a foot high from the ground, and always keeping the growth upwards as much as I can; thinned out regular (no forming of artificial spurs), allowing sun and air to go down through the bush, cutting out, as may seem necessary, a few older branches, allowing the strongest and best growths to take their place. The bush is thus always kept in vigorous condition, which is conducive to the production of an abundance of fruit of the best quality. Sometimes shortening at the top is necessary to keep the bush within reach of those who gather the fruit. I know where there are some splendid brakes of black currants ruined by the let alone system, the branches being allowed to trail along the ground, root, and become a kind of jungle. Much of the fine fruit is lost by being allowed to lie among the dirt. This undue spreading can easily be avoided by a little skilful cutting during the leafless season. Always cut close to the wood to prevent forks, and natural spurs may always be retained where they do not crowd.

If planting or lifting to re-plant has to be done this season, it is best to do it this month or next, so that the soil may be relieved of its moisture, after the heavy snows which seem to be general everywhere. If planting against walls is to be performed, it is well to examine the soil so that the trees may not suffer from drought or extreme wet. The young shoots may be trained vertically about a foot apart, and from these, when they are well established, the after pruning is like that recommended for Morello Cherries.—*M. T.*

Shrubby Calceolarias, for spring and early summer flowering, do not have the attention which their merits deserve. For more than twenty years I have aimed at having a few dozens of the best plants lifted in autumn, when flowering seems to be at an end, potted firmly into good loam with a little sand in it, using pots which will not hold more than the roots of the plants with a coating of soil all round them. They are put into a frame or pit, kept close and sprinkled for a week or so, and afterwards allowed plenty of air and water. The pots are soon filled with roots, and at the turn of the year, or later, the plants, when in fairly moist condition at their roots, may have a liberal shift into larger pots, using rich loam (I find Thomson's Vine and plant manure excellent for such purposes by mixing a quantity in the soil) and potting firmly as before, not disturbing the ball. The firm potting counteracts anything objectionable likely to result from the solid mass being placed in the new soil. A good bit of room left for surfacing the roots when the plants come into flower is of great moment by keeping them cool and free from drought. Calceolarias are always free-rooting and gross-feeding plants, but very impatient of a drying atmosphere or neglect of watering at their roots. I have grown a number of the well-known kinds of shrubby Calceolarias for cutting and for conservatory purposes, and this year our stock promises well.—*M. T.*

The Amateurs' Garden.

THE FLOWER GARDEN.

In the southern portion of the kingdom the snow has happily taken its departure, but in many places it has left the soil so saturated that it is impossible at present to do anything with it in the way of digging or preparation for spring. In the more favoured districts, rather more elevated or with good natural drainage, the ground is in a suitable condition for such work, though, unless urgent, it had better be deferred somewhat later. Where there are extensive borders of herbaceous plants, some of which flower early, it is important to have the ground prepared as soon as possible, for if left too late the plants are often advancing in growth, both roots and shoots being injured in the operation of digging; further, if no mulching or manure was applied in late autumn there will be little time for it to produce its proper effects if not given before the plants are growing.

If bulbs have been planted and are intended to form an important part of the display, the ground should have been suitably prepared previous to planting, and then nothing more will be needed now; while, if there are permanent clumps of Lilies and other bulbs, unless their positions have been clearly marked with small sticks, it will be best to wait until a little growth shows their situations, so as to avoid injuring them. Borders are sometimes dug and dressed in autumn after the plants have died down, and as many roots and bulbs can be planted, the time is seasonable, and to be recommended. We, however, usually give our borders similar attention in early spring, and find that many of their occupants succeed more satisfactorily when transplanted then than before winter, provided the soil is not excessively wet; and the principal reason in favour of autumn planting is that the ground is usually drier then than in February.

If a border requires a thorough digging, the best plan is to lift the roots of as large a portion as can be done at one time, then give a good dressing of old leaves, well-decayed manure—such as that from an exhausted Mushroom-bed—and dig this in; form a small trench, and turn the soil one spade deep, loosening the soil below that without bringing it to the surface, and if it can be conveniently done it is well to plant as the work proceeds, as that avoids the after trampling rendered necessary if the planting is deferred until the digging is completed. Arrange the plants so that the tallest are at the back, but do not let them be too formally arranged, or much of the good effect otherwise obtainable will be lost; and it is surprising what good effects can be produced by the exercise of taste in this matter, the success of the border being as much dependent upon that as upon the plants employed.

There is also another matter of much importance, namely, the selection of plants, for those should be chosen that flower in different seasons, thus maintaining a supply of blooms throughout as long a period as possible. Nothing has tended so much to render people dissatisfied with herbaceous borders as carelessness or ignorance in the selection of plants, for a beautiful effect may be obtained at one time, while for the rest of the year it is a dreary uninteresting waste. The chief attraction of this portion of the flower garden should rest in the continuance of interest, and it is in that it is so distinct from the more formal beds of Pelargoniums or carpet designs, brilliant though they be. Commencing with the Christmas Roses, the Daffodils, the little Winter Aconite, and numerous early-flowering bulbs like the Snowdrops, we have plenty to follow then. Amongst the ordinary bulbs, such as Hyacinths, Crocuses, and Tulips, Primroses of many colours, Alpine Auriculas; then, from April onwards, we have a multitude of plants to select from, closing the season with the early Chrysanthemums Michaelmas Daisies, single and double Dahlias, and the ordinary late Chrysanthemums, from which we get our latest outdoor flowers.

THE VEGETABLE GARDEN.

Some portions of this department will now be cleared of green vegetables, and should be prepared for early Peas and other crops by digging it well and applying a dressing of manure. For early Peas a sheltered warm position must be chosen, preferably on a border sloping to the south at the foot of a wall, and in any case let the soil be rich and thoroughly pulverised. If especially fine crops are required, make trenches about a foot deep, throwing up the soil in ridges on each side, then three parts fill the trench with good manure pressed down firmly, over this place a layer of fine sifted soil 3 ins. or 4 ins. deep, and sow thinly seeds of any early varieties, such as those recently recommended, covering with the fine soil, and then some cinders to keep slugs away. Watch for the young plants appearing through the soil, and give a good dusting of soot or quicklime, as the tender young shoots are the favourite food of such depredators as slugs. Birds also are rather troublesome, and a few pieces of string may be stretched along the rows to keep them away, while, when the plants are a few inches high small sticks must be placed to them in a slanting position, and so that they cross those on the opposite side. For a continuance of supply, sowings should be made about every fortnight, but these will be referred to in future calendars, and the principal work besides that named, will be clearing the ground of exhausted crops.—*Scolytus*

THE GARDENS AT REDLEAF.

The residence of F. C. Hills, Esq., is beautifully situated within a mile of Penshurst Station, and close to Penshurst Castle, the seat of Lord De Lisle. The views from the terrace at Redleaf are very fine indeed, a very extensive and most picturesque part of "the garden of England" being visible; the estate is well planted, and gardening in its various branches is well carried out, Mr. Hills taking a great interest in horticultural pursuits. Joining the mansion is a very fine Fernery, well planted with a choice collection of the most popular and suitable Ferns, and the grand condition that they are in at once convinces one that they are quite at home. But what struck me most on a recent visit was another house, joining the mansion, which has been erected for flowering plants, from designs prepared by Mr. Hills himself, and a prettier and better house, for such a purpose, I have never seen. No expense has been spared in its construction, and a very charming effect has been produced by the introduction of mirrors, so placed, that, whichever way one looks, a lively picture presents itself, and each one entirely different from the others; the house can also be illuminated by the electric light, the effect of which must be grand, for by daylight it is a perfect fairy-land.

Some nice light suspending baskets from the roof are very well arranged and planted with suitable subjects, and on the stages the grouping is most natural and pleasing. The following Orchids were in flower, and being arranged with various foliage and flowering plants, form one of the most beautiful displays it is possible to behold at this season of the year:—Several good Calanthes, of sorts, Cœlogyne cristata, Cattleya Trianæ, various varieties, Cypripedium insigne and venustum, Cymbidium odoratum, Dendrobium Wardianum, fine forms, Dendrobium nobile, the lovely Dendrobium Dearei, with its pure white flowers, Lælia anceps, many well flowered plants, Lycaste Skinneri, good varieties, Lælia albida, nice variety, Odontoglossum Alexandræ, hystrix, gloriosum, Roezlii, cariniferum, all well represented; Oncidium papilio and others were also good; Phalænopsis amabilis and grandiflora, Pilumna nobilis, and the bright Sophronites grandiflora were here grouped in such a manner as to produce a glorious picture; in most instances these plants are shown in quantities. A most useful old plant is used in the grouping with good effect, viz., Rivinia humilis, the bright scarlet berries of which show up conspicuously.

A short distance from the mansion is a conservatory, which was gay with well flowered Camellias, Azaleas, Ericas, Epacris, Callas, very fine specimens, Primulas, Cinerarias, Libonias, and the old Echeveria retusa, well grown, makes a grand display. This last-named plant when well done makes a capital plant for conservatory decoration, lasting a very long time in flower. The other plant houses contain a good collection of miscellaneous stove and greenhouse foliage and flowering plants, and some small span-roofed houses contain a nice, although not extensive, collection of Orchids of the most useful and popular varieties, doing well. The fruit houses and forcing departments are all in good order, showing that they are managed in a thoroughly practical manner by Mr. William Holah, Mr. Hills intelligent gardener.—*Alfred Outram.*

SCENTED-LEAVED GERANIUMS.

The large number of new plants that are being continually introduced into our gardens, and the marked improvement that has taken place in many old favourite species, has had the effect of almost or quite exterminating many plants that were dear to the heart of the past generation of gardeners. In many cases this weeding out has been of great advantage to all concerned, because the great demands made upon the resources of gardens, either large or small, has rendered it absolutely necessary that only such things should be grown as will best answer the purpose for which they are intended. On the other hand, this weeding-out sometimes consigns to obscurity plants which are of great value for special purposes, although they may not be quite so showy as many that have so much attention.

This I think is the case with many of the best varieties of scented-leaved Geraniums. It is not often one sees them grown in any quantity, or do they have much care bestowed on their culture; yet they are invaluable at all times of the year for mixing with cut flowers in bouquets, buttonholes, or vases on account of their delicious scent and the elegant forms of many of their leaves. The present is a capital time to put in a stock of cuttings in any structure where there is a fair amount of heat, if a hand-light can be spared so that they may be kept close for a time, they will root very quickly; and there is no difficulty in striking them on shelves over hot-water pipes in the way that Zonals are generally struck at this time of the year, only their progress under such circumstances will not be quite so rapid, as they do not like such a dry atmosphere as the Zonals delight in, and in all stages of their growth they do better where the atmosphere surrounding them is kept in a moderately humid condition, than when the reverse is the case.

As soon as the young plants are well established they should be grown in a greenhouse temperature till all danger of frost is over, when they can be removed to cold pits for the summer months. Many of the strong growing kinds do well in the open air, but the weak growing ones are better kept in pits or frames, and if stopped a few times and potted on as required will make nice useful stuff for cutting from during the autumn and winter months, at which season of the year any light position in any structure where they can have a temperature ranging between 45° and 60°, and where they will not be subjected to cold draughts, will suit them well. A good compost to grow them in is one consisting of two parts good loam to one of leaf soil, with plenty of sharp sand and a little charcoal added; and a few of the weakest growers should have a little peat also.

The following sorts are all well worth growing. Trifolium odoratum is the best of all for button-hole work, its elegant and deeply cut leaves rendering it especially suitable for that purpose, and to anyone who only wished to grow one variety I would say by all means grow this; Redula major, Denticulata majus, Lady Scarborough (the young shoots of this variety are most useful for massing with cut flowers in small glasses), Crispum, Pheasants' Foot, Capitatum (rose-scented), Graveolens-variegatum, Quercifolium (Oak-leaved), and Lady Plymouth.—*H. Dunkin.*

SHRUBS IN TOWNS.

In London gardens few attempts are made to increase the diversity of shrubs grown in borders near the houses, which is the more regrettable since they form such permanent objects either of beauty or the reverse. In thousands of gardens we find Aucubas *ad nauseam* and almost invariably the common yellow blotched leaf variety; in few are fruiting Aucubas seen although they are extremely ornamental. In numbers the common Privet would probably rank next, though this is being supplanted in many places now by the much finer Ligustrum ovalifolium, a strong growing evergreen shrub, very useful for hedges that are to be formed quickly. Then come the common green Euonymuses, useful plants, but why not grow more of the variegated forms; the little Euonymus radicans variegata, it is true, is occasionally seen as a margin to large flower beds, but the handsome variegated gold and silver forms of the latifolius type are rarely met with, except in some sea-side towns, such as Brighton, where they constitute a beautiful feature in the gardens at the west end of the town.

Hollies are good town shrubs or small trees, but the small green-leaved sorts are those usually planted in London, whereas, the value of the bold and much smoke enduring Hodginsi has been amply proved in the northern manufacturing towns. The Laurustinus is a pretty shrub, yet, except in suburban districts which are outside the smoke radius, it is by no means common, although it will stand almost as well as the Aucuba. The common Cherry Laurel is a serviceable plant and bears cutting into shape better than many others; the varieties rotundifolia and caucasica are excellent, the former being the more handsome, but the latter is hardier and better suited to the colder districts of the kingdom. That lovely shrub, Berberis Darwini, has not become so popular in towns as it will do when it is recognised as adapted for such gardens, for it thrives well everywhere but in the densest smoke. It forms a beautiful hedge if kept moderately pruned, and when loaded with its deep orange flowers few shrubs can equal it in attraction, it is much superior to Mahonia aquifolia, though the latter will grow in some situations where the other is not so satisfactory.

Deciduous-flowering shrubs are still less common, perhaps, because it is thought their bare stems would be objectionable in winter; but if planted judiciously with the evergreens there would be little cause for complaint in this respect. First on the list of these must be placed the Lilacs, both the common broad-leaved and the narrow Persian varieties succeeding capitally in towns. Than the so-called "Flowering Currants," the yellow, red, and pink varieties of Ribes are great favourites; the Weigelas—especially rosea—the Mock Orange (Philadelphus) and many Spiræas, with Leycesteria formosa and the European Spindle Tree (Euonymus europæus) can be advantageously added to collections of shrubs in town gardens. These are only a few hints as to how such might be improved, but it would not be difficult to extend the list.—*G.*

THE AFRICAN VIOLET.

Under this popular name the charming little Tinnæa ethiopica is known to some persons, and when it becomes more abundant it will be a favourite with many who have not yet had an opportunity of seeing it. I am not sure if the nurserymen keep it in stock, several I have enquired of do not, and the majority do not seem to know it. My plants, of which I have several, were raised from seed kindly sent to me by a friend who has travelled in the region of tropical Africa where this Tinnæa grows wild, and whence it was introduced by the lady (Madlle. Tinné) whose name it bears. It first made its appearance in the north of England, and was, I believe, first publicly exhibited in London in 1866, since then it has found its way into a few botanic and private gardens, though it does not appear to have ever been distributed by the trade in the usual way.

One of the great recommendations the plant possesses is that it naturally flowers at this time of year; and beautiful as are the bulbs and other plants conventionally forced to adorn our houses, yet any that are somewhat out of the common are doubly welcome now when we cannot turn for relief to the outside borders. The flowers of the Tinnæa are not unlike the Antirrhinums, but are more compressed lengthways than those, and are not so large. The calyx is proportionately large and pale green, affording a marked contrast with the intensely rich dark crimson corolla, which projects from it in a curious two-lipped form. The flowers are produced freely when the plants are healthy, and possess a strong agreeable fragrance suggestive of Violets, and so long does this last that two or three plants will perfume a moderate sized house.

Though not difficult to grow, the plants require some careful attention to ensure success. In the first place they must have a light compost of loam, leaf-soil, and sand, or equal parts of loam and peat are similarly satisfactory; if the pots are well drained, and the plants are placed in a moist stove, they will grow and flower freely during the early months of the year. The habit is not naturally very compact, except in a young state, and it is, therefore, necessary to cut in the long straggling branches as the plants become older to cause young shoots to start from the lower parts. It can be increased by cuttings, but I have not been very successful with them, only about 50 per cent. of those inserted producing roots; they were placed in sandy soil under bell-glasses in a small propagating frame.—*A. B.*

FERNS FOR BASKETS.

The gracefulness of Ferns is acknowledged by all, and their usefulness for many purposes has established them firmly in the favour of majority of plant lovers. In pots for ordinary decoration they are indispensable, particularly those sorts that from the natural hardiness of their constitution, and the firm character of the fronds can endure more exposure and a drier atmosphere than the bulk of delicate tropical species. On either indoor or outdoor Ferneries they produce some lovely effects, but especially in the former when there is a tastefully arranged rockery upon which they can be planted. When grown as stock to furnish fronds for arranging with flowers either for stands, bouquets, or wreaths, they are equal, or in some establishments of greater importance, but there is no more elegant use to which they could be applied than culture in baskets for suspending in stoves, conservatories, corridors, or other suitable situations. There are certain Ferns that are exactly adapted for this mode of treatment, and very beautiful they appear with their fronds drooping round the basket, forming balls of graceful green foliage.

They are also very easily managed in this way, and grow luxuriantly with fairly good treatment, the most important point in their culture being the preparation of the baskets. Those constructed of wire are the best fitted for the purpose, especially if the meshes are rather close so that the soil cannot readily pass through. Place a layer of sphagnum or other moss in first, and a few pieces of charcoal or potsherds at the base, then over this place the soil, which should consist of turfy peat and light turfy loam, about two-thirds of the former to one of the latter, and sufficient sand to keep it open and sweet. Pack the turfy portions round the sides and fill up with the smaller portions, placing the Ferns in firmly, but not too deep, having some near the edge and others in the centre according to the size of the baskets, and the way it is wanted to be furnished. Afterwards it is a good plan as a finish to the appearance to dibble in some pieces of Selaginella between the meshes of the wire, and this will soon assist in clothing the surface. Ferns in baskets require special attention in supplying them with water, as from their exposed positions when suspended in a house they are liable to become dry more quickly than those in pots, and to suffer accordingly if neglected. In the summer they need daily attention, and must be watered thoroughly or it is of little use; an occasional syringing also is beneficial.

There are numbers of graceful Ferns that could be selected for this purpose, the genus Adiantum being particularly rich in species adapted for baskets. For small baskets A. caudatum is well suited, but for larger ones the beautiful A. Williamsii, sent out by Mr. B. S. Williams, of Holloway, A. concinnum latum, A. tenerum, or A. affine are the best. The smaller Davallias, such as D. canariensis, D. elegans, and D. dissecta are all suitable, as also are some of the Aspleniums, A. viviparum and A. longissimum being capital for the purpose. To these might be added Pteris serrulata cristata and a few of the Nephrolepises, like Davallioides furcans. Even a good basket of Adiantum cuneatum or A. gracillimum is not to be despised; but those Ferns of a drooping habit are generally the most satisfactory for such work.—*D. C.*

OUT-DOOR PEACHES.

That these can be as well grown at the present time without glass protection as in days gone by, there cannot, I think, be much doubt. There are many, however, who are somewhat sceptical on this point and hold opinions of an opposite character, at the same time advocating the planting of Pear trees on south walls instead, maintaining that these will give much better results and prove far more satisfactory in other respects. Unquestionably the latter will grow very well and produce very good crops of fruit on south walls, which from an £ s. d. point of view may possibly be more remunerative than Peaches, if of a very high order of merit; notwithstanding this fact, however, there are still many gardens where Peaches must be grown under the old system and are regarded almost as indispensible for dessert when they are in season; in such cases, it would never do to allow an occasional failure to become a pretext for growing some other kind of fruit.

Very many practical men, probably the great majority, have come to look upon out-door Peach cultivation in this country as being altogether a thing of the past and are much opposed to it; such opposition, however, I am afraid is, comparatively speaking, of recent origin, in fact, dating back only to the introduction of cheap glass structures and more prosperous times than existed formerly. It must not for a moment be understood that I have ought to say against fruit grown under glass, on the contrary, if the matter rested with myself, all the Peach walls under my charge at the present time—upwards of 200 yards—would be covered with glass forthwith, but as such does not happen to be the case, the inevitable must be cheerfully submitted to and the best use be made of existing conditions and circumstances. I am only endeavouring to maintain and support the fact, that, wherever out-door Peaches were successfully grown fifty years ago, they can be at the present time, providing they receive the same amount of care and attention. In our own case, I may say without egotism, that we are favoured with a fair amount of success. One total failure is recorded against us in recent years, viz., that memorable one of 1879, which proved so disastrous to farmers and gardeners alike, but since that time our crops, on the whole, may be classed in the rank of good average, the best of the series being that of last year, which gave us an almost continuous supply from the third week in July to the first week of November, beginning with Alexander and Early Beatrice, and ending with Sea Eagle and Salway.

"Ah!" says the reader "good soil and excellent climate you must have," to which the reply may be both affirmative and negative, the soil being of a highly calcareous character, and the climate all that one could desire during the summer months, but the situation is low and damp, and subject to late spring frosts. If my opinions were asked for respecting so many failures, in recent years, where success formerly prevailed, I should feel very much inclined to say it is probable that the same amount of care and attention is not bestowed on their cultivation as there used to be. Although Peach culture is so well understood, it may not be altogether without interest to refer briefly to a few details connected with our own system. In the first place we make it a point never to neglect or cease to look after the welfare of the roots, for on these, so to speak, everything else mainly depends. It would never do in our case to allow them to penetrate the sub-soil, at least, to remain there for any lengthened period, experience having taught us that that dreaded disease, or call it what you will, the "Yellows," is the natural accompaniment; it has therefore become a fundamental rule in our practice to resort to periodical lifting, every tree, young and old, being subjected to this operation every second or third year.

By this means the roots are kept entirely under control and within reasonable reach of the surface, so that they may receive the full benefit of top dressings and waterings of liquid manure when the fruit is swelling. Each tree when lifted receives two or three barrow-loads of fresh soil—turf if we can get it—together with half-a-dozen spade-fulls of wood ashes or burnt refuse. In some localities all this trouble is unnecessary, owing to the natural soil of the place being well adapted to the requirements of the trees, but even in such cases I would have recourse to lifting every third year, for the

A good Basket Fern: Adiantum Williamsii.

purpose of keeping the roots near the surface, a circumstance, the importance of which cannot well be overestimated. This work should be done in the autumn months and as soon as the trees have shed their leaves, if they are in a condition anything approaching to a state of good health no fear need be entertained regarding a crop of fruit the succeeding summer, other conditions being equal. We now come to the elementary part of the subject, of pruning, training, and nailing, and on which, perhaps, no lengthened comment is here needed. One great object should be to adopt such a course of treatment during the summer months as will necessitate very little winter pruning, and this desired state of things can only be brought about by practising the disbudding and pinching of young shoots in no half-hearted way, so as to have very little to be done at this time of the year beyond the nailing or tying in of successional shoots, and such others as may be required for the extension and frame work of the tree.

One of our pet aversions in training is the overcrowding of young wood, and thus it is that we let a space of from 1 in. to 2 in. intervene between each shoot. When the trees are in flower, protection is afforded by Russian and home-made straw mats, stout poles being put against the walls to prevent damage being done to the trees in rough weather. I would here remark that a better, but more expensive system of protection will be found in rollers and blinds made of frigi domo, or some such material as Eddy's No. 3 Shading. To obtain a good "set" of young fruit, much care and sound judgment should be exercised in the matter of protecting the flowers, especially during inclement or unpropitious weather. Occasionally there may be a day when bitterly cold hail and snow storms prevail: when such happens to be the case, the trees are much better with the mats or blinds down than they would be if exposed to the weather, bearing in mind that partial darkness is far better than icicles and a crop of frozen stigmas. When the young fruits have commenced to swell fairly well, or, say, when they are about the size of marbles, their number is considerably reduced by taking off the smallest and those which are ill placed, leaving only such a number as we think sufficient for a crop, according to the state of each tree, no allowance being made for falling off when stoning; nor do we think it necessary, as such a thing rarely happens, except in cases of over-cropping.

Close attention through April and May is very necessary, in the matter of pinching out abnormal shoots and blistered leaves. The same may be said about disbudding, and keeping down insect pests, such as Aphis. If the latter are not kept in abeyance, great amount of injury may be done in an incredibly short space of time. As a remedy and preventive, the trees should be syringed with some insecticide soon after the young fruit is set, the practice being followed up once a week for some considerable time. For this purpose we find nothing better than concentrated tobacco juice, mixed in proportions of one pint to four gallons of water; but no hard and fast line can be laid down on this point, as the article itself so often varies in quality. The last, but by no means least important point to be alluded to, is mulching and watering during hot summer weather. At no time should this matter be overlooked, as the Peach tree is very sensitive to anything approaching dryness at the roots.—*J. Horsfield. Heytesbury.*

FRUITS, FLOWERS & VEGETABLES.

Erica melanthera.—This excellent winter flowering Heath is a general favourite wherever it is well grown. It continues to bloom from November till March, and a few plants of it dotted about in the cool greenhouse or conservatory have a very telling effect during the dull winter months. The flowers though small, are produced in clusters, the colour being a delicate rosy pink when first opening, ultimately changing to white, and are very useful for cutting; the plants may also be occasionally used for room decoration. After they have done flowering in March, they must be trimmed into shape, either as round bushes or pyramids, as fancy may suggest. When the plants show signs of breaking into growth, they should be potted very firmly into peat and silver sand. After potting, place them in a good growing temperature of 65° to 70° by day, and not lower than 50° by night, keep a moist atmosphere by syringing and damping the floor and pipes, and they will make rapid growth; should any shoots start away longer than others, they must be pinched back to keep the plants in shape. After the growth is complete, about August, take them into a frame and give an abundance of air to ripen their wood, at which time the flower buds will set all over the plants. This Heath will grow well with Azaleas, Epacris, and other plants that require heat and moisture during their growing season.—*W. G.*

Poinsettias at Seaham Hall, Sunderland.—In reply to the expressed wish of your correspondent, "W. C.," at p. 348, I send you some particulars respecting the large Poinsettia that is grown here. I planted the specimen in question about twenty-five years ago, and it now covers a wall 11 ft. high and 23 ft. long. The stem at 1 ft. above the ground is 11 ins. round, and the average number of heads of bracts are about 240 each year, and some I have measured were 16 ins. in diameter. The plants have been in flower since the beginning of November until lately, and it would have been quite in a blaze now but the heads have been gathered for decorations. I may add that I have yearly cut off about 3 ft. from the top and both ends to keep the plant within bounds, as it grows so rapidly, through being planted out. No one can form any opinion of its brilliancy, except those who have seen it in all its beauty in December. It is a plant that is so easy to manage, that I often wonder it has not been grown more extensively; I am told by travellers that this Poinsettia is the largest in Britain.—*R. Draper, Seaham Hall Gardens.*

Abutilon Boule de Neige.—Having just read a short note on Abutilons in your issue of January 23rd, I should like to say a few words more in favour of this variety. I fully corroborate the writer's statement in regard to its being a "good winter flowerer." We planted out, two years ago, in one of the span-roofed greenhouses here, two plants of this variety, which very soon filled the spaces assigned to them. At the end of the first season we found that one of them would easily supply us with as many cut flowers as we required, and so the weakest of the two was cut down. The remaining one, which I may say is a perpetual flowerer, has done remarkably well this winter having supplied us every week with handfuls of splendid blooms the whole winter through, and which have been much appreciated. It is so easily grown when planted out, and gives so little trouble, that I would strongly advise anyone who has a supply of white cut flowers to keep up during the dull months of the year, and who can spare a sash or two of a greenhouse, to lose little time in giving it a trial as a climber, as I am sure it would amply repay anyone for the space assigned to it. I much prefer planting it in a small border or some such equivalent, for cutting purposes, to that of growing it in pots, as it requires much less labour when so grown, which is of no little consideration. The following compost will suit it very well:—Two parts of good lumpy loam, one part of leaf-soil, with a liberal mixture of coarse sand and bone-meal, especially the former if the loam is inclined to be heavy. I am of opinion that many think this Abutilon requires more heat in winter than it actually does. The house that this one is growing in has seldom had a night temperature above 45° and has often been below 40°, and still it flowers as profusely as ever, and the flowers also stand much longer than when grown in a higher temperature.—*J. E. Miln, Culzean Gardens, Ayrshire.*

The Warm Conservatory at Chalfont Park.—Mr. C. Herrin, the clever young gardener at Chalfont, has always a fine show of bloom, and even the protracted bad weather finds him with a display under glass which the dreary prospect outside only adds to the value of. The warm conservatory with its rock-faced centre stage, in which Ferns, Mosses, Tradescantia, &c., are growing, is a pretty sight, with fine specimens of Alocasia metallica, Dracænas, Crotons, Palms, and Ferns, arranged together with the scarlet Euphorbia jacquiniæflora, fine specimens of Eucharis amazonica, and other flowering stove plants, and Orchids, of which latter a collection is not attempted, but good plants of some, and especially those for winter flowering, are grown and well grown too. Among those now in bloom are several good examples of Cœlogyne cristata, both the old and the Chatsworth varieties, Dendrobium Wardianum, some very high coloured and well bloomed Calanthe Veitchii superba, C. Turnerii, C. vestita, red and yellow-eyed varieties, and other handsome things. Such of these as are light enough are suspended overhead, and look charming with their graceful spikes hanging over fine specimens of Adiantum Farleyense, A. gracillimum, and other elegant foliage plants. Much skill is displayed in the arrangement, and, that of course, adds to the attraction of the whole display.—*J. B.*

Acacia ovata.—This is almost a counterpart of A. armata, but in some ways preferable. Its flowers are not quite so large but of a deeper colour, and the habit though similar is more healthy in appearance. I find the shoots have not that tendency to go off as A. armata has, so that it has some advantages over the older kind. The Acacias are very desirable plants for the conservatory decoration, especially so at this time of the year. With the two above mentioned I would like to recommend A. Drummondi, A. platyptera, and A. Riceana. There are several other kinds, but these are the best for general work.—*J. S. T.*

Hardiness of Variegated-leaved Phormium tenax.—I am sorry to be obliged to differ altogether with your well known and usually accurate correspondent "R. D." in the opinions he expresses on p. 348 of your last issue. I have had considerable experience with all the beautiful variegated-leaved forms of these fine and handsome plants, namely, P. Veitchi, P. Colensoi, and P. tenax variegatum, perhaps the finest of them all, and regret to say that even here on the comparatively mild seaboard of the south of Ireland there are none of them hardy. I grew them for several years in a mild and sheltered valley close to the sea, where they grew into fine strong tufts, and P. Colensoi even bloomed, but they were all killed in the winter of 1880-81.—*W. E. Gumbleton.*

Cucumbers, Tomatos, and Strawberries.—In answer to a question by "T. M.," at p. 350, as to the quantities of Cucumbers, Tomatos, and Strawberry plants required for houses of the dimensions indicated, and the amount of produce they should yield under successful management, I may say that I have been engaged in the production of the same for market, and send you the following figures, taken from notes on crops in the years 1882, 3, and 4, which were considered fairly successful; but a great deal would depend upon the arrangement of planting and staging. My method in the case of Tomatos would be to plant on each side of the house and train the plants up the same as Cucumbers, and have some four or five rows in the centre of the house trained perpendicularly, taking three leaders up from each plant. "T. M." would thus require about 1,040 plants, the produce, taking 6 lbs. per plant as an average, would amount to 6,240 lbs. In the case of Cucumbers I should plant but three rows, namely, one on each side and one in the centre, trained up to the angle of the roof, thence downwards to meet those on either side, but not planted nearer than 3 ft. from plant to plant; placed thus I have grown forty-five good fruits per plant, not to say anything of those classed as Gherkins. The number of plants required thus would be 225, and the produce of the same should be about 10,225. In the case of Strawberries, I find that in the year mentioned, something like 6,750 pots would be required, that is to say, if grown in 6-in. pots and placed on a span shelving stage of six rows on each side, and a row on each side of the house, resulting in a yield of 1,690 lbs., or an average of a ¼-lb. per pot. When "T. M." says a year, I presume he means a season, say from March until the end of October.—*G. Baskett.*

The Lattice-leaf Plants of Madagascar.—Those interesting aquatic plants, Ouvirandia fenistralis and O. Bernieriana, although much admired in this country, are seldom met with in a good state of health. As I have seen them grown successfully, I venture to give a little of my experience hoping that it may be of service to those who are interested in them and have not succeeded in growing them well. Good fibry loam mixed with a few small crocks should be used as compost, and great care should be taken in potting to see that the plants is only put in but a little above half way up the pot, and that the compost is made firm before, for when immersed in water if there is too much soil it will swell over and leave the plant loose, which will greatly impede its growth. They flourish well in an oak tub and the leaves are also seen to great advantage in a large white pot, but a lead tank does not suit them. Raise the plant in the vessel so that the rim of the pot is not more than 1 in. under water when the vessel is

full, that the leaves may float close to the surface. Place the vessel in a stove or any house in which the temperature is kept above 65°; the water should be kept at from 65° to 70°, and the plants shaded from the full rays of the sun. Fresh water should be given them frequently during the day every time the house is damped, from a can with a rose held over the plant, so that the water descends on it in the form of heavy rain. The vessel should be cleaned out once a fortnight or oftener if it gets dirty, and all dirt should be sponged off the leaves, and a sharp look out kept for a small snail, which is very fond of the young foliage. It is very seldom that the plants throw up a flower spike until they become large, and the pot is filled with roots; if the flowers are kept under the water they seed freely. Sow the seeds singly in small pots, and give the same treatment.—*George Holmes, The Gardens, Shipley Hall, Derby.*

Spiræa japonica.—This is a plant of great merit for window or vase decoration, and is without doubt a general favourite. It is of easy culture, and with a little pains great results may be obtained. From now onwards may be seen in villa windows near towns, many good, and some indifferent specimens. Many of these are specially grown for sale, and a good market is made of them. Now I should like to know what becomes of all these after blooming; the answer would be, in many cases, they die. I would advise, as far as the means allow, that these, if planted out in the border, would by and bye become useful as well as ornamental. As regards habit, this Spiræa, or Astilbe, is the beau ideal of what a pot or vase plant should be; the flesh green, elegant foliage, with the plume-like masses of pure white flowers renders it one of the most attractive plants we have. It is a coarse-rooted plant, and when once the roots have taken hold of the new soil after potting, they should have an abundance of water, with occasional weak liquid manure, then the results will be highly satisfactory.—*J. S. T.*

Herbaceous Phloxes.—"W. B. G.'s" paper upon these Phloxes is interesting and pleasing, because drawing attention to one of the most beautiful of hardy herbaceous plants. I have often been surprised to find how few of these Phloxes are to be found in many pretentious gardens, and still further, when found, how few plants are propagated and produced as advised by "W. B. G." Then I note with great surprise how few either of plants or heads of bloom are to be met with at late summer and autumn shows. Plants on single stems from spring cuttings, and in 6 in. or 8 in. pots, would, if shown in 9's or 12's, make very attractive and beautiful displays. Possibly they may be so encouraged in some parts of the country, but I have not been fortunate enough to meet with them. Apart from exhibition purposes, a few dozen such plants in pots would prove most valuable for decorative purposes in any garden. I have, though not in a carping spirit, to take exception to what "W. B. G." states with regard to raising seedlings. In the first place, my experience of 300 seedlings raised from seed and from just a few named kinds, in the autumn of 1884, is that the variation of colours and markings in the seedling flowers is most remarkable, hardly two out of the whole number being exactly alike. That fact alone may encourage some readers of THE GARDENING WORLD to go in for seed-sowing at the proper time. At the risk of being charged with iteration, I would again say that I prefer sowing seed the moment it is ripe and threshed out. My previous batch of seedlings were from seed sown in November in a frame and which germinated freely. The seedlings, when strong enough, were dibbled out in rows in the open field, and every plant carried a fine head of bloom. A similar sowing has been made this winter, the seed being saved from a score of the best of the seedlings, and I am hopeful of being rewarded with still further variety next autumn. —*A. D.*

Late Chrysanthemums.—I see by your leader of January 23rd, on late Chrysanthemums, that a few growers in the south have no difficulty in keeping the flowers back until Christmas and the two following weeks. I may say, that it is nothing uncommon here in Scotland, if the plants have been well grown, housed in a good airy greenhouse or conservatory, and kept free of mildew, to have them much later than the above date. I grow about sixty pots here, and this season the second earliest were at their best on new year's day, such sorts as Empress of India, Mrs. G. Rundle, &c.; and the late varieties, such as Fair Maid of Guernsey, Ethel, the Khedive, and others, were not fully expanded until the 22nd January, and I expect to keep them fresh for three weeks yet at least. I began to cut the early sorts from outside about the 12th of August, so that we have had a long feast of Chrysanthemums I enclose a few of the blooms with a few other things that have been flowering here for the last month.—*John Dick, Gardener, Schaw Park, Alloa, N.B.* [A very nice assortment. The Chrysanthemum blooms were capital.—ED.]

The Culture of Libonias.—Having noticed an inquiry respecting these in your columns a few weeks back, and being a grower of them for house decoration, a few lines from me may be of service to some of your readers. We grow two varieties, L. floribunda and L. Penrhosiensis, in about the same quantities. The latter has the best habit and foliage, and is very distinct. I believe it to be the result of a cross between L. floribunda and Sericographis Ghiesbreghtii. We strike them early in the spring, generally in a Cucumber or Melon pit, using the points of young side shoots, cutting them off at the third joint, and removing the two lower leaves. They are inserted in a light compost of finely sifted soil, with plenty of sand, putting about a dozen cuttings in a 48 pot, and let them remain till they have made sufficient growth to allow of the points being taken out. When they have made fresh growth, we pot them singly into large 60 pots, using a mixture of turfy loam and peat or leaf-mould. They are not very particular about soil, provided it is free and open; but they must have a pretty good heat, say of about 60°, in the early stages of growth. When they are well established in these pots, and before the roots get too much matted together, we shift them into 48's (generally this is the last one they get with us), and keep them close for a few days after repotting. During the summer they will do very well in a cold frame if the lights are kept on, sprinkling them overhead in the afternoon; and when well established, occasional doses of liquid manure are very beneficial. In the autumn, they are best if removed into a structure where a heat of from 50° to 60° is maintained. If larger plants are required, the one year old plants may be cut well back in February or March; and when new growth has commenced, turn them out of the pots, and when well established, give them a shift into pots one or two sizes larger, managing them in the same way as plants struck fresh from cuttings. L. floribunda seldom requires sticking, but L. Penrhosiensis, from its heavier foliage, will sometimes require support.—*W. B. G.*

Thyrsacanthus rutilans.—We are fast losing sight of many of our good old stove and greenhouse plants. In Thyrsacanthus rutilans we have one of the finest high coloured of winter flowering plants; the flowers are not so useful for cutting purposes as many other things now grown, but a few plants well grown help to brighten up the stove with their long pendulous racemes of brilliant crimson-scarlet blossoms. The plant when well grown is always the admiration of every one who sees it, and why it should have become so much neglected I am at a loss to understand. Its cultivation is very simple where a good stove temperature can be maintained; the soil that suits it being a mixture of equal parts of loam, peat, and manure, with a good sprinkling of sharp sand. The plant is sure to flower when small, but the gorgeousness of it is best seen when it attains the height of 4 ft. or 5 ft., the long racemes hanging on all sides down to the top of the pot. It is a continuous bloomer during the three darkest months of the year, and for brilliancy of colour amongst winter flowering stove plants it has no equal, except the Poinsettia pulcherrima, which is of a totally different habit.—*W. G.*

Poinsettias.—The system of planting out these beautiful winter decorative plants in summer has been ably discussed in your pages by good authorities, and I have no doubt the plan has much to recommend it; but, of course, it can only be practised in the south of England. One thing is certain, the system gives much less trouble, and there is less expense than when grown in pots under glass; and it is also convenient where space under glass is limited. But considering how valuable a good stock of Poinsettias is, and the tender constitution of the plant, I should be very loath to run the risk there is in planting them out. We are very subject in the south of England to early frosts, such as were spoken of by Mr. Merrit in his note of last week. I shall always grow them in pots from a batch of cuttings struck in the spring, as I like a new stock every year, especially were thorough good plants are required, well furnished with foliage for table decoration, &c. The Poinsettia is very susceptible to the least check it sustains, either from want of water or disturbance at the roots; and I cannot but think that when they are lifted from their planted out quarters they must be checked, and more so if they have to be reduced to a ball of a suitable size for a pot for table decoration, consequently a loss of foliage follows, and the plants are not fit for table purpose. One of the most successful growers of the Poinsettia I know is Mr. George Miles, of Victoria Nursery, Brighton; his plants are grown in pots never larger than 36's or large 48's. The plants are generally about 12 ins. to 15 ins. high, and thoroughly furnished from the surface of the pot to the head of bracts with fine handsome foliage. I have seen heads of bracts on his plants from 12 ins. to 15 ins. in diameter. Every attention is given in potting the plants at a proper time, and in careful watering and ventilating; I am sure he is well repaid for the labour bestowed.—*E. Williams, Shepperton, Middlesex.*

Herrin's Blood-red Primula.—This is one of the richest-coloured Primulas we have ever seen, a good batch of it being now in bloom with Mr. C. Herrin at Chalfont Park Gardens, who has succeeded in fixing it by careful selection and seeding extending over some years. The flowers, which are large, perfect, and of good substance, are blood-red with clear yellow eye, some of the plants having a beautiful row of snow-white dots all round the margins. The habit of the plant is good, the foliage handsome, and altogether it promises to become a first favourite.—*J. B.*

The Leek.—I do not think that I ever before saw the Leeks in the market-gardens so small as they are this winter. As it is a succulent plant requiring plenty of moisture during the growing season, it is, perhaps, not to be wondered at that the plants are small, seeing that at the time the Leeks were transplanted from the seed beds to the open ground the weather was both hot and dry, and continued so up to the end of the summer. Really they made but little growth compared to what they generally do in a moist season, and, therefore, it is they are so small. But it is a delicious winter vegetable when nicely cooked and served up with some excellent sauce.—*R. D.*

Tree Carnation Pride of Penshurst.—It is sometimes said that it is difficult to have Tree Carnations in flower in winter, but those who have formed this opinion can have had little experience with them, and most of all they cannot have tried the variety named above. Several yellow-flowered Carnations are grown and enjoy various degrees of popularity, but the best I have seen or grown is Pride of Penshurst. The flowers are very neat in form, are produced in great numbers, and are of a most agreeable clear bright yellow colour. Andalusia is a good one, but I recommend Pride of Penshurst as being far superior in all respects.—*W.*

Epiphyllums in a low Temperature.—Cultivators of these plants often recommend a much higher temperature than I have proved is essential to their welfare, and as I was deterred from undertaking to grow them by fearing that we could not give them the heat they required, it may assist others if the treatment I found successful be noted. I have one small house, and the heating apparatus does not permit me to get a higher temperature than 50° without the assistance of sun heat, and in severe frosty weather it is often nearer 40°. Yet in this house with a variety of other plants, I manage to grow Cypripedium insigne, Dendrobium nobile, and Epiphyllums. The latter, which are the subject of this note, are potted in a mixture of loam, lime-rubbish, sand, and a rather abundant proportion of old manure, the pots being most thoroughly drained, and to this I attribute my success in some degree. When growth is advancing, the plants are placed in the warmest and sunniest corner, and they are afterwards ripened by ventilation and exposure to sun on a shelf close to the glass. I treat them liberally when in growth and flowering, giving them weak liquid manure frequently, but at other times water is very sparingly and carefully supplied. There are now half-a-dozen plants flowering, and others are advancing, one of the best of the former which I had upon my table recently evoked the admiration of a professional gardener friend who saw it, and who said the treatment was worthy of note in your pages.—*An Amateur.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Presuming that the directions given in last week's calendar have been carried out as to potting, a word of caution may be necessary as to the watering of newly potted plants, more particularly in the stove. The only water they should receive for a few days will be from the syringe, which should be freely used, and with the greatest benefit to all the occupants, Orchids excepted; but where these are grown amongst other plants, devote one particular part of the stage to them, so that they may be free from the deluge. Keep the house extra warm, and do not ventilate until growth commences, which will rapidly take place now that the days are lengthening, and we may hope for more sun, which we so much need.

Look well to the propagating of all autumn and winter-flowering plants, such as Eranthemums, Sericographis, Bouvardias, Libonias, Begonias, Centropogons, and last, but still one of the most useful of all, the Eupatoriums, which can be had in flower in succession from August onward until March, added to which they are very useful for cutting. Herbaceous Calceolarias will now need attention, our's have quite filled the 6-in. pots, and must, therefore, be shifted on at once, for should they once become pot-bound when in a young state, it is useless to hope for good plants afterwards. Give them 8-in. pots, which is the only shift they should require, unless huge specimens are desired, when they may have another shift later on. Give them a good, light, airy position, and as near the glass as possible, and be sure that they are never short of water.

Sow a packet of that most useful decorative plant, Impatiens Sultani (the red variety), the white one we do not care for, grow them on quickly as they do not like being stunted. Also sow at once Carnation Grenadin, this we find extremely useful for cutting from, added to which the flowers are always in demand for buttonhole bouquets. If the Souvenir de la Malmaison Carnations have been wintered in pits, now will be a good time to place them in the greenhouse that they may not be overlooked in the press of other matters. Keep all scrupulously clean.

FORCING HOUSES.

The early Vines will now need a lot of attention, in fact daily; do not let the young growth remain touching the glass or the tender foliage will be damaged, loop slightly but only just sufficient to keep them clear. Attend regularly to the stopping of laterals, but leave two or three leaves beyond the bunch, so as to allow of plenty of foliage. Should they become too crowded later on, superfluous leaves can be readily removed, but it is far better to have an abundance now than too little. With the present bright weather the second house may be considerably forwarded without the aid of fire heat, by closing early and syringing; the Vines will become gradually excited, and when finally started make rapid progress.

Muscats should now be dressed and the house put in order, surface soil being removed and replaced by a good rich compost, giving all a good watering and then throwing all ventilators completely open, and let them remain so until a week or so before starting the Vines again. This will be found, in a great measure, to help to heal the cuts, and to prevent bleeding.

With the present favourable weather there will be little difficulty in obtaining a good set of Peaches, a light dewing with the syringe all over the trees, early on fine afternoons, will greatly benefit the trees and do no harm whatever to the blossoms. Cucumbers will now make rapid growth, and require more attention; keep them regularly trained, but do not stop too hard just yet, fruit is now swelling away nicely and the plants are clean, so we hope for a good supply of fruit to reward us for the care bestowed.

Melons, if not sown singly, will now need to be potted off. Let the compost used, if not too heavy, be loam, and pot firm but not too deep, placing a small stake to each plant as you proceed; plant out as soon as strong enough. The Fig-house must now receive attention. With us this structure is used for storing Azaleas, Rhododendrons, and such-like plants; but most of these must now be removed to the late Vinery. If red spider was at all troublesome during the past season, let the trees be dressed with Gishurst's compound; look to the border, and if at all dry give a thorough soaking of water, close the house, syringe on bright days, and if, after the trees have started, bad weather sets in, fire-heat must be applied, for the young growths are very tender.

If there is room, some Azaleas may be left in this house to follow on those placed in warmer quarters. Strawberries are now pushing up fast, and a dose of liquid manure will help them to throw the trusses well up; ply the syringe freely amongst the plants to keep them clean.

THE KITCHEN GARDEN.

Let digging proceed as rapidly as possible; we will presume that all planting is finished, so that the banks are free to make a good show. It will yet be some time before the ground will be in a fit state to be planted, as it turns up dreadfully wet. All that is necessary is a fine day or two to settle, which can hardly be relied upon, seeing that the barometer is so low. As soon as possible make a good sowing of second and main crop Peas, covering, as before advised, with waste potting soil.

If not already done, select and prepare the ground ready for planting autumn-sown Onions and Shallots; they will require a good rich quarter; also Garlic. Let the pruning of Currants proceed as rapidly as possible, as presently every moment will be of the greatest value in seed sowing. Select cuttings if new plantations require to be made; in fact, it is always advisable to have some young trees in stock, both of Gooseberries and Currants, in case of necessity.

If not finished, let the nailing be proceeded with. It is time it was done now, except, perhaps, in the case of Peaches; but no further delay is necessary even with them. We shall finish all this week, Roses included. Where grafts are required take them at once, heel them in on a north border with other cuttings, where they will be safe. Look to the herb beds; dress spare ground ready for sowing seed or making new beds where necessary; and surface Mint and Tarragon with rotten manure.—*Walter Child, Croome Court.*

FLORICULTURE.

Auriculas in February.—Those who hold to the practice of top-dressing Auriculas, should soon take the matter in hand. After such a wintry January, we may reasonably look for a more genial second month; and there is scarcely another hardy plant that answers so quickly to the promptings of genial influences as the Auricula. Some of our leading growers have pretty well abandoned top-dressing, and there is always justification in following such a lead. Still, I like to top-dress my own plants, and I am making preparations for doing so. For this purpose I make up a compost of good yellow loam, leaf-mould, decomposed cow-dung and sand. Then I remove about an inch of the old compost, without disturbing more than is possible the roots near the surface. The plants are thoroughly cleansed from any decaying leaves, insects, &c. If dry, a good soaking of water is given them; time is allowed to drain; and then the top-dressing—which is used fairly moist—is added, and gently pressed down. I also take advantage of the opportunity to cleanse the outsides of the pots when necessary. Top-dressing is not so necessary in the case of those plants that are potted early, as of those which are potted late. They are potted late, because the early months of the summer are generally busy ones, and there are many things claiming attention. As the plants move into growth, air must be given; indeed, it is only when the frost is severe that air is not admitted to my Auricula house. The pleasantest time of year for enjoying the Auricula is not far distant.—*R. D.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers Calendar.—Continue the re-potting of the cool house Orchids as recommended at p. 315, leaving all other than absolutely necessary work, in order to get it completed as soon as possible. With the turn of the year we now get a glimpse of the sun, and occasionally a few hours of really warm genial weather; these welcome periods should be utilized to give extra ventilation to all the houses, in order to thoroughly purify and change the air in every part of them. Human beings who have been confined to the house during the bad weather, eagerly seize these opportunities of warm weather for brief periods to walk forth and enjoy them, and I am sure that many of the Orchids in some collections would do so if they could, but as they cannot go to the pure air do not let us deny it to them, for to them it is the richest food.

The severity of the weather having abated, the heating apparatus must be regulated to keep down the temperatures, and where the necessary check cannot safely be applied, ventilation must be given in order to keep the

Temperatures to the prescribed limit, which for the month of February are—

Warm House or East Indian, 65° to 70° by day, 60° at night.

Cattleya or Intermediate House, 60° to 65° by day, 55° at night.

Cool or Odontoglossum House, 50° to 55° by day, 45° at night.—*James O'Brien.*

Orchids on Dead Trees.—I have before me a photograph taken on the frontier of Nepaul; it is of a woodland dell of the most extraordinary beauty. In the foreground stands a varied group of trees, each more or less covered with lovely flowering Orchids, while apart from the others, standing out clear and distinct, there is a *dead tree.* This, in itself, is a perfect picture, having the most striking effect, it being completely enveloped from base to crown with growing Orchids. This spot, or more correctly to describe it, this wild garden of Orchids, with stately mountains rising grandly in the background, forms a picture not easily to be conceived, and a fit subject for the pencil of a "Turner."

The gentleman to whom I am indebted for the photograph, assures me that this district is a veritable home for Orchids, the native boys gathering the blooms to decorate the rough and uncouth habitations of the villagers, while others seem to look upon them as we do Buttercups and Daisies, destroying hundreds of plants as they search for wild beetles. The young men offer the more showy ones to the maids of their choice to adorn their hair, thus showing their admiration by such presents. It is evident from the view that Orchids grow there in any aspect, while as to rain "nature here uses the syringe pretty freely, O'Brien." It is not at all unusual for 7 ins. to fall in twenty-four hours in the rainy season.

My friend is sometimes permitted to cross the frontier, owing to his being looked upon as a sort of magician, from his bearers carrying his scientific instruments, but this is a rare privilege. It is said, and perhaps justly, that "one Englishman comes to see, but others follow to stay," and the natives hold an inherent dislike to the slightest intrusion on their territory, yet he, in his excursions, has seen some rare novelties to be obtained whenever that part of the country should be open to explorers. On one occasion he was shown an old *dead tree,* the most magnificent sight he has ever beheld; a complete bank of Orchids had grown on the fallen tree to about 50 ft. in circumference, and was then in a full blaze of bloom. The natives themselves regard this tree with a respect almost amounting to veneration, it being most zealously guarded.

"A. F. L." will see by the above that some Orchids, and without doubt, some rare species do grow on dead trees. Mr. Sander tells me that in some instances his collectors have found some species of Orchids on dead trees to be without any signs of animation, but this is not to say it is impossible for certain varieties of Orchids to live and thrive unless the tree is also living. —*M. W.*

Phalænopsis at Oldfield, Bickley.—The Phalænopsis-house belonging to F. A. Philbrick, Esq., Q.C., is always worth a visit, either in the flowering season or when but few are in bloom, as the novel and healthy culture of the plants renders their inspection both pleasant and instructive. Mr. Philbrick and his gardener, Mr. Heims, always succeeded well with these plants, and as they pursue much the same plan in the new as they did in the old house it may be well to note it. The Oldfield Phalænopsis-house is a span-roof with rather a sharp pitch, the roof being well shaded outside and fitted with diamond pattern wire-work inside, from which all the plants are suspended in baskets so as to bring them within about 12 ins. or 15 ins. of the glass. The house is fitted with an ordinary close staging, which is thinly covered with soil and planted with handsomely tinted-leaved plants, such as the different varieties of Fittonia and Cyrtodeira, and the neat-

looking Pileas; these are dwarf and grow most luxuriantly, giving the Phalænopsis beds of healthy vegetation some 18 ins. below them.

One half of the basement of the house is occupied by a rain-water tank and the other is of moist gravel, an open wood-work trellis being laid to walk upon; under these conditions the plants luxuriate, and at the present time literally fill the house with large sprays of lovely flowers and the grateful odour of them. Among the rarer kinds are some finely-flowered plants of P. Sanderiana, one of them with finely formed deep pink flowers being a superb thing; P. Stuartiana and P. S. nobilis, which is as good in form as P. amabilis and very brightly spotted; P. casta, like an amabilis with Schilleriana tint; P. amabilis Dayana and P. a. picta, both fine snow-white forms, with heavy crimson markings in the centre. Several good specimens of P. rosea and P. grandiflora aurea, too, are in bloom; but the bulk of the display is made up of P. amabilis and P. Schilleriana, some of the varieties of the latter being grand in form and colours.

Among the curious kinds may be noted one with a silvery leaf like P. Sanderianum, but with clear white flowers differing in no way from those of P. amabilis, and a curious form of P. amabilis with odd-looking milk-white flowers, marked in the centre with dull pink.

In the general collection the Cattleya Trianæ are rapidly coming on, some very fine ones, including C. T. Backhousiana being out; a grand form of C. speciosum with flower very much resembling C. gigas is in bloom in the Cattleya house. The Lælias are represented by some lovely forms of L. anceps, L. A. Dawsoni, L. A. Percivaliana, L. albida, L. A. Bella, L. A. Marianæ, and many other good L. albidas, and L. harpophylla. The warm houses have Angræcum eburneum, A. sesquipedale, Cypripedium ealurum (a great beauty), C. Sedeni, C. politum, Houlettia odoratissima, C. Haynaldianum, and some showy plants of D. Wardianum, and grand masses of the favourite Cœlogyne cristata.

The new Odontoglossum house is a well built and properly planned structure, which cannot fail to replace the old one with advantage. Many of its occupants are sending up bloom, and the cool house things generally are enlivened by well flowered masses of Odontoglossum pulchellum majus, O. roseum, O. Rossii majus, O. Oerstedii (one with eighteen blooms), O. hastilabium, Oncidium concolor, many Sophronitis grandiflora, &c.

Orchids from Scotland.—Unlike Mr. Crawshay who hears of things in Scotland, we have the good fortune occasionally to see them. From Cloveufords we have this week received a glorious box of flowers, first and foremost among which was a spike of Lælia superbiens bearing eighteen flowers, all about 6 ins. across. As Mr. W. Thomson, junr. observes, when well grown, this is a grand Orchid. The deep rose colour of the sepals and petals, the much deeper shade of the lip, with its beautifully striated side lobes, and its orange-yellow crest, all combine to render it an extremely beautiful flower. Another fine thing is a spike of three flowers of a very superior variety of Cattleya labiata Percivaliana. Of this very variable Orchid, we have seen few finer forms than the one sent, which is distinguished by the glowing mauve and crimson of its white edged labellum, and the bright orange colouring in the throat, which is seen as well from the outside as within. A flower of Cattleya Skinneri alba is of the finest, broad petalled, pure white types.

Pruning and Syringing Orchids.—A most interesting and instructive discussion arose after a luncheon given on the 27th inst. at the Liverpool Horticultural Company's (John Cowan) Nursery, Garston. Mr. Swan, gardener to E. G. Wrightley, Esq., Howick House, Preston, who introduced the subject of pruning and syringing Orchids, stated that seeing so many successful and eminent Orchid growers present, it might prove an opportune time to ask for the opinions of those who had given these matters their deep consideration. Mr. Beddoes, who had charge of the magnificent collection formed by the late R. P. Percival, Esq., of Birkdale, Southport, for which the visitors had assembled to inspect, stated that his mode of procedure was to prune but not hard such species as Dendrobiums, Cattleyas, &c. Mr. Cooper, gardener to the Right Hon. J. Chamberlain, Birmingham, who claimed to have been taught by the old school, advocated plenty of moisture for newly-imported plants of such kinds as Phalænopsis Saccolabiums, &c., but in no case by syringing or filling of troughs on the pipes to cause a vapour to rise, but to have plenty of pans filled with water, and so keep a gentle moisture pervading the whole atmosphere. Mr. Moss, gardener to — Holland, Esq., Mossley Hill, Liverpool, advised the free use of water, giving a thorough drenching every day, which would be conducive to cleanliness, and would keep down thrip, red spider, &c., giving air through boxes so as to pass over the hot water pipes, which would dry up all excessive moisture. Mr. Bardney, of Norris Green, doubted the advantage of such a free use of moisture as to cause the ventilators to be kept open for the sole purpose of drying the atmosphere. Mr. Swan gave it as his experience and practice that some of the best collections had been grown without the use of the knife; but in cases of shrivelled bulbs they ought to be cut out. He would not banish the syringe, but place it in the hands of a qualified man, for in some cases he considered it absolutely necessary. He also thought it was desirable to keep a cool night temperature, and endeavour to gain a knowledge of the individual requirements of each class.

HORTICULTURAL SOCIETIES.

The Lewisham and District Floral Society.—*January 27th.*—The first annual general meeting of this society was held on the above date, at the Hither Green Hall, Lewisham, S. S. Bryant, Esq., in the chair. The report and balance sheet, which were read by Mr. Henry Drake, the hon. sec., congratulated the society upon the success that attended their Chrysanthemum exhibition in November last. The society's rules and schedules of prizes for the exhibitions proposed to be held during the year were considered and unanimously adopted. With a view of adding to the interest of the forthcoming summer exhibition, it was decided to make Roses a special feature, and to offer nurserymen and gentlemen's gardeners three prizes for the best twenty-four varieties of cut Roses, first prize £5. Further prizes for Roses are offered to gentlemen's gardeners only, and also to amateurs. The hon. sec. read a list of special prizes for flowers, fruit, and vegetables which had been kindly offered by Messrs. Laing & Co. (Forest Hill), Mr. H. J. Jones (Hope Nursery, Lewisham), Mr. Parish (Brockley Road), and by various amateur members of the society. It was also proposed that at the Chrysanthemum exhibition in November next, the society offer, among various other open prizes, three prizes for the best twenty-four cut blooms of Japanese Chrysanthemums, first prize £5. It was unanimously resolved that the society should hold a general meeting on the third Wednesday in each month, at the Hither Green Hall, Lewisham. At these meetings members are invited to bring flowers or plants for discussion. The proceedings terminated with the usual votes of thanks to the chairman, committee, auditors, treasurer, and hon. sec.

Huddersfield Paxton Society.—At a meeting of this gardeners' society, held on Saturday last, the 30th ult., in the large room at the Queen's Hotel, a paper was read by Mr. W. Swan, of Preston (late of Fallowfield) on "The native habitats and culture of Orchids," and considering the stormy weather which prevailed there was a good attendance. Dr. Rhodes, the president of the society, was in the chair, and gave Mr. Swan a most cordial welcome on behalf of the members. Mr. Swan gave a good deal of information respecting the native habitats of the different species and varieties, the rainfall, different altitudes and average temperatures of the places in which they are found; and drew a charming picture of the wealth and floral beauty of some of the tropical jungles. He next described the different kinds of houses in which Orchids should be grown, giving details as to height, length, breadth, and shape, and then discussed the question of composts, and how and when potting should be performed. These and other details appertaining to the general welfare and comfort of the plants in their artificial homes, were freely treated upon, and a discussion followed; but it was not carried on with any degree of vigour, Orchid culture, with one or two exceptions, being as yet only in its embryo state in the district. Alluding to the proposed Orchid society, Mr. Swan would not commit himself to any definite line of action, preferring to wait the course of events; and as regards the question of syringing, he stated that he was an advocate for its use to a certain extent, but then only when he held the syringe himself, or when it was in equally cautious hands. A vote of thanks was accorded to Mr. Swan with acclamation, and in acknowledging it he remarked that he was pleased to see so large a company present, and hoped his hearers would try and take up the culture of this most curious and beautiful tribe of plants. Altogether it was an admirable meeting, and the society, with its zealous and hard-working secretary, Mr. M. Chambers, is to be congratulated on the infusion of a little new blood among its essayists.

Stirling Horticultural Association.—*Jan. 28th.*—The members of this association assembled in considerable numbers on the above date, at Dowdig's Temperance Hotel, Stirling. It was their anniversary meeting, and, according to custom, they took tea together, and afterwards discussed various topics relating to horticulture. Mr. M. Temple, Carron House (a new member), was requested to give an address, and in the course of his remarks he alluded to several points of interest connected with the progress and retrogression of horticulture during the last quarter of a century. Nothing was advanced as being derogatory to the practitioners of the present day, but much sympathy was expressed for the men who were almost crushed out of their calling by the great reductions that were being made in gardening establishments, and the scanty allowance of means to maintain many gardens which at one time were among the leading places in the kingdom. England had suffered severely in this respect, Scotland was now following suit, and Stirlingshire was not exempt—numbers of the older places having been reduced to a nominal position, so far as gardening was concerned. Many of the gardens are let and others are tenantless. A high compliment was paid to many of the cultivators around Stirling, especially as cultivators of Orchids, some of the finest private collections in the country being in that district. Horticultural writers of the present time were complimented as men who wrote from their own practical experience, and many of them had shown what they could do by placing examples of their work on exhibition tables. Writers in times gone by often put voluminous matter before the public which was not from their own practical experience.

Exhibiting had its share of comment, and while large collections of plants of smaller size now occupied the tables at the leading shows, large specimens of stove and greenhouse plants were scarce. Reference was made to certain growers of these whose names were once household words; but few of the men who then distinguished themselves were now to the fore, and such plants as they cultivated are rarely seen. Among the specimens from the stove were huge Allamandas, Dipladenias, Stephanotis, Ixoras, &c., with perfect foliage and loaded with blossoms. Greenhouse plants too were reported as being equally fine, Pimelias, Aphelexis, Boronias, Lapagerias, Chorozemas, Azaleas, Heaths, and others, receiving honourable mention as being among the finest of plant specimens.

Referring to the changes that had taken place in floriculture, Mr. Temple observed, that an improved taste had in many respects been the means of crowding out such things as the great breadth of Dahlias which were so common years ago in the north. Roses had improved much both in quality and cultivation, but many of the old favourites still held their own. The reintroduction of herbaceous plants and the exclusion of a large portion of tender kinds, which give more labour and a shorter duration of bloom, was considered wise, allowing the cultivator time and scope to attend to other matters of a more tangible nature.

Cut flowers and plants for indoor decoration had for some years taken up much labour and expense, but from depression in trade and other misfortunes attending agriculture, this had in many places been reduced. A comparison of the market men's advantages over those of private growers in the production of flowers was made a strong point, reference being made to a once large establishment, which gave supplies in immense quantities, such as the speaker had seen in no private gardens. The means were simple but most efficient for the purpose, and no mixing of kinds (such as is too often the case compulsory by private growers) was tolerated; each class had quarters to themselves and were treated as they required to be. Gardenias, both as market plants and stock for cut blooms, were minutely described and said to be, by very little labour, kept entirely free from insects. Steam from the manure linings was a powerful agent in maintaining free growth and keeping insects in check.

Vegetable growing came in for its legitimate share of comment, the speaker remarking that vegetable exhibiting was much improved within the last score of years, but the majority of kitchen gardens had suffered from a reduction of labour and means in general. The skill and energy of cultivators had not deteriorated. Fruits (both hardy and forced) had not made much progress; Black Hamburgh and Muscat kinds of Grapes in first-rate condition, were not seen in the same proportion as they were twenty years ago, but the larger coarser keeping kinds were cultivated to a much greater extent than formerly. Amongst other branches of horticulture, landscape gardening had special comment. It was pointed out that this had been much neglected; reference was made to the work of "Capability Brown" at Blenheim, Burghley, and elsewhere, and that of later date by the veteran Mr. Marnock, who received high commendation as one of the most distinguished of Scotch landscape gardeners. Severe criticisms were made on the present practice of making serpentine sheets of water (such as was carefully avoided by the two great men referred to) and calling them lakes; cutting up lawns and calling them flower gardens; shutting out tracts of fine country, and the calling of mere heap of stones, rockeries. Mr. Temple received a very hearty vote of thanks at the conclusion of his address.—*J. R.*

Obituary.

We regret to hear of the death of M. Guillaume Délaux, which occurred at Lalande, on the 6th of January last, at the early age of 26. He was a younger son of François Délaux, the well-known raiser of Chrysanthemums, and was, until quite recently, with his brother, Simon Délaux, at Toulouse. This is the first season he has issued a catalogue of new Chrysanthemums, he having commenced business for himself at Lalande, making Chrysanthemums his speciality. The family have also experienced a great bereavement in the loss of Madame Jeanne Délaux, which occurred at Toulouse six days after, and due to the shock occasioned by the loss of her son.

We have also to record the death, on the 1st inst., at The Grove, Hunton, Maidstone, after an illness extending over ten years, of Mr. John Robson, for many years gardener at Linton Park. Mr. Robson, who was a native of Gateshead, was widely known as a contributor to the pages of the *Journal of Horticulture*, and much esteemed in the neighbourhood in which he lived for nearly forty years.

From the west of England we hear also of the death of that well-known nurseryman and pomologist, Mr. John Scott, of Merriott, near Crewkerne. Mr. Scott, who died on January the 22nd, aged 79 years, was a prominent man in the horticultural world for some years, and a vigorous writer on subjects connected with pomology, and especially on questions relating to Apple stocks. He also published in 1868 *The Orchardist*, a very useful publication, but not sufficiently original to save it from suppression in 1873, by an order of the late Vice-Chancellor Hall.

QUESTIONS AND ANSWERS.

Gloriosa superba.—I should be much obliged if some of your readers would give me a few hints on the culture of Gloriosa superba. Should it be grown on a balloon-shaped frame, or trained to wires under the glass?—*H. K.*

Climbing Plants for a Small Conservatory.—I have a small octagon-shaped conservatory, with three large windows facing south. The back wall is 12 ft. high, and I should be obliged if you would let me know what evergreen climbers it would be best to plant against the back and side walls. Would the White Passion Flower suit? There is a bed in the centre of the house, would Roses grow and bloom in it? I have two boxes in each of the windows, and want an evergreen trailing plant to cover their sides, and that will be green winter and summer. What would be the best flowering plants to put in the boxes, something that will last a long time in bloom.—*Alba.* [There will be no difficulty in covering the walls of the conservatory, but with evergreen plants it will take longer to do so than would be the case with some deciduous climbers, most of which grow more quickly than the others. You will, however, find all the undermentioned useful and well adapted for the purpose. Lapageria rosea and L. alba, rose and white, charming plants for such a house; Mandevilla suaveolens, white, powerfully fragrant flowers; Hardenbergia Comptoniana, blue; Lonicera sempervirens, orange-scarlet trumpet-shaped flowers in clusters; Kennedya Marryattæ, scarlet; Dolichos liguosus, purple; Rhynchospermum jasminoides, white fragrant flowers, but the plant requires great care to keep it free from mealy bug, to which it is much subject; Solanum jasminoides, very free, white or mauve; Sollya heterophylla, blue; Jasminum gracile, white and fragrant; Habrothamnus elegans, crimson; and Cestrum aurantiacum, orange. Though not climbing plants, you might advantageously plant some Camellias in preference to some of those named, for such varieties as the old double white C. indica alba produces most valuable flowers. We should prefer Passiflora cœruleo-racemosa, to the one you name, as it is much more free-flowering, more reliable, and is very ornamental after the flowers have fallen, as the fruits set freely and become a rich golden-yellow when ripe. As a margin to the box to hang down, Campanula fragilis would be as pretty as anything, but if you desire to keep the boxes attractive over a long period, they will have to be renewed at intervals. For instance, now they could be filled with bulbs, such as Hyacinths, Tulips, Crocuses, &c.; Heaths, Cyclamens, and Cytisuses are cheap and bright, while to follow them you could have Zonal Pelargoniums, Cinerarias, Calceolarias, Lobelias, and any other of the ordinary summer-flowering plants. All the climbers named should be planted out in a specially prepared border, making separate divisions to receive the roots of each plant, as they need slightly different treatment.]

Erratum.—At p. 348 in the note by "W. G." on Jasminums, by a printer's error, the name "grandiflorum" was substituted for "gracillimum."

Primulas.—*H. Harris:* The double white is very good, so are the single purple and white varieties, finely fimbriated blooms, of good substance; but the gem of the party as far as novelty goes is the deep red one. For its depth of colour this is worth seeding from again, with a view to getting an increase in size, and eliminating the purple shade round the eye as much as possible.

The Compass Plant.—*A Northerner:* Yes, there is a plant bearing the popular name mentioned in your letter, and its botanical designation is Silphium laciniatum. It is not of much value as a garden plant, but is interesting from the position the leaves assume in its wild state in the prairies of North America, and which has led to the adoption of the title Compass Plant in recent years, as it was previously known as Rosin Weed and Turpentine Plant. Though the plant was known in Europe as early as 1781, the peculiarity of the leaves does not seem to have received any general attention until 1842, when some account was published, that was not, however, accorded much credence. Since then other observations have been made upon the plant, confirming the assertion that the edges of the leaves usually point north and south. The plant is a tall growing composite, reaching the height of 8 ft. in England, and may be seen in several botanic gardens, but the polarity of the leaves is not well marked in cultivated plants.

Cattleya leaves.—*G. W. G.:* The injury was caused by thrips when the leaves were younger. Dip occasionally in weak tobacco water.

Baskets for Orchids.—*T. W.:* There are very good reasons why no Orchids should be put into wire baskets, as their roots have a strong aversion to contact with metallic substances of any kind.

Communications received.—P. S.—J. F.—R. H. M.—W. P. R.—J. T.—H. J. J.—W. B. G.—J. S. T.—A. F. L.—M. McL.—H. M. & Co.—C. D'Ancona, Florence.—A. H.—T. W.—E. J.—A. D.—G. T.

TRADE CATALOGUES RECEIVED.

Ralph Crosslino, Penarth Nurseries, South Wales.—Choice Vegetable and Flower Seeds.

D. Landreth & Sons, Philadelphia, U. S. A.—Priced List of American Pedigree Seeds.

Fotheringham & Wallace, Dumfries.—Vegetable and Flower Seeds.

Viccars Collyer & Co., Central Hall, Leicester.—General Catalogue of Flower and Vegetable Seeds, Plants, &c.

Fred. Rœmer, Quedlinburg, Germany.—Flower, Vegetable and Agricultural Seeds.

LONDON SEED TRADE.

February 3rd, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark lane, report a small attendance and little trade at to-day's market. Values for Clover seeds continue unchanged. Perennial Rye Grass of finest quality realises prices current during August, and meets a fair demand. Some French Italian Rye Grass has recently been sold here under value by holders anxious to realise, but market may be described as steady. Stocks held, being smaller than is usual at this season. Spring Tares neglected. Bird Seeds sell slowly at unchanged rates.

COVENT GARDEN MARKET.

February 4th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 6	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	2 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 0	1 6	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms	9 0	12 0
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	8 0
Camellias, 12 blooms.	2 0	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun.	..	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	9 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea, French ,,	0 9	1 6
Daffodils, per bunch	1 0	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	2 0	6 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	36 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 0	2 0
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	10 0	15 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, per doz.	6 0	9 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen		
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Chrysanthemums, per dozen pots			Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Narciss, per dozen	8 0	12 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Daffodils, per dozen	9 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen	12 0	18 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Solanum, per dozen	8 0	12 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 0			
Fuchsias, per dozen					

THE
LARGEST BROAD BEAN IN THE WORLD
CARTERS'
LEVIATHAN,
Per Pint, 2/6.
Post Free, 3/-.
Pods have been grown 21 inches in length.
CARTERS', SEEDSMEN BY ROYAL WARRANTS TO H.M. THE QUEEN AND H.R.H. THE PRINCE OF WALES.
237 & 238, HIGH HOLBORN, LONDON.

LATE WHITE CHRYSANTHEMUM BOULE DE NEIGE
R. OWEN is now Booking Orders for the above—the best late White known. Splendid habit and free-flowering. A grand Market Plant. R. OWEN was awarded two First Class Certificates December, 1885. 10s. 6d. per dozen. Plants ready in March. Cuttings, 6s. per dozen. Specimen blooms, 6 stamps. Orders executed in rotation. Trade Price on application.—Floral Nurseries, Maidenhead.

B. S. WILLIAMS'
Prize Strain of
CINERARIA
(extra choice, mixed),
Per packet, 1s. 6d. and 2s. 6d.
A superb strain of very dwarf branching habit and strong constitution, containing a great variety of colours.
Victoria and Paradise Nurseries,
Upper Holloway, London, N.

NEW CHRYSANTHEMUMS.
G. STEVENS, F.R.H.S., St. John's Nursery, Putney, is now sending out his new Chrysanthemums.
MAIDEN'S BLUSH.—Fine Japanese, with broad flat florets, forming a full, large, handsome bloom; fine for exhibition. First Class Certificate Royal Horticultural Society, November 10th, and National Chrysanthemum Society, November 11th, 1885. Price 2s. 6d. each, cash with order from unknown correspondents. See report in this paper November 21st.
MARTHA HARDING, a fine Japanese variety. Golden yellow, shaded reddish brown; large, full, handsome flower; fine for exhibition. First Class Certificate National Chrysanthemum Society, 1884. Price 2s. 6d. each.
Chrysanthemum Catalogues of all the best exhibition varieties on application.

TEA-SCENTED ROSES.
One dozen of these beautifully-fragrant and free-flowering Roses, carriage free, for 12s., extra strong plants, suitable for potting for the Conservatory or planting out of doors, and including fine plants of the splendid varieties—Niphetos, Catherine Mermet, Marechal Niel, Marie Van Houtte, &c. Six choice kinds, including those named, free for 6s. 6d. Descriptive Catalogue of Roses and Fruit Trees, post free.—GEO. COOLING & SONS, THE NURSERIES, BATH.

Hooper's—
The Covent Garden Seed Warehouse
Splendid Seeds and Bulbs at low prices
Catalogues free to buyers

THOUSANDS OF FERNS FOR SALE botanically named and Labelled.—40 different Irish Ferns for 12s., free to any part of the United Kingdom; 30 ditto for 8s. 25 for 6s.; 15 for 3s. 6d.; 8 for 2s., all large and well-rooted plants.—P. B. O'KELLY, Wholesale and Retail Fernist, Florist Botanist, Geologist, &c., Glenarra House, Ballyvaughan, Co. Clare, Ireland.

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A GERMAN GENTLEMAN of great experience in Stove and Greenhouse plants, desires a re engagement either as traveller, or in the office; highest references in England and Continent.—38, Canonbury Square, London, N.

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	Packet—s.	d.
DANIELS' White Elephant Tripoli ...	0	9
DANIELS' Golden Rocca	1	0
DANIELS' Crimson Rocca	0	6
DANIELS' Giant Rocca	0	6
DANIELS' Improved White Spanish ...	1	0
DANIELS' Giant Zittau Yellow	0	4
DANIELS' James' Long Keeping	0	4
DANIELS' Early Queen	0	4
DANIELS' Blood Red...	0	4
DANIELS' New White Globe	1	0
DANIELS' Rousham Park Hero	1	0

Each and all post free at prices quoted. The entire collection post free for 6s.

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From **Mr. G. H. RICHARDS**, Gardener to the Earl of Normanton, July 22nd.

"I was much pleased with your **White Elephant Tripoli Onion** I had last year, and consider it the finest white selection I have yet tried or seen. I exhibited a dish at South Kensington, July 14th, in my First Prize collection of vegetables, and they were much admired."

From **Mr. WILLIAM LLOYD**, Lillingstone, Lorell, Sept. 5th.

"For **Onions**, I may say, we had nine First Prizes, and three Second."

From **Mr. T. WELLS**, Burnestone, Bedale, Yorks, Jan. 28th.

"I took two First Prizes and one Second with your **Golden Rocca Onion** last year, against more than twenty competitors."

From **Mr. G. BAKER**, The Gardens, Marlingford Hall.

"I consider your **Giant Rocca Onion** the best ever introduced, very mild in flavour and an excellent cropper. I have not a single bulb under one pound in weight."

From **Mr. W. M. HEYHOE**, Station Road, Swaffham, July 16th.

"The **Onions** which I grew last year from seed supplied by you were a magnificent crop. An eightenpenny packet yielded upwards of one and a half cwt. of splendid round Onions, which have kept good till now."

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WHOLESALE SEED CATALOGUE.—Our Catalogue of Garden and Flower Seeds, Novelties, and Bulbs for Spring Planting, is now ready, and may be had on application. All our customers should have already received one by post, and they will oblige by advising us if not to hand.

The above also includes List of a few choice Lilies just to hand from Japan—L. auratum, L. longiflorum, L. Krameri, &c.

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LATE WHITE CHRYSANTHEMUM BOULE DE NEIGE

R. OWEN is now Booking Orders for the above—the best late White known. Splendid habit and free-flowering. A grand Market Plant. R. OWEN was awarded two First Class Certificates December, 1885. 10s. 6d. per dozen. Plants ready in March. Cuttings, 6s. per dozen. Specimen blooms, 6 stamps. Orders executed in rotation. Trade Price on application.—FLORAL NURSERIES, MAIDENHEAD.

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VEGETABLE, FLOWER, and FARM SEEDS at most moderate prices direct from the growers. Descriptive, Illustrated, Priced, Spring Catalogue free to any address on application.

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SUTTON'S VEGETABLE SEEDS.

A constant supply of the best Vegetables may be insured by using

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Containing 56 packets of the best sorts of Peas, Beans, Broccoli, Cabbage, Carrot, Celery, Cucumber, Lettuce, Onion, Radish, Turnip, Tomato, &c. *This popular Collection—the best value yet offered—is specially arranged for the Amateurs' Garden, and will be sent Carriage Free to any Railway Station in England or Wales on receipt of a remittance for* 21s.

Priced Descriptive Catalogues of

SUTTON'S PURE GARDEN SEEDS

Gratis and Post Free.

Sutton & Sons

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

READING

CRYSTAL PALACE FLOWER SHOWS AND FRUIT SHOWS DURING 1886.—Dates of all these Shows are fixed, and Schedules may be had from Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 13, 1886.

THE ROYAL HORTICULTURAL SOCIETY.—The annual general meeting of this society, held on Tuesday last, demands more than a passing notice, by reason of the renewed interest which is being taken in its present condition by gentlemen outside the council, and the important acknowledgment made by the president when moving the adoption of the report, that as the coming Colonial Exhibition will be the last of the series, something must be done in the way of finding fresh quarters. So far so good, it is well to know that the council are alive to the gravity of the situation. Before proceeding to discuss what took place at the meeting, we may be allowed to say a few words respecting the thoroughly unsatisfactory character of the annual report of the council. In the first place we learn that the Royal Commissioners have very greatly reduced the privileges enjoyed by the Fellows during the last few years as regards admission to the Gardens, and there will be no more transferable tickets. The result of this move will undoubtedly be a considerable falling off in the receipts from subscriptions; indeed, we know that some who had already paid when the report appeared, have sent for their money back. Well, these we presume belonged to what one of our correspondents has dubbed the Lah-di-dah element, and from an horticultural point of view, their absence from the roll may be regarded as no great loss; the society will out-live the loss of support of that kind.

With regard to the proposed International exhibition, we are glad to know that the council did not receive sufficient financial encouragement from the commissioners to warrant them in undertaking such a heavy responsibility for the present. That we regard as eminently satisfactory, for certain it is that had any arrangement of the kind that was proposed been carried out, the horticulturists, in homely phrase, would have done the work, and the commissioners have received the pay. That the council have made arrangements for holding a provincial show at Liverpool during the ensuing summer, is a matter for sincere congratulation. We claim to know something of the feelings of both metropolitan and provincial horticulturists on this subject, and we are certain, that with good management, the show will

be a success, and greatly help the Society in recovering its position. The next paragraph in the report on which we think some comment is necessary, because it shows once more the utter want of sympathy on the part of the council with the practical men who ungrudgingly support the society, is that which claims that "The thanks of the Society are due to Sir Henry W. Peek, Bart., for his liberal donation of £20 for prizes for Marguerites." After this we read on expecting to see due acknowledgment of the services rendered to the Society by the members of the various Committees, and by those members of the seed trade, who for several years past have supplemented the scanty prizes given by the Society for vegetables, by offering substantial amounts for competition at the autumn shows, and which have resulted in such displays of useful garden products as have seldom been excelled anywhere. Well, we regret to say, that the committees are polished off in one line, and for the Carters, the Suttons, the Webbs, the Hoopers, and others, there is not one single word of acknowledgment. Even Mr. Webber, who for several years has given 10 guineas for the fruit packing competition, a most valuable and eminently useful aid to horticulture, is silently ignored; yet this £20 to be offered for the æsthetic Marguerites, of all things in the world, deserves the thanks of the Society!

The limit on our space precludes any reference to other sins of commission and omission in this most unsatisfactory document; but in connection with the balance sheet we note an increase in the amount paid for salaries in connection with the office, and a deficiency in the revenue of £120. Coming now to the meeting we may say that the attendance was small, owing, probably, to the severity of the weather; but we must do the president the justice to say that in reviewing the society's position he acquitted himself admirably in what he must have felt was a very difficult position. He made the most of what could be said in favour of the council's management, and judiciously dealt with those subjects which required delicate handling. Mr. Liggins, who seconded the adoption of the report, asked for an explanation with regard to the appointment of an assistant secretary in the face of statements made at the previous annual meeting, and received an answer which we fail to reconcile with the auditor's report, the balance sheet, and the eulogium subsequently passed on Mr. Douglas Dick by the retiring secretary, Major Mason. The president said that this time last year, owing to financial difficulties, the council hesitated to make any appointment of the kind, but a few weeks later they discovered that such an accumulation of work fell on the honorary secretary, that they had to engage an assistant, and several members of the council had provided funds to meet the case. As a matter of fact, a gentleman from the Board of Trade was appointed, who knew nothing whatever of horticulture, and who, moreover, suddenly disappeared—let us hope on the conscientious grounds that he was unequal to the occasion. In his stead a military gentleman, equally deficient in his knowledge of horticultural matters, was appointed—the third military assistant secretary the society has had—and we have yet to see how he will acquit himself. Old Fellows of the society do not need to be told that Mr. Dick has been in the office some thirty years, that he keeps his books in a most admirable manner—the auditors testify to the fact in their report, and Major Mason bore testimony to his faithful, loyal service; then what did the labour consist of that demanded the services of an assistant secretary? and as no additional clerks have been employed, how are we to reconcile the statement that members of the council have paid the salary of the assistant secretary, with the revenue account which shows an advance of £75 on last year's expenditure? To our mind this old and well-tried officer of the society has been anything but handsomely treated.

The compliment paid by the President to Mr. Barron was well deserved. He is emphatically the right man in the right place; it is impossible to exaggerate the importance of the work he does for the society, and it would be fortunate for the society if he had a little more power. As to the future, we may remark, that both Major Lendy and Mr. Smee urged the desirability of getting clear of the commissioners at as early a date as possible, and the former gentleman suggested the formation of a committee to co-operate with the council in the reorganisation of the society which must soon take place, but the President thought it would be better to leave the matter in the hands of the council, who would discuss the question, and call a meeting of the Fellows later on. As to the dinner, from which such great things were expected, we shall content ourselves with observing that only thirty-seven persons were present, that the trade was represented only by Mr. Harry Veitch, Mr. G. Bunyard, and Mr. Peter Barr, and that, with the exception of Mr. Loney, of Gothenberg, there was not a single gardener amongst the company; and, with the exception of Dr. Hogg, a member of the council, not an editor of any of the gardening papers put in an appearance.

GARDENING MISCELLANY.

Mr. George Dickson, Mayor of Chester, and one of the partners in the firm of Messrs. James Dickson & Sons, the well-known seed merchants and nurserymen of that city, has just been placed on the roll of magistrates.

A New Yellow Fern.—Mr. James Naylor, of St. Hilda's Nursery, Roxeth, Harrow, has succeeded in perpetuating a pretty form of Aspidium (Cyrtomium) falcatum by raising a little batch from a sported yellow portion of a frond of the old dark green variety. The foliage of the new kind differs in being yellow with dark green veining. As this fern is good either as a plant for in-door decoration, or for the greenhouse, it will prove a welcome acquisition.

The Turner Memorial.—We understand that at a meeting of the committee held on Tuesday, it was decided that the amount collected should be invested in Home or Indian government securities, in the names of Mr. Harry Veitch, Mr. H. M. Pollett, and Mr. Harry Turner. The amount already received is £175, but the subscription list is still open, and it is greatly to be desired that the total should be raised to £200.

Mr. W. J. Ireland, who for several years has had charge of Headfort Gardens, Kells, Co. Meath, is, we regret to hear, about to leave Lord Headfort's service, owing to a reduction in the establishment. Mr. Ireland is a young man of great ability, and has maintained his charge with great credit to himself, and to his employer's entire satisfaction. He is, we understand, seeking a situation on this side of the Channel, and should not be long in obtaining a post worthy of his skill and experience.

The National Chrysanthemum Society will hold three shows, instead of two, during the ensuing season, one for Early Chrysanthemums and Dahlias in September, the usual Great Show in November, and the third for Late Chrysanthemums in January next. Further information on the subject will be found on p. 381.

Mr. John Potten, son of Mr. Potten, of the Camden Nursery, Sissinghurst, and formerly with Messrs. Hurst and Son, has opened a new establishment for the sale of seeds, cut flowers, and general nursery stock, in the old market town of Cranbrook, Kent. This is, we believe, the first shop of the kind that has ever been opened in that part of "the Garden of England," and we sincerely hope the venture will prove a successful one. Mr. Potten, who has taken over his father's seed business, and will also be able to draw upon the resources of the well-known Camden Nursery, is endowed with first-rate business qualities, and with his well-known energy should enjoy a prosperous career.

New Plants Certificated in Ghent.—At a meeting of the Belgian Chamber of Horticulture, held at Ghent, on the 10th inst., Certificates of Merit were awarded to Mr. Ad. D'Haene, for Æchmea spectabilis; to Messrs. Jacob Makoy and Co., for Anthurium leodiense; to Mr. Ed. Pynæert, for Cypripedium marmoraphyllum; and to Mr. Aug. Van Geert, for Begonia Gloire de Sceaux.

A Gardeners' Society for Birmingham.—In this respect Birmingham is following the lead of Manchester, Liverpool, Sheffield, and other great centres of industry, not but that Birmingham has always been foremost in encouraging institutions of this kind. As we write there is lying before us a copy of "The Rules and Regulations of the Botanical and Floral Book Society," established by the practical gardeners residing in the neighbourhood of Birmingham in the month of January, 1837—just half a century ago. The society was started with "the view of placing within the reach of practical gardeners the periodical magazines as they are published on botany, floriculture, and horticulture," and on many occasions since Birmingham has done good work in this direction. In 1851-52, *The Birmingham and Midland Gardeners' Magazine*, an excellent illustrated monthly, ran for a considerable time. Now the horticultural element is being stirred again, for on Thursday, the 4th inst., an aggregate meeting of gardeners, employés of the nursery and seed trades, amateurs, &c., took place in the theatre of the Literary Institute, the Mayor in the chair, the meeting arising out of a suggestion thrown out at the annual dinner of the Birmingham Chrysanthemum Society, that it was desirable to form in Birmingham a society for the purpose of imparting mutual information by reading papers, essays, &c. After a genial speech from the chairman, it was proposed by Mr. William Dean, of Walsall, seconded by Mr. G. Latham, of the Birmingham Botanical Gardens, and carried by acclamation, that such a society be at once formed, and something like 150 persons gave in their names as members. A provisional committee was appointed to draw up rules, regulations, &c., and the annual subscription will be fixed at as moderate a rate as possible. It was suggested that meetings should be held fortnightly in early spring and during the autumn and winter months. Plants, flowers, &c., for nomenclature and other purposes will be invited, and it is proposed to form a good library of gardening books. What Birmingham undertakes it invariably does well, and such a good commencement for a gardeners' society ought to result—as it is believed it will—in a great and gratifying success.

Fatal Accident at the Priory, Warwick.—On January 27th, an accident resulting in the death of one man, and serious injury to another occurred in the garden of Thomas Lloyd, Esq., The Priory, Warwick. It appears that in the lower part of the garden, and adjoining the Priory Road, there is an old boundary wall some 13 ft. 6 in. high, behind which is a high embankment of rock and earth. Underneath the wall are four greenhouses of large dimensions, and passing the spot on the morning of the above date, the gardener, Mr. Greenfield noticed a large crack in the embankment, and at once pointed out its possible dangerous condition to his employer. Instructions were given to a builder to make an examination, the result of which, that measures were at once taken to shore up the wall. As the work was proceeding in the afternoon, Mr. Lloyd and his gardener had barely left the spot, when about 30 yds. of the wall fell with a crash, almost entirely demolishing the greenhouses, and burying two men before their eyes. Both Mr. Lloyd and Mr. Greenfield escaped as if by a miracle, and assistance was promptly obtained to rescue the men, one of whom was found dead, and the other seriously bruised on various parts of the body, though no bones were broken. At the inquest which was subsequently held, a verdict of "accidental death" was returned.

The East Anglian Handbook and Agricultural Annual for the present year contains a mass of information of a useful character to residents in the eastern counties, and a number of readable articles on subjects of wider interest. It is published at the *Argus* office, Norwich, and is well worth the sixpence charged for it.

Mr. J. Bodman, of Iwerne Minster Gardens, Shaftesbury, has been appointed gardener to The Hon. and Rev. F. Carr Glynn, Kensington.

EARLY DAFFODILS.

To drop in at South Kensington as early as the 9th day of February, and there meet a fair gathering of Narcissus is a welcome surprise, the more so since few people really expect them at so early a period, especially with the very severe weather which we have of late experienced. But the Narcissus blooms staged on Tuesday have not encountered these vicissitudes of temperature, nor have they, on the other hand, been subjected to a temperature which may be termed forcing, seeing that they were in good colour which would have been destroyed, or to a very considerable extent marred, had forcing in the general acceptation of the term been resorted to. As it is not very generally known what varieties readily lend themselves to being brought forward in this way, we may enumerate some of the most conspicuous in the group staged by Messrs. Collins Bros. & Gabriel, of Waterloo Road, and many of which were very fine both in colour and form, and exhibited in a marked degree what may be done with this class of plants where a little artificial heat may be had.

It is noteworthy, too, that Messrs. Collins' group contained not only some of the largest plants of their tribe, butalso some of the pigmies, the former represented by the much admired maximus, and the latter by the satiny white flowers of monophyllus albus, in company with which were the lemon-coloured citrinus, and the sulphur coloured form known as B. Graelsii. The pale sulphur of triandrus was very pleasing, as also was cerneus and moschatus, both charming species ; nanus was well represented, and among those where numbers predominated, were pallida præcox, obvallaris, princeps, Incomparabilis stella, very delicate ; Incomparabilis aurantiacus plenus, large and full ; the common double form of Incomparabilis and spurius major, these together with poeticus ornatus, which is most valuable for commercial purposes, made up a very nice gathering of these increasingly popular plants.

All that is necessary is to have them in flower from the end of January onwards in a pit from which frost may be excluded by a flow and return pipe. Pot them early in the autumn and there will be little attention required, save occasional watering. In the case of poeticus and all its forms, it may, where it abounds, be planted thickly together in such a frame, and if the flowers, as soon as the buds show colour, are plucked and plunged in strong bottom heat under bell glasses or such like in the forcing houses they will expand much earlier and form useful adjuncts in all establishments were cut flowers, and especially white fragrant blooms are required in quantity ; these may be plunged in a bottom heat of 100° with impunnity.

ROSES IN POTS.

That the Rose is pre-eminently adapted to occupy the exalted position of the national flower of England, is amply borne out by the fact of its continued popularity after a reign of so many centuries ; for although as a nation we are being continually subjected to the never ending changes which all progressive countries undergo, yet the Rose still maintains its steadfast hold on the affections of the English people. It is admired alike by the highest nobles in the land, and by the humble cottager who toils throughout the day for his hard earned wage and devotes his evening hours to the culture of his garden plot, where he watches with pride and pleasure for the opening of his favourite blossoms, which to him are regarded only as summer and early autumn flowers, while the rich can have them in profusion throughout the year, by the use of large numbers of pot plants to keep up the supply during the winter and spring months.

The present month is a capital time for bringing on pot plants, as the increasing amount of sunshine admits of the requisite amount of heat being kept up without having recourse to hard firing. Assuming that we have a number of plants (bushes) set apart for forcing, the first thing to be done before taking them under glass is to give them the necessary pruning. I have tried several ways of pruning and watched the result, and have come to the conclusion that the following is the best. Cut out all the weak shoots, as they only produce weak growths or small flowers in return and keep the bushes in a crowded state ; shorten those left to two or three eyes according to their strength, leaving them longer where they are required to fill up vacancies. If the bushes are allowed to extend gradually in this way, they make more compact and better shaped plants than when left longer at each pruning, and they produce quite as many flowers and take up less room.

Many advocate pruning Teas but little, but when so many small shoots are left struggling with each other they gradually get weaker and weaker, as they are quite at the mercy of a few strong shoots that spring up here and there, whereas if they are pruned in a similar way to Hybrid Perpetuals, only leaving the shoots a little longer, they will be better equalised, and consequently the shoots become more even in size. After pruning all old soil should be removed down to where the roots are plentiful, and then receive a top dressing of compost, consisting of two parts fibry loam, two parts well decayed manure with a little lime rubble added, the whole being firmly rammed. They should then be placed in a cool house for a time, and a few removed at intervals into other houses where they can have a temperature ranging between 55° and 65°, and be kept well syringed in bright weather to ward off the attack of green fly. In this way a good supply of Roses can be kept up till they can be had from sheltered positions out-of-doors. After flowering, the plants should have the protection of a cold pit till they are gradually inured to a warm position in the open air ; the Teas should be kept under glass till all danger of frost is over.

About the end of May the whole stock should be looked over, and those that require it potted on in a compost consisting of two parts fibry loam one of horse

A Pot Rose.

droppings, and a little lime rubble which should be rammed very firmly. Those that are already in pots as large as it is convenient to have them, can be kept in a healthy vigorous state for years if they are well fed with liquid manure and other stimulants, an occasional sprinkling of Clay's Fertiliser being very beneficial. Those that have been potted should be placed in a shady position, and be kept well syringed for a week or ten days, after which the whole stock can be plunged to the rim of the pots in ashes in an open situation. When plunging care should be taken to keep the newly potted ones in a batch by themselves so that those that have not been disturbed at the roots can have an occasional dose of liquid manure from the present time to the end of August, while the newly potted ones will not require it till the roots have pushed well into the fresh soil.

The other cultural requirements necessary throughout the summer are to keep them well supplied with water, give a good syringing overhead during the afternoons of bright days, to stop any strong shoots that appear likely to rob their neighbours, and keep the pots free from weeds, and the buds picked off, and should green fly be noticed syringe with a strong solution of soft soapy water. To keep up the supply of flowers during the autumn months select some of the strongest plants of such varieties as Safrano and Niphetos, which by the end of August will be found pushing a number of young shoots. If these are placed in a moderately dry warm house, and kept well attended to they will yield blooms during October and November. Towards the end of October a few more may be pruned and gradually brought on in heat to succeed them, the two varieties above named and Celine Forestier being among the very best for the purpose. Some persons find mildew very troublesome even with Roses in pots, which is sometimes caused by a too free use of the syringe accompanied by a low temperature, when perhaps the plants are stood very closely together, so that air has but little chance of circulating around them. Another cause is through letting the plants get much too dry at the roots, and by allowing the atmosphere of the house to be kept in a parching condition. From whatever cause it arises an effectual remedy is to paint the pipes with sulphur, keep the house close for one night, and heat the pipes till the fumes from the sulphur smell strongly when entering the house.

The following varieties will be found reliable for pot work :—

Hybrid Perpetuals.

Alfred Colomb
Anna Alexieff
Baron de Rothschild
Charles Lefebvre
Dr. Andry
Duke of Edinburgh
Dupuy Jamain
Fisher Holmes
General Jacqueminot
Jules Margottin
La France
Louis van Houtte
Madame Victor Verdier
Marie Baumann
Paul Neron
Senateur Vaisse
Xavier Olibo.

Noisette.

Celine Forestier. We find this one of the best of all Roses for supplying buds from Christmas onwards.

Tea-scented.

Catherine Mermet
Devoniensis
Gloire de Dijon
Madame Falcot
Maréchal Niel
Grace Darling
Niphetos
Souvenir d'un Ami
Madame Lambard
Perle d'Or.

—*H. Dunkin.*

WARNHAM COURT.

The fine mansion of Warnham Court, the residence of Charles Thomas Lucas, Esq., is situated about two miles from Horsham Station, and forms a very striking feature in the landscape. The grounds are well planted and tastefully laid out, and the park contains some fine timber and a splendid herd of deer. All round gardening is well carried out, and that Mr. Lucas derives great pleasure from his garden is not a matter for surprise, when one considers the admirable manner in which the various departments are maintained. The forcing department is very extensive ; the early Vineries and Peach-houses are showing well for fine crops in the ensuing season, as also do the Strawberries in pots. The later Vineries are ready for starting when required, and some extra fine young Vines planted last season promises to be all that can be desired. Cucumbers are plentiful even now. Other houses are devoted to Melon growing, and there are here also some nice useful span-roofed houses suitable for growing almost anything. One compartment is full of fine clean healthy growing Gardenias planted out, and full of buds.

A choice collection of Orchids, although not extensive, occupies another section, Dendrobiums and Lycaste Skinneri are flowering freely, and other good useful sorts for cutting from are here also in the picture of health. Another house is devoted entirely to Amaryllis, and if the varieties are as fine as the bulbs a glorious display can be looked forward to. Other divisions are devoted to Bouvardias, &c. for cutting from ; tree Carnations are also extensively grown, all the leading sorts being represented in nice healthy plants. A long span-roofed house in three divisions is a noticeable feature in the establishment. No. 1 division is devoted to Ericas, Epacris, and other hard-wooded plants ; of the former, fine specimens of hyemalis Willmoreana, melanthera, &c., 3 ft. through are very conspicuous. No. 2, or the centre division, is planted out with Roses which have been flowering some time and are now very fine, Niphetos, Safrano, Gloire de Dijon, and Duke of Edinburgh are examples of the sorts now in perfection, and cut by the dozen daily. No. 3, the end house, is a stove in which Palms, Dracænas, and Crotons are well done and finely coloured ; of Crotons fine specimens of Weismanni, Warreni, Variegatus, Majesticus, Queen Victoria, &c. are represented by fine well-grown plants 4 ft. high and as much through ; Eucharis amazonica is also finely grown.

Another fine span-roofed house was planted with Vines last season, which have made extraordinary fine

canes, and from their condition should by and bye render a good account of themselves. There is also another fine range of lean-to Peach and Vine houses all in perfect order. At the end of this range there is a large house formerly devoted to Camellias, but now converted into an Azalea house, where a large quantity of specimen and half specimen plants of all the leading sorts are to be seen in the picture of health, and well set with flower buds. While speaking of Azaleas let me commend to the notice of your readers what I consider one of the very best double white varieties for forcing, I mean Deutsche Perle. It is a very free flowering sort of the purest white, and very double, and I have never seen one to equal some young plants forced in this establishment; I like, if possible, to recommend a good thing when I can, and Deutsche Perle I can praise with the greatest confidence. Leading from this fine Azalea house is another large span-roofed structure in three divisions. The first is a stove containing a choice collection of Palms of the leading sorts, and such noble leaved Anthuriums as Veitchii, Warocqueanum, Regale, magnificum, crystallinum, and Andreanum, all fine specimens. Of flowering plants I noticed Euphorbias, Epiphyllum, and Plumbago, well in flower. Of the latter large quantities are grown, Mr. Duncan considering it, and rightly too, a good useful thing; the variety being the bright scarlet coccinea, a grand plant for winter flowering.

The next division is a fernery, in which grand specimens of all the leading varieties are in fine condition. A huge specimen of Microlepia hirta cristata, 8 ft. through is in perfect health; Davallia Mooreana also; for suspending baskets Goniophlebium subauriculatum is the favourite, and is undoubtedly one of the very best Ferns for basket work. Leaving this house we find ourselves in a greenhouse which is very gay, the centre stage being filled with well grown Callas; then three rows of well cultivated Cinerarias of a very fine strain. Around these is a row of nicely grown plants of the bright yellow Linum tryginum, another useful plant well cared for at Warnham. In front of these Linums are well grown Primulas and Tulips, with between each pot a plant of Isolepis gracilis, its pendant habit making a fine finish. The side stages in this house are filled on one side with Cyclamen persicum and all its fine varieties (Williams' strain); these include some enormous flowers of all the colours to be found in this lovely plant, while the other side is full of Cinerarias, the whole forming a nice display. In this house are suspending baskets filled with that fine old Pelargonium, Rollisson's Unique, another grand old plant well suited for such work.

Joining the mansion is a conservatory which is devoted to fine foliaged plants, principally Palms and Ferns, joining which is a fernery where the Ferns are planted, and the whole in good keeping with the rest of this fine establishment. Soft-wooded plants seem also to be well cared for, for I noticed fine batches of well-grown Pelargoniums and Herbaceous Calceolarias, which will be ready to take the place of those enumerated above. The Kitchen garden is extensive and well stocked with fruit trees. The demand for all kinds of garden produce is very great, but under the practical management of Mr. Duncan everything necessary is furnished in quantity.—*Alfred Outram.*

GLORIOSA SUPERBA.

Your correspondent "H. P." who asks for information as to the culture of this plant, will have no difficulty in growing it successfully if he has a warm stove with one side facing the south, as the sun is an important factor to its well being. The Gloriosa is not particular as to the soil, and ours have of recent years been potted in a mixture of three parts turfy loam, one of leaf mould, and one sixth of sand. At one time we thought peat indispensable, till it became a prohibitory article, and twenty years ago we were assured that decayed cow dung was necessary, and as soon as an opportunity presented itself we gave it a trial, and in our first attempt we potted in different mixtures, but there was no apparent difference in the plants appearance.

If the potting material is destitute of fibre, the addition of a few pieces of charcoal will help to make up for that defect. At present the tubers will be at rest, but they should be shook out and potted before they start to grow, which they generally do with us about the end of March. When potting is deferred till growth is visible there is considerable danger of breaking the growth, and there is no chance of a second. There can be really no harm done by potting them at once, but no water must be given till they start to grow, and then it must be done sparingly, or they will turn yellow and refuse to grow, especially if the temperature is rather low for their requirements. We had evidence of this two years ago, when we moved two healthy plants into an intermediate stove with high side lights, and ends running north and south; the plants were 2 ft. high, and were watered a few hours previous to their removal, which with the altered conditions and the two or three following days being dull, gave them such a check that they did very little good.

Last year we took the precaution to move them when they almost required water which was given to them the first sunny day, and their progress was all that could be desired, but not so rapid as those in another house which admits the maximum of light and sun with ends pointing east and west, and destitute of shading except a sprinkle of whitening in May for the sake of the Pines if the sun should be powerful. In this house the pots stand within 6 in. of the hot water pipes but not over them, and the plants seem to enjoy this and other conditions which few other plants would exist under. When we pot we lay the tubers flat and cover them with 2 ins. of soil. The plant flowers best when trained near the glass, but if your correspondent wishes to have it in a balloon or any other shaped trellis, he must first train it on string near the glass, and when in flower cut the string at both ends and draw it out if it will come readily and then arrange the shoots on the trellis. If all the shoots are let down before commencing to train it will prove such a task to separate them as he never experienced before. Such is the eagerness of the tendrilled leaves to clutch hold of any object, that if the shoots are laid out 1 in. or 2 ins. apart and only one tendril allowed to get hold of the nearest shoot, the whole will in a short time be an entangled mass.

It may be necessary to shade the house in which the Gloriosa is growing, and in that case the plants should be placed at one end, and the shading arranged so as not to screen them, or they may be trained lengthways of the house near the bottom and the blinds let down to them. When the plants are in active growth and the pots become crowded with roots they must not be allowed to get dry, and they may be syringed daily overhead which will help to check the attacks of red spider which will occasionally make its appearance. Ours generally go to rest at the end of October and we water them when dry so long as there is any life in the shoots. To winter these the pots are laid on their sides in the driest and warmest spot in the house and the temperature rarely falls below 55° and it would be nearer 60° where the pots are.—*W. P. R.*

LAPAGERIAS.

Their Cultivation and Propagation.

The white and red varieties of Lapageria are now so well known as excellent and showy greenhouse climbers, that any attempt to describe them would be superfluous. My object in the following remarks is to give the amateur or beginner an idea how to grow the plant well, and also how to increase his stock if he feels so disposed. These plants may be grown in pots for a considerable number of years before it will be necessary to make beds in which to plant them out. In potting care must be exercised not to break the roots, which are very brittle, and also not to give too large a shift at a time. After the plants have done flowering in the autumn, is a good time to pot them, for at this period they begin to make new roots. For young plants, peat and broken bricks, with a fair mixture of sharp sand, suits admirably, but larger plants should have an equal part of silky loam and peat, with the broken bricks and sand added. Great care must also be taken to see that the drainage is properly placed in the pots, and covered over with a layer of moss or rough peat; the soil must also be made moderately firm at the time of potting.

Great care must also be taken in watering the newly potted plants, for a little too much will cause the roots to decay instead of penetrating into the new soil. When the roots begin to work well into the new compost, a good soaking of water should be given that will thoroughly go through the whole ball, and this plan should be adopted afterwards, every time the plant requires water, and more especially from the time when the flower buds begin to make their appearance until the plant has finished flowering. When the plants are large enough to plant out, the same kind of soil will be required, only it must be broken up very much rougher. The same care must also be taken about the drainage, to see that the water gets clear away from the roots. Although these plants like water in large quantities, they are very impatient of being waterlogged, hence the precaution about drainage.

The propagation of this plant is a very different affair to growing a plant that you obtain well established in a pot. Seedlings grow freely, but they are not to be depended upon to produce the same variety from which you have taken the seed. If you have a good variety (and there are many at the present time) the best plan to adopt is to layer a few shoots to keep your variety true. The best plan to follow in this process is the following:—Make up a bed of peat and sand 9 ins. to 12 ins. deep and well drained, and about the size you think the shoots will take you intend to lay down. Take the weakest shoots you can get down to your bed and lay them carefully all over it, pegging them down at intervals where required to keep the shoots firm, and level with the surface of the peat and sand. When the bed is covered with a sufficient number of shoots, fill up all over the surface with silver sand to the depth of about 2 in., carefully lifting the leaves at the same time. When this operation is complete only just the points of the leaves should be visible. Give a thorough soaking of water to make the whole job firm, and during the time the layers are down a good soaking once a fortnight during summer and autumn, and as occasion may require afterwards.

This operation of layering should be done about November, if possible, and should not be delayed beyond the end of February, and by the next autumn the whole should be rooted from nearly every eye on the shoots layered. It is not advisable to disturb them until about the end of January following, at which time the eyes will be something like large crowns of the Lily of the Valley. The old stem wants cutting through between these plump eyes, and each crown will lift out of the soil easily and have a nice tuft of roots attached. They should then be potted into similar soil as recommended for young plants at the commencement, and placed in a close house about 55° or 60°. Water sparingly at first until you see the crowns start away into active growth, at which time the roots will be active as well, they can then be treated in the ordinary way.

Slugs are very fond of the young shoots, and great care must be taken to keep them in check. I have found the clippings from a brush factory placed round the plants an admirable thing to prevent them getting at the plant, or stand the plant on an inverted pot in a large saucer of water, being careful that it is kept full, but if one should get past the bristles it must be hunted for at night. If this precaution is neglected, the strongest shoots will be destroyed in a few hours, and the strength of the plants very much impaired. Enclosed I send you a shoot, so that you may see how well they root under this treatment.—*W. G.* [We have never seen a better instance of the success of this method of propagating.—Ed.]

MUSÆNDA FRONDOSA.

Though usually regarded as a curiosity more than as a useful plant, Musænda frondosa when grown in the right way deserves a place amongst the best winter-flowering plants for the stove; few, however, seem to understand its merits, and a note or two respecting a system which has given much satisfaction will, perhaps, induce others to try it. My attention was first called to the plant two years ago by an able gardener in the south of England, and I was so pleased with the specimens he had flowering in a stove soon after Christmas, that I begged a few cuttings, and determined to try what I could do with it. For the information of those who may not know the plant I will briefly describe it. The flowers are borne in small heads, the corollas are small, tubular, and bright yellow, and would be inconspicuous if it were not for the comparatively large, oval, white, leaf-like bract or appendage which springs from the base of each, and thus together form another ring somewhat like the larger flowers in the outer portion of a Hydrangea head. The leaves are bright green, oval or lanceolate, and clothe the stems and branches thickly when the plants are dwarf and compact as they

should be. Not only do the individual flowers last a long time, but they are produced in succession, so that plants continue useful for some weeks, a period which can be still further prolonged by having some in different stages of development to come into flower as the others cease.

But to return to the culture; the cuttings mentioned were placed in a 60-size pot of leaf-soil and sand, and plunged in a propagating frame where there was a little bottom-heat. In two or three weeks they were ready for potting, and were then placed singly in the same size as that used for the cuttings, this time using a soil composed of loam and leaf-soil in equal parts. As all the cuttings rooted, I had half-a-dozen plants, and arranged upon a shelf in the stove, these grew so quickly that they soon wanted re-potting. Large pots are not liked in our establishment, and though my friend had his plants in 32-pots I determined to confine ours to 48's, and therefore gave them a better and more lasting soil, consisting of light turfy loam, a small quantity of leaf-soil, and about the same of old but not poor manure, draining the pots thoroughly. In this the plants made excellent progress, flowering well the first year, and I have another good batch this season. When growing freely in the largest pots we supply water liberally, weak liquid manure being also beneficial when they are getting full of roots. A light position is also important, and sufficient ventilation to prevent the plants being drawn up weakly, and when any tendency is noticed for the shoots to lengthen-out unduly pinch them into shape. Then there will be no difficulty in having neat little specimens that will be greatly appreciated in the stove where flowering plants are always too scarce.—*Foreman.*

Scottish Gardening.

The Forcing of Vines.—I have observed that some growers in northern parts begin to force their late Vines very slowly and much earlier than they once did, and I think there is much wisdom in such a change. It is a long time since I advocated this practice of beginning in good time, gaining a good long season to mature the fruit, allowing the wood growth not to exceed root action by hard forcing as is too often the case when late keepers as well as early Grapes are pushed on by strong heat minus root action, giving way to general debility and its consequent evils. Such Grapes as Gros Colmar, Barbarossa, and some others take from eight to nine months to finish their ripening period.

One must make a general calculation of a week or so later to every hundred miles of latitude. As an example Vineries started in the neighbourhood of London at the first of March would in ordinary seasons ripen fruit about the same time as those started during the second week of February. I am strengthened in my faith as to the advantages of a brisk temperature for ripening of Grapes, accompanied with a free circulation of air just in the manner that we like to see our orchards ripening their produce during August and September by a bracing air and a warm sunshine. Such Grapes as the two kinds named are very superior when subjected to Muscat treatment as compared with the same kinds grown under the cool regimen; ours at the present time hanging in the Grape cupboards are really rich and pleasant in flavour, as fresh as ever they were, and look as if they would hang for months without shrivelling materially. Lady Downe's ripened at the end of August, are fresher and superior looking to those ripened at the beginning of October. I noticed at Clovenfords the fine examples of late Grapes; they are ripened under a high temperature, and I have not the least doubt but this practice is in a great measure the reason why they are so much sought after. —*M. T.*

Scottish Horticultural Association.—*January 2nd.*—At the meeting of this Association, held on the above date, Mr. Milne presiding, a paper on "The Ivy" was read by Mr. John Methven (of Messrs. Methven and Son), Vice-President. At the outset he gave a historical and poetical account of the Ivy, in which he stated that in the earliest days of civilisation it acquired renown by its association with religious rites and social usages. Mr. Methven proceeded to give descriptions of the various kinds of Ivy and their cultivation, and in this connection exhibited specimens of thirty-three different varieties. He next spoke of its usefulness as a town garden plant, referring specially to the bank of Ivy in West Princes' Street Gardens, Edinburgh. No other plant, he asserted, could be grown so effectively on that bank as the Ivy, and Mr. M'Leod deserved credit for having adopted it for that purpose. He also pointed out the suitability of the plant for window culture. A discussion followed, after which Mr. Methven was awarded a vote of thanks for his paper. The following interesting collection of early spring flowers from Easter Duddington Lodge, was exhibited:—Garrya elliptica, Helleborus niger, H. niger angustifolius, Hepatica triloba, H. triloba alba, H. triloba rubra, H. angulosa, Galanthus plicatus, Eranthis hyemalis, and Erica herbacea alba. A new Leek—a hybrid between the Musselburgh and Henry Prize varieties—sent by Mr. Howie, of Inch House, Liberton, was also shown.

The Amateurs' Garden.

THE GREENHOUSE.

It is usual to strike a few cuttings of Pelargoniums and other plants in the autumn to be kept together in their pots during winter, and then to be repotted separately for flowering in spring and summer. This repotting may now be commenced, and although it might appear an operation of little consequence, more of the after success depends upon the manner in which it is performed than might be supposed by the inexperienced. The great point to be remembered in the culture of plants, and especially of those termed "soft-wooded" which include a large number of greenhouse flowering plants, is that they should never in any stage receive a check to their growth, and it is almost impossible to convert a plant that has been stunted into a satisfactory specimen. They must be grown freely from the time the cutting is rooted and commences life on its own account until it flowers, and then the cultivator has it within his power to a great extent to render the plant what he wishes it to be. Similar remarks apply equally to non-flowering plants, *i.e.*, those grown for their foliage alone, for the result of neglect in the early stages of these is that the leaves on the lower parts of the stem fall, and the beauty of the specimen is permanently and irremediably lessened.

A prolific source of the failures indicated is in the first potting of the cuttings, for it is too often thought, apparently, that they may be separated without any care in disentangling the roots; many of the young rootlets are torn off and others are injured, so that as much injury is done to the young plants as could possibly be the case. It is not surprising, under these circumstances, that a severe check is given to them, and from which they recover very slowly. Whenever cuttings are turned out of their store pots, deal with the roots as gently as possible, separating them carefully and retaining the soil attached to them. The soil also at the time of turning them out should be moist without being soddened, and must not on any account be dry; the same remarks applying to the soil in which they are to be potted. Then when placing them in their fresh pots distribute the roots evenly and press the soil around them rather firmly. These might appear trivial details, and to professional gardeners they would be unnecessary, but they are exactly the points that amateurs who have to gain their experience overlook, and their neglect has to be paid for rather dearly in the after results.

For all soft wooded plants a free open and light compost must be employed, as the roots should be in a medium that they can readily penetrate, for both root and stem growth must be reciprocal, encourage the production and extension of the root, and growth will soon follow. At the first potting about equal parts of light loam and leaf-soil form a good compost, adding a little sand according to the nature of the loam. This is suitable for all the ordinary plants which come under the general designation given above, at least for the first potting, as it is not advisable to use manure in the early stages for it often leads to an excessively luxuriant and consequently feeble growth, causing plants to "run up" as it is termed, and it is almost impossible to render such "drawn" examples compact and handsome specimens by any subsequent treatment.

THE FLOWER GARDEN.

The principal work besides the digging and alteration of borders previously noted, will be the general clearing up of the garden, sweeping walks and lawns, and rolling the latter when the frost has departed. Much depends upon the attention lawns receive during winter, for if they are not rolled in suitable weather and kept free from worm casts, it cannot be expected to have an even sward in spring and summer, but the roller must never be placed upon a lawn in wet weather or when the ground is frozen. Paths become much loosened by the frost, and as soon as they are dry enough they should be well rolled unless it is intended to wholly or partially renew them. Either of the latter operations can be performed now, provided the weather be moderately dry, and if a path is uneven, badly drained, or discoloured, it will be well to attend to it before spring.

Sometimes the gravel can be turned, thus avoiding the expense of purchasing fresh, and a very substantial bright looking surface can be formed if a small quantity of fresh be mixed with the old after turning. It should be carefully raised with a pick, making little furrows the depth of the gravel lengthways and crossways of the walk, and when the whole of the surface is thus disturbed, rake it over thoroughly, levelling it but let the walk be highest in the centre to provide for the ready escape of water. When a path is properly made, suitable gravel being employed and rolled firm, heavy rains should cause but temporary inconvenience.—*Scolytus.*

PARSLEY AND ONIONS.

I FEAR I shall be treading on dangerous ground in criticising the remarks on this subject from the pen of your able correspondent, Mr. Ward, of Longford Castle, at p. 358. But I hope Mr. Ward will take my observations in a kindly spirit, as I think criticism when so conducted, does a deal of good in all matters horticultural, as it brings forth different opinions, very often to the great benefit of gardeners and amateurs alike. Mr. Ward commenting on Mr. Atkinson's paper which was read at the Manchester Horticultural Improvement Society, says, that "if a good surface dressing of fresh soot is laid on the ground prior to sowing the seed, &c., there will be no cause to complain of crops thus treated suffering from the attacks of maggot or any other insect at the roots." Now for the last five years I have had in two different gardens to fight with that dreadful pest the the Onion maggot, and I have several times heavily dressed the ground with soot, both prior to sowing the seed and after the Onions were up several inches, and practically speaking I have always found it to fail.

Last sowing time in particular, I gave the soot remedy a thorough trial, thinking that on previous occasions I had not done so. My mode of procedure was as follows:—I gave the ground—which had been previously dressed with closet manure and forked in—a good dressing of dry soot, then raked and made beds 4 ft. wide, raked again quite smooth, sowed the seed, and covered it three quarters of an inch deep with nothing but soot and wood ashes that had been passed through an ½-in. sieve; the Onions came up all right and looked well, their tops possessed that dark green colour which is always a sure sign of rude health, but eventually they were attacked with the maggot as bad as I had ever seen any. So that I feel convinced that if the pest is present, soot will not stop or prevent its ravages to any perceptible extent.

The most effectual remedy which I have tried is lime scattered on in a dry powdered state, half an inch deep and watered well in with a heavy rose water-pot immediately afterwards; of course, a dull day must be chosen for the operation. I do think this checks the maggot, but does not banish it altogether. I am not an entomologist, but from my own observations I feel sure that the maggot is not in the ground but is the larvæ of a fly which lays its eggs on the onion tops early in the summer; these eggs, by some means or other, probably by the rain and wind, find their way down to the bottom of the Onion, and there rapidly develop and commence their work of destruction by eating their way up the heart or centre of the Onion, thereby causing it to die and decay. It is an old saying, that "prevention is better than cure," and I have found sowing the Onions as far away as possible from the spot where they were grown the previous year to be the best preventive. One instance in particular. I sowed my

Onions for an experiment in two places, one was in the kitchen garden proper, and the other in a piece outside the kitchen garden walls, which had not had Onions grown thereon for some time; those outside fairly escaped, and we got a reasonable crop, while those in the kitchen garden were so badly affected that we lost nearly the whole of them.

I have not been much troubled with the maggot, which, I believe it to be, in Parsley. We make two sowings: one in spring for summer use, and another in July to stand the winter; this sowing also carries us through until the spring sowing is ready. I never transplant, as I find Parsley takes a long time to re-establish itself when it has been disturbed at the root. And I like to sow in beds, then we can protect it in winter with glass lights, packing the sides and ends with bracken or dry litter.—*W. C.*

A DOUBLE BLUE PRIMULA.

At last a double blue Primula sinensis! It is to be seen in the collection of Messrs. Sutton & Sons, at their Portland Road Nurseries, Reading. Indeed, from what one can now see there in flower, it does appear possible that the time is not far distant when a marvellous strain of double Primulas of the Chinese type will take the place of the single ones. Of these new Reading forms you shall presently have some detailed description, at present, I am dealing with the double blue type. Now as concerns the evolution of the single blue (and I refer to it by way of introduction), the credit of having put the first type into commerce under the name of Holboru Gem, certainly belongs to Messrs. James Carter, Dunnett, & Beale, of High Holborn. They were engaged in making experiments at their Nurseries in the direction of obtaining new types, by means of crosses, and from one of these came two distinct forms, one the Holborn Blue; the other, a pretty rose-coloured variety, named Rosy Morn, a name that was, however, given to a variety by another house, and to avoid confusion Messrs. Carter & Co. changed it. The first blue had flowers no larger than a shilling; but the magnificent form that is now offered by Messrs. Carter & Co., and by other houses as well, has resulted from later crosses subsequently made with the view of giving vigour to the plant, and size and form to the flowers; and it is not surprising that in the course of their efforts at crossing, Messrs. Carter & Co. have observed some very curious freaks in the development of Primulas of the Chinese type, of an altogether unexpected character.

Messrs. Sutton & Sons have for years past been busily engaged in a similar line of work, and it is worthy of note that their type of the blue Primula sinensis came from a cross of which the fine Alba magnifica was the seed parent; and both by selection and crossing they have not only varied the habit and colour of the blue type, but they have, like Messrs. Carter & Co., greatly advanced in size and stoutness also. But it is particularly in the development of semi-double varieties that the Reading firm has been so successful, and they have this season bloomed two semi-double forms of the blue one on plain or palmate, the other on Fern-leaved foliage. Now all the semi-double varieties in the Reading collection—and there are at least eight that are quite distinct—have bronzy red foliage, but of a pale rather than of a deep tint, and this has been of the blue forms. And in endeavouring to describe these double blue types I may say that there is, first of all, the circle of flat petals, and then rising from the eye is a circle of upright petals, the coloured side towards the beholder, and other petals also come up inside of these until a good semi-double character is revealed, and there is no interference with the organs of germination as the semi-double forms bear seed, though not in such a large proportion as the single flowers. But they do seed, and more than that they reproduce themselves true from seed. Then there is another advantage, the flowers are much more lasting than in the case of the single varieties, and this is an important gain when used for decorative and cutting purposes.

The origin of these useful semi-double forms is soon explained, and they have been produced for years past, but never followed up with the zeal Messrs. Sutton & Sons have shown in the work of production. The first indication is the appearance of an additional petal in the centre, if such a flower be carefully fertilised with the pollen of a very fine single type or better still one of like character, the progeny will show several further advancing towards the semi-double character. Not long since a florist said to me "I am on the way towards getting a double Primula, for I have a very fine variety with a double row of petals." He thought that additional petals might be piled up upon these until the whole of the flower was filled with them. He will have to wait long until this happens, unless someone else has attained it in this way to a double flower, and then an exception is provided. Fine stout large single-flowered Primulas often show the petals overlapping each other; it is particularly noticeable in the fine strains raised by the late Mr. Tomkins, of the Sparkbrook Nurseries, Birmingham.—*R. D.*

BRITISH, OR WHAT?

The complaint made by "Imperias," that English people, both speakers and writers, refer to Scotch things as English, thus, as it were, robbing the northern country of what is her due, is, perhaps, rather amusing in face of the fact that some years ago not only were Scotch gardeners the most favoured by English employers, but also the Scotch gardeners traded on their nationality and found it eminently profitable. No doubt, at that time the Scotchman was the best gardener. He had received better training in his profession, and, what is more, far better elementary education in his schools; therefore, he found in the south a good market for his knowledge and ability, and when his northern derivation proved a marketable commodity he was at no pains to hide his nationality.

No Scotchman was then ever heard to deprecate that nationality, and declare that he was British; to have done so would have been to kick away the stone which helped him so admirably in his career in life. The demand for British designation now seems amusing, but English readers and writers have no narrow views in the matter, and certainly are not selfish. By all means drop the pure national appellation, and let us have those of broader phrase and comprehensiveness. Great Britain certainly has a comprehensive as well as an high-sounding expression, and British might well be made to govern all that relates to any part of the kingdom ruled over by the Queen.

Perhaps Irish readers will object to that comprehension, natives of that country just now seeming rather to favour nationality than inclusion. However, for all gardening purposes British may suit most people and give little offence. We have long used the term British as applied to native plants, and none have quarrelled with it. We shall only have to apply the term to all things raised in gardens, and the same result will follow.—*Briton.*

ANCIENT AND MODERN TULIPS.

Tulips appear to have been introduced into this country in the sixteenth century, probably in the reign of Queen Elizabeth. The Tulip is supposed to have been brought from Persia to the Levant, and it was introduced into western Europe about the middle of the sixteenth century by Burbeck, ambassador from the Emperor of Germany to the Sublime Porte, who, to his astonishment, found Tulips on the Road between Adrianople and Constantinople blooming in the middle of winter, so the story goes. From the Levant they found their way into England. Nothing worthy of notice appears to have taken place in them for about a century; and it was in Charles the Second's time the Tulipomania occured.

It was chiefly in Holland and the Netherlands that this mania raged with the greatest violence. I have just found in an old gardening book what was paid for a root called *The Viceroy*:—

Two lasts of Wheat	value,	448	florins
Four lasts of Rye	,,	558	,,
Four fat oxen	,,	480	,,
Three fat pigs	,,	240	,,
Twelve fat sheep	,,	120	,,
Two hogsheads of wine	,,	70	,,
Four tuns of beer	,,	32	,,
Two tons of butter	,,	192	,,
1,000 lbs. of cheese	,,	120	,,
One complete bed	,,	100	,,
One suit of clothes	,,	80	,,
One silver beaker	,,	60	,,
Making a grand total of		2,500	florins

What a price for a single bulb!

In those days Tulips were generally sold by a small weight called a pint, which was rather less than a grain. Four hundred pints of a variety named Admiral Leiften sold for 4,400 florins; 446 pints of Admiral Von der Eyke sold for 1,620 florins; 200 pints of Semper Augustus sold for 5,300 florins; and it appears that Viceroy rose in the market after the account given above, as it was sold for 3,000 florins; whilst a bulb of Semper Augustus was sold for 4,600 florins, a new carriage, and a complete set of harness; and for a bulb of the same variety twelve acres of land were given by another person.

Now, I wonder what was the real value of these Tulips? They could not have approached anything near to the value of the flowers in Groom's day, and what comparison could they bear to the gems in Mr. Samuel Barlow's collection, to Sir J. Paxton, Dr. Hardy, Orion, Violet Aimalle, and others that could be mentioned. It is said that Semper Augustus was grown in old collections up to within the last thirty or forty years, and was described as a "light reddish Bizarre, pretty fair, but not good enough to grow now." John Slater does not name it in his catalogue of Tulips, published in 1843.

Alas! the gorgeous Tulip has ceased to be grown round London. I remember when Mr. John Edwards, of Holloway; Dr. Sanders, of Staines; the brothers Williams; several cultivators at Camberwell and Peckham; Mr. R. J. Lawrence, of Hampton, and others had then collections and used to exhibit. They have left no successors behind them. In Derbyshire, Yorkshire, Lancashire, Cheshire, and one or two adjacent counties, collections are grown and exhibitions are held. Would that there could be something like a Tulip revival in the south; who knows but what it may come some day? Fashions in the matter of flowers change and the Tulip may again have its day in the near future. It would not be difficult to form a good collection just now, nor would it be expensive to do so. Some of the northern growers would be happy to assist any southern recruit who could be induced to join their ranks.—*R. D.*

NARCISSUS BULBOCODIUM.

In the great genus Narcissus, we have probably one of the most valuable—I think I may say the most valuable among spring flowering bulbous plants; it is great in more ways than one, for it includes some of the smallest gems of the rock garden, as well as some of the most prominent and bold of the border flowers, and in point of variety it is an overwhelming group; varieties in some cases more distinguishable by name than by any definite character. Still it is not my desire to find fault, for call them what we may, it does not in the least mar the beauty for which they are renowned. The species above named is perhaps better known by the familiar title of the Hoop Petticoat Daffodil, an appropriate name too, which appears to have its origin in the formation of the cup; this is of a clear golden yellow, and on emerging from the scape gradually and regularly widens to the summit; when it attains maturity it is usually erect, prior to which it assumes a horizontal direction.

It grows when well established to a height of 8 or even 10 ins. when well suited, and where soil and situation suit it, it is better to leave it undisturbed in the soil; it will thrive in any deep well drained light sandy loam, but does not object to equal parts of peat and loam made sandy. A position on a southern border, or in patches in sunny positions on the rockery (not high up, for it should be arranged close to the eye) suit it admirably. It forms a pleasing companion to Gentiana acaulis, planted alternately in clumps, and is benefited when in flower by the deep green glossy leaves of the Gentian, which latter forms a good succession.

Nor must we leave it here, for its value as a pot plant for conservatory decoration is not the least pleasing feature respecting it, and by potting early in autumn, and introducing it into slight warmth early in January, flowers of it may be had in succession till they come on naturally in the open ground; it is one of the gems of spring which cannot be too strongly recommended. It comes from the South of France and Spain, where it is found abundantly, and where the rich golden of its flowers issuing from amidst its grassy or rush-like tufts of leaves produce a most telling effect. I may remark that the generic titles of Corbularia and Bulbocodium are often adopted for this little group.—*J.*

GEORGE FRY.

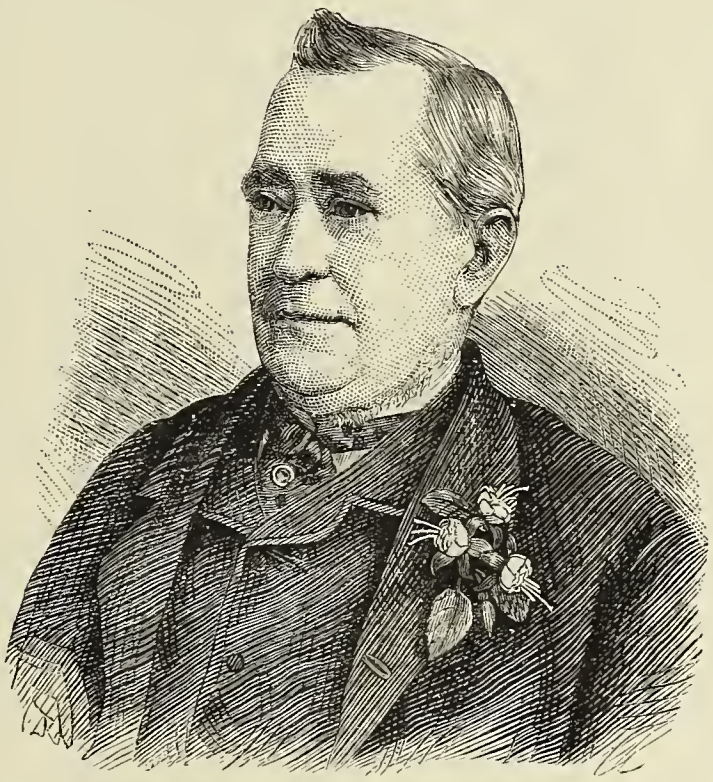
A Gardener of the Old School.

We have the pleasure to-day of presenting our readers with a characteristic portrait of a worthy and much esteemed old gardener in the person of Mr. George Fry, Superintendent of The Lee Cemetery, who in early life was a contemporary of William Barnes, W. P. Ayres, William Cole, and others, who formed what used to be known as "the West Kent school," of whom, alas! but few now remain to tell of the doughty deeds in plant cultivation which were achieved in the palmy days of Chiswick and "The Park." Mr. Fry's career has been one of singular interest and usefulness to his fellow gardeners, as may be gleaned from the following narrative:—

When a mere boy Mr. Fry was placed under a good Scotch gardener, named Forbes, who at that time was employed by A. B. Belcher, Esq., Spring Grove, Pembury, Kent, one of the best kept places in that part of the county. From Spring Grove, at the end of two years, he was sent by his employer to Grovehurst, the residence of Charles Comerford, Esq., a rather extensive estate, beautifully situated between Pembury and Tonbridge Wells. The gardener under whom he was placed was Mr. George Booth, who had previously been with Lord Ellenborough, but he left, and was succeeded by Mr. William Knight, an excellent kitchen gardener and fruit grower; and when Mr. Knight was engaged he was specially instructed to teach the subject of this notice all that he could, and, to do his memory justice, he honestly carried out his instructions. There was not much glass at Grovehurst, but fine walls of Peaches, Nectarines, Apricots, Pears, Plums, Cherries, Figs, &c., &c., which afforded early practice in training and nailing all kinds of fruit trees; there were also here some of the neatest and best espalier-trained fruit trees, including Apples, Pears, Plums, and Cherries surrounding the squares of the kitchen garden, that could be seen anywhere.

Whilst at Grovehurst Mr. Fry became a subscriber to McIntosh's *Practical Gardener*, then being issued in monthly parts; also Don's catalogue of plants; and the *Floricultural Cabinet*, a monthly periodical, which some years afterwards became *The Gardeners' Magazine*. After three years' service at Grovehurst, he was induced to take a situation as gardener at Court Lodge, Darenth, the residence of Henry Chapman, Esq., but only stayed here from September to the following May, owing to certain interferences in the garden operations that did not suit his taste; but although only a short time at Darenth, he made the acquaintance of a few good old practical gardeners. Mr. Rudland, gardener to Mumford Campbell, Esq., Sutton Place, Sutton-at-Hone, was one of them. Sutton Place at that time was considered to be a very fine old place, the garden and boundary walls being extensive and very old, having been built, it is said, when labourers received only the equivalent of a penny a day, and the mansion was reputed to have formed part of the residence of the former Kings of Kent. Mr. Rudland had a large collection of Dahlias, including Dodd's Mary, Springfield Rival, Sulphureus elegans, Picta formosissima, &c. He had also a very fine plant of Clianthus puniceus growing against the conservatory wall, and Schizanthus pinnatus, sown in the autumn and shifted on into good-sized pots, used to make grand specimen plants for the conservatory in the following spring, and certainly were very effective in those days, when novelties were not so plentiful as they are now.

Having left Court Lodge, Mr. Fry at once obtained employment in the nursery of Mr. John Dampier Parks, Dartford, of whom, in a previous letter published in our columns, he spoke in high terms of commendation. Some years anterior to the time under notice, Mr. Parks was sent out to China as collector by the Horticultural Society of London, and our old friend well remembers how his employer, in leisure moments, used to describe his interesting explorations in search of the Chrysanthemum. Some of the old gardeners who may still survive the time alluded to, may recollect a Chrysanthemum called Parks' Small Yellow. Mr. Parks subsequently obtained a situation for him as gardener to the Reverend Frederick Heberden, who was then living at Stone, near Greenhithe, and who was a son of Dr. Heberden, Physician to George the III. Soon afterwards the Rev. gentleman moved across the water to West Thurrock, Essex, where the vicarage garden and glebe lands were by no means extensive, but great alterations were effected, which much improved the place. Whilst at West Thurrock he made new acquaintances, viz., Mr. King, gardener to — Webb, Esq., Belmont Castle, near Grays; also Mr. Christmas, gardener to Button Freeman, Esq., Stifford Lodge, and Mr. Morledge, of the Nursery, Brentwood, all of whom he used to visit. Dahlias, herbaceous plants and annuals, with Pelargoniums, Calceolarias, &c., were the plants used chiefly in those days for garden decoration during the summer months, and of annuals, as many as a hundred distinct kinds were sown, and exceedingly interesting they were when the requisite amount of attention was devoted to them. The geometrical style of bedding out was at that time in its infancy, and the arrangement of colours was not so fully recognised, understood, and appreciated as in the present day.



George Fry.

Inventor of the "West Kent Flower Pot."

Scarcely had two years elapsed before Mr. Heberden and family re-crossed the Thames to take up the living and vicarage of that charmingly fruitful parish, Wilmington, near Dartford. Here was another old vicarage garden much in want of renovation. All sorts of alterations had to be carried out and a new greenhouse built, which was done with all speed. It was whilst living here that Mr. Fry sent his first communication to the *Gardeners' Gazette*, then edited by Mr. J. C. Loudon, and from that time to this Mr. Fry has never ceased to contribute to the various gardening papers. About this period Mr. Mills, then gardener at Gunnersbury, recommended that Cucumbers should be grown in peat, and Mr. Fry at once followed his advice, using nearly all peat in some of the frames of Cucumbers, and with such entire satisfaction that when a very good and methodical gardener, Mr. Wilson, called on him and saw his crops of Cucumbers, he was astonished almost beyond measure to see how prolific the plants were. The sort that was grown under this treatment was known as the "Roman Emperor."

Having been with Mr. Heberden four years, and being anxiously desirous of acquiring a more extended knowledge of some of the higher branches of gardening, Mr. Fry came to London with the object of getting an engagement in one of the leading nurseries, but failing to do so at once, he went to Mr. Joseph Myatt, of Manor Farm Market Garden, Deptford, the raiser of the British Queen, and other Strawberries, and also of the Victoria Rhubarb. Here the hours for labour were from five o'clock in the morning until seven in the evening, and the weather at the same time was excessively hot, but this was a secondary consideration with the young gardener, to that of obtaining employment even at fifteen shillings a week. But this only lasted a fortnight, for on a vacancy occurring for an under-gardener in the establishment of John Angerstein, Esq., The Woodlands, Blackheath, Mr. Fry was successful in obtaining it, and then commenced bothy life, at twelve shillings per week. The Woodlands at one time was of great horticultural repute, that was for the most part during the time of John Julius Angerstein the father of John Angerstein, whom Mr. Fry served. Previous to his time, many young men had obtained good situations with the references obtained from the Woodlands. Sweet, the botanical author, when a young man, was employed in those once famed gardens. There were in Mr. Fry's time several vineries, peach-houses, pine-pits, &c., in the forcing and kitchen garden department, and having had twelve months practice in the various branches, he was placed in charge of the pleasure grounds, which included a very large conservatory and other plant houses, vineries, &c. One of the first plants of Araucaria excelsa introduced into this country, was growing at the time in the conservatory with a general collection of hard-wooded greenhouse shrubs, arranged in winter-garden style and with very good effect.

It was at this time that Mr. Fry was struck with the idea that some better plan was required for the operation of shifting and examining the roots of plants growing in large-sized pots. It was the practice then to break the pots, when it was found impracticable to perform the operation by inverting the pots in the usual way. A happy thought occurred to the young under-gardener, who communicated it to the foreman, who had been in his place under the steward for nearly thirty years. He put a veto on the plan in a very summary manner, and the idea remained dormant until Mr. Fry became gardener to Mrs. Dent, of Lee, where he soon got together some good hard-wooded greenhouse plants, and being then his own master, determined to test the value of his "idea," and obtain the opinion of plant growers generally. Models were neatly turned, and no time was lost in submitting them to the leading plant growers and exhibitors of the day. One of the first gentlemen with whom our inventor sought an interview, was Dr. Lindley, editor of the *Gardeners' Chronicle*, who very much approved of the contrivance, and told him at the same time to keep his own counsel, and secure it to himself, and having done so to acquaint him of the fact, when instead of giving Mr. Fry a letter of approval, he would do him more good in another way. The article was at once registered as the "West Kent Garden Pot." Mr. William Barnes, gardener to George Ward Norman, Esq., Bromley Common, one of the most successful plant growers and exhibitors at that date (1846), said when he examined the model, that he did not care who made the pots, but he would be one of the first to use them. Mr. Hunt, gardener to Miss Trail, Hayes Place, near Bromley (some of our readers may remember his grandly grown plants, such as Erica Massoni, &c.), and other growers said that they should purchase no other pot when this was in the market; and Mr. Barnes, and Mr. W. P. Ayres, gardener to James Cook, Esq., Brooklands, Blackheath Park, gave each an order for ten pounds worth, even before the inventor had sold his patent rights, as he subsequently did, to Mr. Joseph Pascall, of Chislehurst;

the "West Kent Pot" was illustrated in most of the gardening papers at the time, and Dr. Lindley introduced it to public notice in a leader in the *Gardeners' Chronicle;* Mr. Robert Marnock inserted it in the *Gardeners' and Land Stewards' Journal;* Mr. George Glenny, in the *Gardeners' Gazette;* Mr. Robert Plant, in the *Florists' Journal;* and Mr. Maunde, in his *Botanic Garden.*

Mr. Fry also invented a self-acting fumigator, which was exhibited at one of the meetings of the Horticultural Society, 21, Regent Street, in 1850. So, also, was his "sulphurator," for distributing powdered sulphur amongst Grapes and all plants attacked by mildew, and his sulphurator and fumigator combined followed soon afterwards.

Subsequent to 1840, Mr. Fry had taken a deep interest in all gardening associations having for their aim the spread of knowledge amongst young gardeners and the improvement of their social position, and we find him, in 1843, writing as follows in the *Gardeners' Gazette* with reference to the Philanthropic Society of Gardeners at that time in existence :—"You that are blest with a philanthropic spirit, come forward without delay and cast in your mite towards assisting in the prevention of our more ill-fated brethren and their companions being, through unavoidable circumstances, plunged into extreme poverty and helplessness. Probably, we who are at present sailing pleasantly with a fair wind may one day get unexpectedly dashed against some hidden rock. Then happily would we embrace with deep gratitude the kind helping hand that would at such a season administer to our wants, and save us from total ruin. Many, like myself, may be young and healthy, possessing the entire use of their faculties, in good situations, bidding fair to become active, useful members of society. That, indeed, is well; but as we cannot foresee the evil that may overtake us individually, it is far better to prevent than to cure. Let us, then, unitingly join hand in hand, both young and aged, with a determined fixed principle of rendering the burden of the oppressed lighter, and the path of the young, arduous practitioner plain, pleasant, and easy."

He was honorary secretary to a society of this kind for some considerable time, and also a member of the West Kent Gardeners' Association, of which Mr. W. P. Ayres was secretary. At that time there were a great many kindred societies in the neighbourhood of London, the "Regent's Park" amongst others, and Mr. Fry well remembers being present at one of this society's meetings on a special occasion, when Mr. Charles Moore, now curator of the Botanic Gardens, Sydney; Mr. Thomas Moore, curator of the Botanic Gardens, Chelsea; and Mr. McEwen, who died whilst he was superintendent of the Horticultural Society's Gardens at Chiswick, were present, all of them being then young men in the Botanic Gardens, Regent's Park, under Mr. Robert Marnock.

In 1855. Mr. Fry patented his Seakale and propagating pots, fern and seed pans, and which, on being shown at the autumn meeting of the Horticultural Society, received honourable mention. These also passed into the hands of Mr. Joseph Pascall. After being gardener to Mrs. Dent for fourteen years, she purchased the Homewood Estate, Chiselhurst, when her gardener's engagement voluntarily ceased, and he went into partnership, which was dissolved at the expiration of three years, having turned out anything but a satisfactory arrangement. He still, however, remained at the old gardens, and raised several new Fuchsias. Lord of the Manor was figured in the *Gardeners' Magazine,* and sent out by himself; Blue Boy was sent out by our late much-respected friend, Mr. Charles Turner; and other varieties followed, such as Miss Lizzie Vidler, new manve double corolla; Ethel Fry, double white; Mrs. Gladstone, double white; Mrs. George Grote, single white tube and sepals, with cherry-tinted corolla; and several others, sent out by Messrs. Jones and North, of the Hope Nurseries, Lewisham. Having lived in the Manor Gardens twenty-three years, Mr. Fry was induced in 1875 to offer himself as a candidate for the situation of superintendent of the Lee Cemetery, then just completed, and was duly elected, and here he has been ever since, employing his talents to the satisfaction of his employers; and enjoying the friendship of all who have the pleasure of his acquaintance. Our readers, many of whom we know have been greatly interested in the reminiscences of days gone by which he has contributed to our columns, will, we are sure, join heartily with us in hoping that for many years to come he may enjoy the blessings of good health and prosperity and the warm esteem of his fellow men.

GOOSEBERRIES FOR EXHIBITION.

There is probably no other county in England in which the Gooseberry is grown to a larger size or heavier weight than in Lancashire, Yorkshire, and Cheshire. The temperature, the soil, and the less powerful sunlight than is experienced in the south apparently favouring its better development, and these advantages coupled with the energy and vigour with which its cultivation is carried on by those who make it their speciality, mostly cottagers, and attend to its various wants, is, no doubt, the cause of the superiority of the counties named. In giving you a brief resume of the general system of cultivation adopted, it will be best to begin with

The preparation of the Soil.—The space selected should be open, and in a sunny position, but sheltered if possible from the north and north east winds. Beds should be marked out from 6 ft. to 8 ft. wide with narrow walks between, edged with boards, bricks, or anything else available. Double dig or trench these beds 15 ins. to 18 ins. deep, adding plenty of rotten manure and decayed turf or loam if it is to be had, and if the soil is at all binding a sprinkling of road sand will be of much benefit. This done, the next in order will come

The Planting.—The trees which can be procured from any of the principal nurserymen advertising in your columns should consist of or be cut to three main shoots, plant them 5 ft. apart up the centre of each bed, spreading out the roots evenly and not too deep, but as near to the surface as possible, and covering them over with fine yellow loam. Tread them in firmly, and mulch, prop up those shoots that have a tendency to grow downwards, such as London, Thumper, &c., with Y shaped sticks, and bringing down those that have an erect growth, such as Dan's Mistake, &c., with pot-hooked pegs, thus, in both cases to within 8 in. of the soil. They will require nothing further than the protection of the buds from the birds. Towards the latter end of March the buds will push, and the future fruit will show itself. On the sign or approach of frost the trees should be protected by covering them over at nights with canvas, newspaper, &c., uncovering them again in the morning. At the end of May or early in June, the fruits should be thinned, leaving only the most promising, the longest, and best shaped, and if in a good position so much the better.

Feeding with liquid manure commences in June. Some growers commence on a particular date, but this much depends on the season and the locality. On or about the 24th is the date fixed in this locality. It is given weak at first, and gradually increased in strength, and applied not necessarily near the collar, but within reach of the spongioles or growing points. Drainage from the stable or stye, guano or soot, &c., put in a tub, and well mixed with water, are all of especial benefit; but there are two points which I wish to impress upon the grower: the first is, never give it too strong, and the second, never to apply it except when the weather is wet. At other times give an abundance of water, and place saucers filled with water under each fruit, so as to keep the atmosphere humid around the fruit, which will help the swelling of it. The liquid manure should be withheld just before the turning of the fruit.

Pruning.—The trees as received from the nursery may be of one, two or three years' growth, and as before stated, should have three main branches. If only of one year's growth, cut back to about 8 in. in length. These shoots the second year will have produced laterals or side shoots. If of three or more years' growth, the result is the same. Most of these laterals should be cut back to two eyes, and the thin and weakly ones removed altogether. The outer shoots should be pruned to half their length, until the tree has arrived at its proper dimensions. In pruning for show purposes, always select good firm well-ripened shoots of the previous summer's growth. Keep the laterals well thinned, and encourage young sturdy wood. Strong shoots that have a tendency to rob the tree of its support should be pinched. Pruning is usually done in November, but where birds are troublesome, some leave them until spring, and both times have their advantages and disadvantages.

Root pruning is essential where trees are of many years' standing, but it is advisable to let these emerge into the general bush form, and to prune and, to use them for general cropping, as the youngest trees invariably produce the finest fruits. However, take up the trees, shorten the long straggling roots, and replant at once in fresh quarters, or back again in fresh maiden loam and manure mixed. This should be done at the end of October or early in November, or as soon as the leaves are of a bronzy hue, which is a sure sign that the wood is ripe. Never mind the leaves falling off, but plant while the earth is still warm. The bushes will receive but little check, and get well hold of the soil ere cold weather arrives. Mulch freely as before.

A good Selection.—*Red:* Dan's Mistake, Conquering Hero, London, Clayton, Speedwell, Companion, Ploughboy, Eskender Bey and Monarch. *White:* Antagonist, Careless, Hero of the Nile, Freedom, King of Trumps, Queen of Trumps, Mitre, Postman, and Snowdrift. *Green:* Shiner, Stockwell, Thumper, General, Plunder, Telegraph, London City, Diadem, and Gretna Green. *Yellow:* Leveller, Leader, Garibaldi, Drill, Ringer, Catharina, Lady Houghton, Peru, and Mount Pleasant.—*B. L., Huddersfield.*

FRUITS, FLOWERS & VEGETABLES.

The Poinsettia at Seaham Hall.—Allow me to thank Mr. Draper for his prompt answer to my inquiry respecting the above. It will be seen from Mr. Draper's note that where Poinsettias are liked for decoration (and where are they not?) in a cut state, and where a back wall can be spared in a house that can be kept a little warm in winter, the system of planting out has much to recommend it. Fancy 240 heads of bracts from a wall 23 ft. by 11 ft.; how many plants would one have to grow in pots to obtain that number, say at three or four heads to a plant, which is quite enough if one wants to get them a fair size, to say nothing about the room they would take up, and the time occupied in propagating, potting, and watering all through the summer.—*W. C.*

Hardiness of the Variegated-Leaved Phormium tenax.—Mr. W. E. Gumbleton's interesting information respecting this plant (for which I beg to thank him), coupled with my own experience, points to the conclusion that if the roots of plants can be kept fairly dry they can withstand a great deal of frost. Fuchsias in the same house are killed outright; but the Phormium, in one of the coldest corners, lives on. Heliotropes in pots are alive also, but the soil dry about the roots. They look poorly but are alive, and when cut back presently and re-potted after they show signs of breaking, will yet be serviceable plants.—*R. D.*

Early Blooming of Irish Daffodils in the Open Air.—Pallidus præcox (Irish-grown, one year) and Ard-Righ (in Irish, "High King") are both now in full bloom. The latter is a very early variety of Spurius, blooms of which I have already sent you. The small violet-scented little white Daffodil, "Minnie Warren," is a perfect gem in pots in a cold house. It has been in flower since January 27th. It well deserves notice at South Kensington, and a Certificate. The big early Spurius referred to above will be the leading Daffodil of commerce for early market work. I promise it in succession from November to April.—*W. B. H., Temple Hill, Cork.*

Clematis indivisa lobata—This is certainly one of the most desirable plants that can be grown; flowering as it does at this season of the year when so few greenhouse climbers can be had in flower; at any season of the year its pure white star-like flowers would be acceptable, but just now they are particularly serviceable. As a greenhouse climber the plant has many advantages being evergreen, and the foliage of a rich glossy green; it always has a neat appearance, and the plant is more easily kept in order than most climbers. And when grown in pots it may easily be removed to the conservatory, the stems being very pliable they may be twisted about in any direction without fear of breaking them. As a pot plant trained round a pyramidal trellis it makes a very effective plant for decoration.—*H.*

Balsams.—We often hear of complaints of the bad quality of Balsams, and some hard words of blame are used towards the seedsman; but is it his fault? It is not difficult to discover that the same packet of seed will yield plants of the opposite character; on the

one hand, fine specimens with stout, sturdy, tree-like stems, covered with large Camellia-like flowers, interspersed with fine dark green shining foliage, being the produce of one cultivator; on the other hand, another grower gets thin and slender growth with semi-double blooms, altogether presenting a very meagre appearance. Now, it is very hard to convince some people that all this difference is purely the result of cultivation, and hence it is that instead of searching for the cause at home they blame their seedsman, who, they say, sent them rubbish. Very many failures result from allowing the young plants to become too much drawn in a young state, and while in the hot-beds they become attenuated, and this is a state they never come out of again. Some hold that the age of the seed has something to do with the doubleness of the bloom and the habit of growth. Be this as it may, we know one old and successful Balsam grower who never sows his seed until it is five or six years old, and he avers that the older the seed, the better are the plants and the more double the flowers.

The Scotch Fir in Autumn.—Those who are observant of the changes that pass over the face of nature at the various seasons of the year, will, probably, not fail to have noticed the bright appearance the Scotch Fir will take on in Autumn; this is caused by the falling of the dead leaves. During the summer the half-withered foliage becomes so intermingled with the new, as to cast a shade over the whole mass; in October the old leaves fall, and the trees appear to become green, when, in reality, it is no more than self-divested of that which sullied it. Many an important fact in nature can be gleaned and stored up by the observant mind.

Costus speciosus.—Those in search of an uncommon and beautiful plant would do well to procure this member of the Ginger family, which forms a striking feature in the stove. The growth, from 4 ft. to 6 ft. high, is reed-like in appearance, and produces terminal heads of funnel-shaped blooms of purest white surrounded by a conspicuous calyx of bright rosy lilac. The flowers, which do not individually last long, are freely produced from the large heads which a strong plant will give. It requires a period of dry rest in winter, and should be repotted in early spring, and well-watered during the summer growth. I have found it to benefit much by being placed in a shallow pan of water so as to keep the pot continually moist—a very necessary condition for plants of this class. It is seldom met with except in botanical gardens, whence I procured it some years ago. While in bloom it always comes in for a large share of admiration from visitors to the stove.—*J. T. Poë, Riverston.*

Vines Bleeding.—Although an old Grape-grower, no serious case of Vine-bleeding has ever come under my notice. I have pruned hundreds of Vines and cut tons of Grapes, and from the time I was a young man have been employed thinning the bunches for weeks in succession. My experience has, for a very long time, convinced me that the whole matter resolves itself into one important issue of events in the general management of Vines. I wish to be understood to mean those Vines that are in every way in a healthy and prolific condition, borders properly made, drained, &c. The great secret of Vine-bleeding is involved in the word management, perhaps the subject might be more appropriately designated mismanagement. I cannot conceive that it is at all possible that Vines which have ripened their wood in due course and in good form, the leaves having fallen naturally, should, when pruned in November, bleed in February, unless from the date of pruning they are subjected to a very high temperature, which is a very unusual practice, as all nature requires a given period of rest. It used to be the practice in days past that so soon as the houses of Vines were divested of their fruit, to take off all the lights, and fully expose the Vines to the action of the atmosphere, whatever its condition might be. This practice may now be exceptional from the fact that as a rule every available space is required for the growing or housing of plants of some description or other. In such a case Vines cannot be considered to have proper treatment, more especially should the plants be of a tropical character, necessitating a degree of warmth which really may prove inimical to the requirements of the Vines. I can quite understand that when the work of pruning is left too long, and the sun's warming influence begins to excite vegetation, that great risk is run, and this is, in most instances, of Vine-bleeding the primary cause. I recollect, between twenty and thirty years ago, that my third or late Vinery was left over the proper season for pruning, and well knowing what the result would have been had I cut them, I determined to let the Vines remain until they began to break in the spring, and as soon as I considered it advisable, I commenced to rub off those eyes that did not show for fruit and the superfluous ones that were not required, and when the young wood was of sufficient strength to assimilate and conduct the sap, I cut back the canes to the young growths left for fruit, and also removed entirely all such old wood as was not required. It might be argued that this treatment involved a great strain upon the Vines; but such was not the result, as no Vines could possibly have done better than they did that season or subsequent ones, and, moreover, the risk of bleeding was entirely and most satisfactorily obviated. And I may state that during my long experience I have never had to use antidotes of any description to arrest or prevent the bleeding of Grape Vines.—*George Fry, Lewisham.*

Seedsmen and their Customers.—"A Reader" writes:—In most of the catalogues I receive, there is a special recommendation to customers that they should write their name and address in full. It certainly appears strange that so many should omit to do so; but I suppose it is chiefly owing to the said customers knowing themselves well, and expecting their seedsman to be equally well informed. A knowledge of ones self is all very well from a physiological point of view, but something more is required in filling up a seed order. Talking the other day with a leading local seedsman, he said, "You have no idea how many seed order sheets we receive without either a name or an address on them. With such orders we have first to trace the postmark, then to see whose order has been executed in that district, and thirdly, to form an opinion from the handwriting. Nor is this confusion and trouble all. Time is of the utmost value at this busy season, and after wasting much of it, it is to say the least, disappointing to be frequently unable to execute the order punctually, or perhaps not at all." This is a serious matter, especially when we consider that a little forethought and a stroke of the pen will save all the trouble. The following simple plan has been adopted by some firms: the order sheets are numbered from one up to as many as are printed, and these numbers correspond with duplicate figures in the ledger, in which the address is to be found, so that if any come to hand unsigned, the corresponding number is found in the ledger, and all further trouble is avoided.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

With the past week of fairly bright weather the occupants of this department look decidedly brighter and more healthy. Let the potting of stove plants proceed, if not completed, without delay, and let any of the plants that have from any cause become leggy or unsightly be either cut down and plunged in bottom-heat to give a supply of cuttings, or consigned to the rubbish-heap if not required, and so make room for younger stuff. Ferns it is particularly necessary should be divided, especially the Adiantums, for nothing is more useful or accommodating for decoration when grown for the purpose, that is in an intermediate house. They then do not suffer as when taken from a tropical house, where, as a rule, they are principally grown. Pteris longifolia is another Fern which is most useful for autumn decoration, and the same applies to Blechnum Braziliense; and care should be taken of all the stray seedlings of each of these varieties which may appear on the surface of the plants as they are brought to the potting-bench.

Look to the stock of Euphorbia Jacquinæflora, keep the plants rather dry, plunge them in bottom-heat if room can be found, and when ready for propagating take off the young growths with a slice of heel to each, placing five or six in a small 60-pot; keep them close that they may strike as quickly as possible, and pot them on without dividing, and they will give grand potfuls, which look far better when staged than single plants. The pretty little Poker Plants, the Lachenalias, will now be throwing up their spikes, and if the pots are well filled with roots, as they should be, the plants will be greatly benefitted by a dose of clear liquid manure; keep them near the glass in an intermediate temperature, and they will more than repay the extra care bestowed.

Where Single Dahlias are much used, and seedlings are relied upon, it is necessary that the seed should be sown at once, that good tubers may be secured at planting time, otherwise they are late in flowering, and consequently for cutting purposes also. Keep the shrubby Calceolarias as hardy as possible by removing the lights as often as can safely be done, and stop all regularly; by the time they break again they may safely be transplanted to where some slight protection can be given, and out of the way of the frames which will be required for more tender subjects.

FORCING HOUSES.

In this department there are almost endless subjects that require to be mentioned, but space will not permit all to be enumerated; having had a brighter week, all forced things have a corresponding advance. Again I would say, be extremely cautious not to maintain a high night temperature in any forcing house, unless growth is assuming a somewhat matured condition; let this apply more particularly to the vineries, the bunches in which will be drawn and spindly, and they will never recover that full, tight proportion that a good bunch of grapes should do.

Peaches will now need attention in the way of disbudding; let this operation be carried on piecemeal, so that a check may be avoided; keep the house ventilated, and where the fruit is set, syringe freely twice daily. Keep a sharp look-out for black or green fly, and fumigate immediately upon its appearance; three light fumigations upon alternate nights will be found more efficacious than a single strong dose, and less likely to injure the young growth or fruit.

Cucumbers and Melons are now growing away nicely; keep the young plants on a shelf as near the glass as possible, but away from all draughts; this is preferable to plunging in bottom heat, as the tissue made is firmer, and the plants stand better after finally being planted out. Make sowings of each as may be required according to the demand, always keeping a good stock on hand, as they can be easily thrown away if not required, and will give but little trouble to rear.

Place succession batches of plants of Deutzias, Dielytras, Indian and Ghent Azaleas, and all kindred subjects into heat, not forgetting the supply of bulbs, of which introduce a few at a time; the Lily of the Valley comes much better if the crowns are covered with moss, therefore have some in readiness. Introduce successional batches of Strawberries, as room will permit; President or Sir J. Paxton, are the best for mid-season work.

THE KITCHEN GARDEN.

While the weather continues open and dry, let all hands be employed digging vacant squares, that the weather may help to pulverize and so prepare the soil for planting, the time for which is rapidly approaching. Where not already done fork up the surface of Asparagus beds, raking off loose soil into the alleys; give the beds a good dressing of decayed manure, covering up with the soil from the alleys, dress off and let them remain until later on. If necessary, now is the time to divide Rhubarb stools, either to fill up blanks that may have been forced, or to make a new quarter; in the latter case double dig and well manure the square selected, and do not draw for use the first season.

Sow at once a packet of seed, that roots may be selected especially for forcing. As soon as the state of the ground will permit, put in the main crop of Parsnips; let the drills be 18 ins. apart at the least. Proceed with the pruning as speedily as possible, except the Gooseberries where they are liable to be attacked by the birds, when they had better be left a bit longer. The Brussels Sprouts and Cauliflower sown last month are now ready to place in cold frames, keep them well ventilated or they will be apt to damp off. Where slugs are troublesome to the breadths of Lettuce dust lime and soot between the rows, this will stimulate growth and destroy these pests. Keep the turf and walks, both in the garden and shrubberies well swept and rolled, so as to maintain as clean an appearance as possible throughout. —*Walter Child, Croome Court.*

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The annual meeting of this society took place at the Caledonian Hotel, Adelphi Terrace, W.C., on the 7th inst., Mr. Richard Dean, one of the honorary members, presiding. There was a good attendance of members, who appeared to take a great interest in the affairs of the society, which has for its main object the welfare of what we may term the young gardeners of all grades.

The minutes of the last annual general meeting of members having been read, the secretary, Mr. McElroy, presented a financial statement for the year as follows:—

Dr.	BENEFIT FUND.	£	s.	d.
Jan. 1885.	To Balance in hand	1,927	1	10
,, 1886.	,, Interest on this sum	57	0	0
	,, Subscriptions of 169 members	255	17	9
	,, Arrears of Subscriptions for 1884	1	5	9
	,, Balance from deduction of Sick Pay	0	1	0
		£2,241	6	4
Cr.				
By Sick Pay to six members		16	6	6
,, Interest		6	11	0
,, Paid Widow Rowe		34	12	3
,, Deductions for Sick Pay		0	8	0
,, Balance		2,183	8	7
		£2,241	6	4

Dr.	BENEVOLENT FUND.			
Jan. 1885.	To Balance in hand	972	15	11
,, 1886.	,, Interest on this sum	28	10	0
	,, Further Interest on £219 0*s.* 8*d.* standing to credit of non-paying members	6	11	0
	,, Subscriptions from 157 members	19	3	0
	,, Do. do. 10 honorary do.	10	10	0
	,, Arrears of Subscriptions	0	5	0
	,, Deduction from Sick Fund	0	8	0
		£1,038	2	11
Cr.				
By Vote to the orphan children of the late Mr. and Mrs. Rowe		20	0	0
,, Balance		1,018	2	11
		£1,038	2	11

Dr.	MANAGEMENT FUND.			
Jan. 1885.	To Balance in hand	3	18	8
,, 1886.	,, Subscriptions from 157 members	19	12	6
	,, Arrears from 1884	0	5	0
		£23	16	2
Cr.				
By Rent of Room for meetings		3	0	0
,, Printing		4	19	6
,, Postage		2	15	6
,, Sundry small Expenses		3	14	10
,, Balance of last year's Fund, presented to the Secretary		3	18	7
,, Balance in hand		5	7	9
		£23	16	2

During the year an additional sum of £300 had been invested in 3 per cent. consols in the name of the trustees, making the total sum so invested £3,300. During the year eleven additional members had joined the society, showing a steady increase.

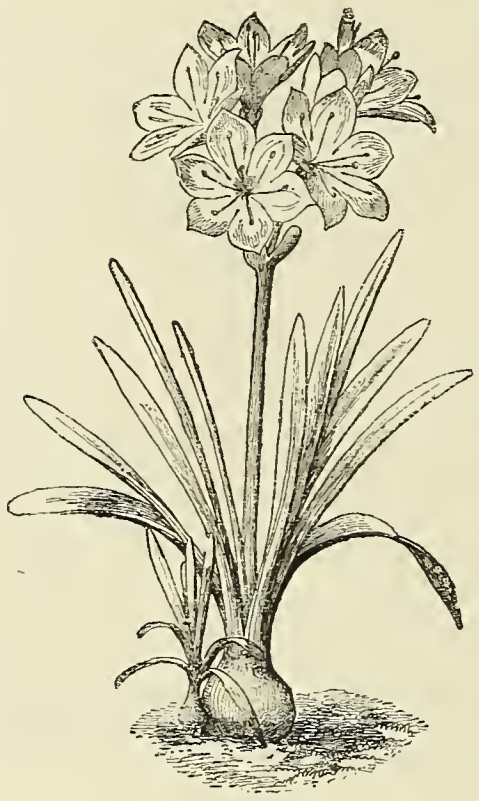
The chairman, in moving the adoption of the report, congratulated the society on its sound political basis. It is a society that has for its object the well-being of gardeners, and especially of those filling subordinate positions in gentlemen's gardens and nursery establishments. He thought it a very satisfactory sign of the times so many members of the working classes were found managing with so much success societies instituted to benefit themselves. This society was managed by gardeners for gardeners at a very small cost; the management expenses were very low, and contrasted in the most favourable manner with those of other benefit societies. He thought a great deal of gratitude was due to the secretary, Mr. McElroy, who, though not a member of the society, having exceeded the limit of age at which a member could join when he became officially connected with it, and who gave much time and attention to the duties of the secretaryship, and discharged its duties with great zeal and fidelity, all the remuneration he received being an occasional vote by the committee of the balance of the management fund. He (the chairman) regretted that the existence and objects of such an excellent society were not better known among the gardening community; and seeing some of the representatives of the gardening papers present, he hoped that would lead to the benefits conferred by the society being much more widely circulated in the future. This motion was duly seconded and carried. The following members were elected on the committee of management:—Messrs. Cole, Wood, Scott, Coates, Campbell, Geo. Morcland, and Campbell.

Hearty votes of thanks were given to the trustees, to the treasurer (Mr. James Hudson, whose absence through indisposition was much regretted), to the Secretary (Mr. McElroy, who stated that he had filled that office for the past ten years), to the auditors (Messrs. A. J. Green and Geo. Dixon), and to the chairman.

TABLE, WINDOW, AND INDOOR PLANTS.

The sight of thriving plants in the dwelling house is pleasant to all, but only they who nurse them and attend to them know the pleasure to be derived from watching their progress; as, however much of the success depends on the proper kinds for the purpose being selected, it will be well to jot down from time to time in little gossips on table and window plants, &c. Now to commence, I cannot help saying that, I believe, if one has to choose *the* very best plant for growing in the dwelling house the Aspidistra lurida, and its tall and variegated varieties must be selected. This plant seems to thrive where no other will, and to grow in the dry air of the dwelling house even better than in the conservatory, if accommodated with anything like comfortable quarters. All that is necessary is to keep the leaves carefully sponged, and to re-pot just as the new leaves are pushing up, but only to re-pot when the pot it is in is really too small to allow of further progress.

The pretty blue flowered Agapanthus umbellatus, with its lively green strap-shaped leaves, and the orange coloured Imantophyllum miniatum, which resembles it in growth, are also very easily grown; and



VALLOTA PURPUREA.

the showy flowered Vallota purpurea and Calla æthiopica, ornamental at all times, but especially handsome when their annual and long continued supply of flowers come. We must not in passing on to some of the newer indoor plants forget our old friend Ficus elastica, the redoubtable India-rubber tree, which is grown to such gigantic proportions in some of the snug-warm rooms (and this is an essential) of our town houses as to command the respect, nay, the veneration of even the butler and housemaids, who look up to it as an old friend. The secret of growing this well is to abstain from repotting it for as many years as possible, and the reason for this is evident, as the Ficus is almost a parasite growing frequently on the trunks of other trees; to keep the leaves clean, to keep it out of the way of cold currents of air and to avoid over watering.

While on the subject of Ficus, I may say that the common fruiting Fig is a very fine and interesting plant for growing indoors, and one which gives off an odour peculiarly grateful to some; of course it loses its leaves for a part of the year, and then it must be stowed away where it will not be unsightly with its naked stems. If the proper class of plants be selected, as much pleasure (on a smaller scale) can be derived from growing them indoors as from growing them in glass-houses; but in growing them some—and particularly ladies—are much more adroit than others. I recollect some years ago seeing with Lady Adeliza Manners, a charming collection of plants in her town house, among those being Gardenias (grown and flowered there), New Holland plants, curious bulbs and Cacti, and the pretty trailers Cissus rhombea, Cissus antarctica, and our ornamented-leaved Ivies running over screens at the backs of the *jardinières*. From such observations widely acquired, I have in all parts of Europe collected much information respecting plants which grow well in the dwelling, and I shall be only too pleased to give your readers the benefit of my observations, hoping also to glean from some of them facts unknown to me.—*M. A., Camb.*

ORCHID NOTES AND GLEANINGS.

Orchids in Flower at Fernside, Bickley.—In that model of a neat little collection belonging to H. M. Pollett, Esq., which contains more fine varieties well grown, than any other collection occupying anything like the same space, the following are in flower, and as an enumeration of these will be of much service to the amateur as to what plants he should get which may be expected to be in flower about this time, we are glad to append the list.

Angræcum eburneum superbum
,, sesquipedale
Barkeria elegans
Calanthe Veitchii
Cœlogyne cristata
,, St. Albans var.
Cattleya bicolor Measuresiana
,, chocoensis
,, Percivalliana, 12 flowers
,, species
,, Trianæ, 37 flowers
,, ,, alba
,, ,, Backhousiana
,, ,, Russelliana
,, Walkeriana
,, Warscewiczii delicata
Cypripedium insigne
,, ,, Maulei
,, Lowii
,, marmorophyllum
,, niveum
,, Sedeni
,, ,, candidulum
,, Spicerianum
,, villosum
Dendrobium Ainsworthii
,, crassinode
,, moniliforme
,, nobile
,, splendidissimum
,, Wardianum
Houlettia guttata
Lælia albida
,, anceps
,, harpophylla
Lycaste Skinnerii, 8 plants
Masdevallia amabilis striata
,, ignea
,, Veitchii
Odontoglossum Alexandræ, 20 spikes
,, Andersonianum lobatum
,, aspersum
,, blandum
,, constrictum
,, crispum
,, gloriosum
,, hastilabium
,, maculatum
,, pardinum
,, Pescatorei
,, pulchellum
,, ,, majus
,, Rossii majus, 10 pans
,, sceptrum
,, Schillerianum
,, tripudians
Oncidium Forbesii
Phalænopsis grandiflora
,, Stuartiana
,, ,, punctatissima
Pleione humilis
Restrepia antennifera
Sophronites grandiflora.

It would not be fair to dismiss some of these without at least a passing notice, as they are of extraordinary merit. For example, the Odontoglossum Schillerianum is the first we have ever seen true and like the original figure in *Xenia Orchidacea*: it has several stout, upright, branched spikes, profusely furnished with bright yellow flowers prettily blotched with red. The Cattleya bicolor Measuresiana is a fine form with Olive-green sepals and petals, and large magenta distinctly edged with pure white, which last feature is the distinguishing mark. An Oncidium Forbesii is the largest and most perfect form we have seen; it has flowers nearly 2½ ins. across, the petals being so round that the flowers seem to have three labellums; the flowers are shining dark brown edged and mottled at the margins with yellow. A Cattleya Trianæ, like a delicately-tinted form of C. T. Backhousei, is very distinct. Among budded plants may be noted a Cymbidium eburneum, with about forty growths and many spikes; Odontoglossum Wilckeanum, with four good spikes; and many O. Alexandræ, with several spikes and thirty to forty bulbs each, which prove that if well grown, the air being allowed to play freely about them as at Fernside, they are not short-lived, but actually make, under good cultivation, better masses than can be collected growing wild.

The Orchid Grower's Calendar.—As many of the occupants of the East Indian house are about to commence growing actively, after the cool house Orchids are repotted, the Aërides, lesser Vandas (Vanda suavis, V. tricolor, V. insignis, and others of that section being left until autumn unless they are not sound in their pots), Saccolabiums, Phalænopses, &c., should be gone over in the same way, such of them as require it being repotted or basketted, and such as are firmly rooted to either the baskets or pots in which they are, and which it would not be desirable to remove

altogether, should have as much of the old material as possible carefully removed and replaced with new. For the large-growing kinds pots are the more convenient, and these should be crocked nearly one-third of the way up, and the plants, with the roots carefully separated, placed thereon, and filled-in with living sphaguum moss, some of the larger having a few good open pieces of crock worked-in with the moss in order to keep it open.

Some speak very highly of charcoal for this purpose, and where that material can be obtained of good quality I have found it useful; but I fancy that in the preparation it is liable sometimes to become of such a nature as to be objectionable to the roots of the plants. Where charcoal is used, if very dry, it should be immersed in water previously, and afterwards allowed to drain before using. There is no doubt that where properly burnt Oak-wood charcoal, which has been kept sweet by storing it in the open air, can be ensured, it may safely be used. Where any of the plants have long bare stems, as much of the lower part of it as is decayed should be removed, the remaining base of the stem being inserted in the pot before crocking, thus allowing the naked stem to be hidden but not sacrificed, and the plant to assume a more presentable appearance.

The smaller and more frail plants—and in particular the Phalænopsis—do best in baskets for several reasons, and those which require shifting, and those which require new material, should now get it, those yet flowering being allowed to remain until the flowers are over. It is the practice of some to top-dress by putting a thin layer of new over the old stuff; but so applied it frequently does not incorporate with the old, and therefore it is better to work out a fair quantity of the old stuff before applying new. After re-potting, those which require support should be staked, and any of the leaves which exhibit a tendency to grow out of their proper course should be lightly tied to guide them into form. For this class of Orchids I recommend baskets, rafts, or cylinders, wherever convenient, and for a time after shifting care must be taken not to over-water. The sphagnum moss, when used, should neither be dry nor wet enough to squeeze water out of, but moist.—*James O'Brien.*

Orchids on Dead Trees.—I have to thank "M. W." for his information, but I am sorry to say that I am not the wiser for it. In that woodland dell, where every tree was covered with beautiful Orchids, one of these trees happened to die. Of course, the Orchids remained alive; but did they germinate on a dead tree? A dead tree on the ground must absorb moisture, especially in a locality where it is not unusual for 7 ins. of rain fall in twenty-four hours. Of course, such Orchids are living under the same conditions as those we are growing at home. To this day I thought that the only Orchid that grew and thrived on dead and rotten trees was Angræcum sesquipedale. —*A. F. L.*

Odontoglossum crispum.—If "B. D. K." will refer to my letter on this in which he sees the denial he mentions he will find his query on page 349 answered therein as fully as I can do so at present. When my old roseum varieties open this season I will write more on them.—*De B. Crawshay.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*February 9th.*—Notwithstanding the severe frost and heavy fog experienced on Tuesday, there was a bright little show of flowers in the conservatory, and several extensive collections of Apples for the inspection of the members of the committee, of whom a smaller number than usual was present. The new plants certificated were a large rich red single Chinese Primula named Improvement, from Messrs. H. Cannell and Sons; Elwes' Giant Snowdrop, Galanthus Elwesii, a large and noble species, shown by Mr. T. S. Ware, and Messrs. Barr and Son; Iris reticulata cyanea, a dwarf form, growing only 3 ins. or 4 ins. high, of one of the prettiest spring flowers in cultivation, and distinguished besides by its paler colour; and Primula floribunda, a dwarf-growing species with small yellow blossoms, doubtfully hardy, but promising to become a useful decorative plant, as it comes true from seed, and flowers freely the season after sowing; both of these good things also came from Mr. Ware. Cattleya Trianæ Ernestii, a fine form with a richly coloured lip, and rosy purple blotches on the ends of the petals, from R. J. Measures, Esq., Camberwell. Cattleya Trianæ Schroderiana, one of the grandest varieties we have ever seen, being much larger than usual in all its parts, of a lovely tint of colour in the sepals and petals, and a noble lip with a large rich orange blotch in the throat; this was shown by Mr. Ballantine, gardener to Baron Schroder.

Mr. T. S. Ware contributed a charming group of hardy plants, mainly composed of Cyclamens, Irises, and Snowdrops, and was awarded a bronze Banksian medal. A similar award was also made to Messrs. Collins Brothers & Gabriel, for a very attractive assortment of early Daffodils, which are commented on in another column. Messrs. Barr & Son were also to the front with hardy flowers, principally Hellebores and Snowdrops, conspicuous among the former being a variety of H. orientalis, named Mrs. Tyerman, a rose-ground flower, very prettily spotted. From G. Nevile Wyatt, Esq., Lake House, Cheltenham (Mr. Simcoe gardener), came a very pretty variety of Cattleya Percivalliana; and Messrs. Heath & Son at the same time received a silver Banksian medal for a capital group of varieties of Odontoglossum Roezlii. The same firm had also a species of Ficus, with a free, branching, pendulous habit. Mr. J. James sent from Farnham Royal two good Chinese Primulas in Mary James and Purity, the latter white, the former a rich rose-pink, and both Fern-leaved; and a couple of beautiful rich-coloured and finely-flowered Cinerarias. Messrs. H. Cannell & Sons sent two nice trays of blooms of single and double Primulas; and a rich rosy purple flower with dark coloured leaf-stalks, named Mrs. Palmer came from Mr. Woolford, gardener to H. Palmer, Esq., East Thorpe, Reading. An exceeding pretty collection of single and double Camellias, cut blooms, was staged by C. Scrase Dickens, Esq., Coolhurst, Horsham, who has a fine collection, especially rich in seedling single varieties, many of which were shown and greatly admired. For making wreaths these seem to be far more suitable than the heavy double flowers, and we should like to see their cultivation become general. Mr. Ross, gardener to Sir George Macleay, Pendel Court, contributed an exceedingly well-grown specimen of Bromelia macrodora, and Mr. Turner, Slough, showed an admirable group of white Cyclamens of the giganteum type. The St. George's Nursery Company, Hanwell, also exhibited a fine collection of Cyclamen persicum, and received a silver Banksian Medal. Mr. James Douglas had a cultural commendation for a very fine five branched spike of Odontoglossum cirrosum. The chairman, Mr. G. F. Wilson, also received a similar award for a spike of twelve flowers of the pretty and not often seen Phaius tuberculosus, the plant which bore it having also another spike of eleven flowers. Mr. H. M. Pollett showed Odontoglossum Schilleriauum and Cattleya bicolor Measuresiana, both of which are commented upon in another column. Dr. Duke, the Glen, Lewisham, exhibited in flower for the first time in this country the new Cattleya Lawrenceana. The flowers which were not equal to the dried specimens, resembled a small C. Trianæ with lilac petals and trumpet-shaped, maroon-coloured lip.

For the Fruit Committees judgment, Messrs. G. Bunyard & Co., Maidstone, staged 102 dishes, Messrs. Cheal & Sons, Crawley, seventy-three dishes, and Messrs. Rivers & Son, 147 dishes of Apples, all in a fine state of preservation. Silver Banksian Medals were awarded to each. Mr. J. Wells, Fern Hill, Windsor Forest, sent two bunches of Cooper's Black Grape from canes, grafted on Trentham Black, to show its good keeping qualities; and Mr. R. Draper, Seaham Hall, sent examples of a seedling Kale.

Manchester Horticultural Improvement. —*February 4th.*—At the usual fortnightly meeting of this association, held on the above date, the President, Mr. Bruce Findlay, in the chair, Mr. W. Swan, the ex-secretary of the society, read a paper on Orchids and Orchid culture. He said that he had given this class of plants considerable attention. He described to the meeting the mode of growth, structure, form of the flowers, and organs of fertilisation of Orchids, and then went on to speak of the process of hybridisation, giving some of the results obtained by a persistent course of such interesting labour. In looking over some statements and memoranda which he had made at various times, he found that there were no less than 100 named hybrids in various collections at the present time. The greater number of these have come from the famous Chelsea establishment of Messrs. Veitch & Sons, but, at the same time, many good things have sprung from other sources, the raisers of which, in his judgment, deserve much credit for attempting such labour, which, in so many instances, have been rewarded with marked success. He mentioned three distinct batches of Dendrobiums which have appeared in this neighbourhood. The first, Ainsworthii, is now known to most people as a most beautiful and desirable as well as a valuable Orchid. Of the second batch, Leechianum, perhaps he ought to say little, but when it has been sufficiently increased, so that it may be sent out by those who have it now, it will prove itself to be far in advance of anything that has yet appeared, and will be eagerly sought after. He had had the pleasure of more than once seeing another batch of Dendrobium seedlings which have been raised in this district. He had no permission to speak of them further than this, but his heartiest congratulations were now given to the fortunate raiser, and he trusted that that gentleman may have the pleasure of watching and growing them for some time to come, so that by and bye he may have the intense delight of gazing upon a new and beautiful addition to this already rich and beautiful class of plants.

But whether one is fortunate in raising and growing seedlings, whether one has a collection of plants that are established, grow in their regular season, and expand their glorious blooms, or should one have to deal with newly imported plants, the course of treatment pursued is in a certain sense pretty much the same all round. Not that little seedlings must have the same treatment that should be given to newly-imported Cattleyas, or that a collection of Phalænopsis should be treated as one managed a batch of Dendrobiums. But still there is a sense in which cultivators must pursue a treatment somewhat similar to each other. People often spoke of the months of December, January, and February as the resting season, as though a cessation of growth and activity came over the whole or greater part of the collection. This he considered to be a mistake; true, a few plants appear to be at rest, seem to be dormant, but be assured that activity and development are ever present, and progress in bud and advance in bloom are surely taking place, although the changes being less rapid and marked do not strike us so forcibly as the more quickly-formed leaves and bulbs of the summer months. It is possible to have blooms of Dendrobiums always present in our houses, and where cut flowers are much in demand there is no class of plants that will give such variety and beauty as a select and well-grown group of Dendrobes. Of course, to bring about this happy result much care and attention are necessary. His object in reading the paper would be attained if a habit is formed of treating the plants more as separate individuals. An interest should be taken in each separate plant, rather than that they should be treated as a whole, and taking it for granted that the method adopted for one will of necessity suit another.

Mr. Swan gave some practical hints as to the cultivation of Orchids. He was sure of this, that many grand specimens, and useful and hardy plants, had been grown on the old-fashioned method, namely, simply cutting out old and useless bulbs. He was quite willing to admit that good plants had, in some instances, been grown where severe pruning has been practised. He advised cultivators to be cautious of the use of the pruning knife, He did not advise an indiscriminate use of it, but on the other hand he did not set himself entirely against it. He also recommended a discriminate use of the syringe. He impressed upon the meeting the absolute necessity of considerable care and discernment in the composts procured for the plants. The moss should be living, free from litter, and such as will be most likely to grow when used amongst the plants. The best peat should be obtained, such as is full of Fern rhizomes and roots. The pots should be always clean when potting, and if they are quite new they should be dipped or watered once or twice before using them. The crocks also must be quite clean and free from any green that may have adhered to them. But with every possible care and treatment some plants do not make the desired progress, nor are such favourable results obtained as the treatment given would lead one to hope would be the case. This probably arises from the fact that the conditions under which they grow in their native habitat are so imperfectly known to us that we often attempt to ensure success by adopting methods which are entirely opposite to the requirement of the plants. When this is the case, change the position of the plant in the house.

Some discussion has taken place quite recently in the gardening papers as the desirability of forming an Orchid society. Such an association might do much to bring growers and those who have a special fondness for Orchids occasionally into the company of each other. It might perhaps put a definate value on various plants when placed on an exhibition stage; he meant value from an exhibiting point of view. He, however, was not anxious to express very decided views upon the matter further than this: that if such a society be formed it should have a very broad basis. A fair number of growers from this district should be found among its members and also on the committee. He should hope also that as much as possible would be done to prevent such a society being ruled altogether by those residing in the Metropolitan counties, and that the opinion of country members should be accepted as readily as those in the south.

The chairman, Messrs. Griffiths Hughes, Lunt, Butterworth, Atkinson, and Upjohn took part in the brief discussion which followed the reading of the paper.

The National Chrysanthemum.—*8th February,* 1886.—A meeting of the general committee of this society was held at the Old Four Swans, Bishopsgate Street, on Monday evening, the president, Mr. E. Sanderson occupied the chair. There were upwards of thirty members of this committee present out of a total of thirty-six, and as many of them have to travel a long distance, it speaks well for the interest taken in the work, and it is highly gratifying to the officers to have such an enthusiastic body of workers upon their general committee. Mr. Holmes the honorary secretary, reported at some length upon the result of the negotiations with the Royal Aquarium Company, with reference to holding three shows of Chrysanthemums during the ensuing season, and it was resolved to accept the terms offered by the Aquarium Company, which are that the society shall hold a show of early Chrysanthemums, Dahlias, &c., in September, to which the company have promised to contribute £75 towards

the prize fund; the usual great Chrysanthemum show in November, the company contributing £100; and another show of late Chrysanthemums in January next, to which the company have also promised to contribute £50 for prizes. The dates of the early and late shows will be arranged and announced in the course of a week or two. Considerable correspondence was read, and amongst the latter were offers of prizes at the November show, from Messrs. Sutton & Co., Reading, and Messrs. Webb & Sons, Stourbridge. The secretary also reported that a communication had been received from M. Simon Délaux, in which he stated that in 1887 it was his intention to offer at the November show of the society, a silver cup value 600 francs, and a silver medal value 100 francs, as prizes for his set of new varieties to be sent out in the spring of 1887. A sub-committee were elected to proceed with the preparation of a schedule of the three shows to place before the general committee at their next meeting; following which came the election of the exhibition committee and judges.

One of the most important features of the meeting was the election of the floral committee, whose duty it is to hold meetings for adjudicating upon the quality of blooms exhibited to them, and award certificates to the most meritorious. It was resolved to limit the committee to sixteen members, exclusive of president, vice-president and secretary; and the ultimate selection of gentlemen to constitute this committee fell upon the following members of the society: Messrs. H. Cannell, G. Stevens, Geo. Gordon, J. Wright, J. P. Kendall, J. Mardlin, N. Davis, C. Swift, — Gibson, J. J. Lowry, R. Dean, S. Gilbey, J. Springbett, — Berry, C. Herrin, and R. Bevan. Some discussion took place upon a proposition to prepare and issue a new National Catalogue, and it was resolved to appoint a small sub-committee for this purpose, with power to call in such assistance as they might consider advisable, with a view of preparing and issuing a thoroughly authentic catalogue. The following gentlemen were selected to form this committee: Mr. N. Davis, Mr. Springbett, Mr. Geo. S. Addison, with Mr. C. Harman Payne as hon. secretary. A good bunch of neat blooms of Madlle. Lacroix were exhibited by Mr. J. Springbett, of Cheshunt. Votes of thanks to the president, vice-president, and secretary concluded the business of a most interesting meeting, extending over three hours.

The St. Annswell Road Amateur Horticultural Society, Nottingham, held its annual meeting on the 26th ult., S. Thacker, Esq., the President, occupying the chair. After the usual routine business had been transacted, some interesting discussion took place respecting several subjects exhibited. The President called attention to some specimen Orchids which he exhibited, and explained their cultivation in a thoroughly practical manner. The most noteworthy plants which he exhibited were a fine plant of Cœlogyne cristata (Chatsworth variety), grown in a 10-in. pot, with some twenty spikes of well-developed flowers, averaging eight on a spike; a well-flowered Masdevallia Tovarensis, and an elegant spray for a lady composed entirely of Orchids with a backing of Adiantum concinnum latum. Mr. J. B. Allen contributed some remarkable Cinerarias, among which was a beautiful rich dark magenta coloured variety with a pure white centre—a plant in a 48' pot with nearly a hundred well developed blossoms, most of them measuring 2½ ins. across; Mr. Allen also gave some good practical hints on their cultivation. Mr. James Don, seedsman, exhibited several dishes of the new Village Blacksmith Potato, which were very much admired. I can assure you the interest taken by these amateurs in plant cultivation is something remarkable, and as growers and exhibitors of some flowers, notably the Chrysanthemum, they quite put some of our local professionals in the shade. I regret to infom you that one of the most active members has retired after fourteen years good service; this is Mr. J. Hooley, who having lately taken "the Gardener's Rest," finds it impossible to give that assistance to the society which he would like to do. Mr. Hooley is a veteran Fuchsia and Musk grower, and some years ago exhibited a specimen of the last named plant 6 ft. high, and which he presented to Sir James Oldknow after the exhibition. Another member, Mr. Neal, grows about thirty sorts of Potatos for exhibition. The services of the energetic secretary, Mr. C. L. O'Hara, appears to be properly appreciated, if we may judge from the fact that he was unanimously granted an increase in his salary.—*From a Correspondent.*

Obituary.

We regret to hear of the death at Branston, Lincolnshire, on the 2nd inst., of Mr. Charles Frisby, who for upwards of forty years was gardener at Blankney. Mr. Frisby, who was seventy-one years of age, was one of the good old-fashioned school of gardeners, and an excellent vegetable grower; years ago he was a frequent and successful exhibitor, especially at the provincial shows of the R. H. S. For several years he has been living in retirement, on a handsome allowance from Mr. Henry Chaplin, M.P. He leaves two sons in the profession, who worthily maintain their father's reputation.

QUESTIONS AND ANSWERS.

Fertilising Cucumbers.—*A. J. F.:* Certainly not. Had such a proceeding been possible, it would have been carried out years ago.

Names of Plants.—*F. Dressel:* A very good form of Odontoglossum Rossii majus, but not the variety rubescens.—*E. J. P.:* Smilax aspersa, the rough Bindweed. A native of Southern Europe; half-evergreen. Treat it as a wall climber.—*R. Looker:* Lælia albida and Odontoglossum odoratum.

Primula.—*R. Looker:* A pretty thing, but not new. It was received from the Continent several years ago, and has many times been exhibited at South Kensington. You will find a coloured plate of it in the back volumes of the *Florist and Pomologist.*

Plant Collectors.—*A Young Botanist.*—We do not know of any examination that a collector has to undergo, except at the hands of those who may send him out. The requirements of such a man, we take to be: a good knowledge of plants, a robust constitution and temperate habits, a knowledge of packing, and enthusiasm in the work. We do not know what the pay is.

Communications Received.—G. S. A.—V. C. & Co.—A. F. L.—De B. C.—J. F. (no charge).—H. F.—A. R.—B. S. W.—R. D., Essex (we have sent your letter to the writer).—J. D.—A. O.—J. T.—J. P.—G. F. W.—H. J. J.—H. W. W.

TRADE CATALOGUE RECEIVED.

John Turner, North Street, Wetherby, Yorks.—Vegetable, Flower and Farm Seeds.

LONDON SEED TRADE.

February 10th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark lane, report no new feature in the state of trade in farm seeds, prices remaining unchanged. America is still buying Red Clover here; there is a better demand for Perennial and Italian Rye Grasses. Alsike and Trefoil continue remarkably cheap; White Clover is steady; Linseed is dearer; Hemp and Canary unchanged.

COVENT GARDEN MARKET.

February 11th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	1 6	4 6	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	2 0	1 6
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 0	1 6	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches			Mimosa or Acacia, French ..per bunch	1 0	1 6
Acacia mimosa, French per bunch	0 6	1 0	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea, French ,,	0 9	1 6
Daffodils, per bunch	1 0	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	2 0	6 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	30 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9
Lilium Longiflorum, 12 blooms					

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	10 0	15 0
Arum Lilies, per doz.	12 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Asters, per doz.			Hyacinths, per doz.	6 0	9 0
Azalea, per dozen	24 0	42 0	Hyacinths, Roman, per dozen		
Begonias, per dozen	6 0	12 0	Hydrangea, per dozen		
Bouvardias, per dozen	9 0	18 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Chrysanthemums, per dozen pots			Lilium lancifolium, per dozen		
Cineraria, per dozen	10 0	12 0	Marguerites, per doz.	9 0	12 0
Cockscombs, per doz.			Mignonette, per doz.		
Cyclamens, per dozen	12 0	24 0	Narciss, per dozen	8 0	12 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Daffodils, per dozen	9 0	12 0	Pelargoniums, doz.		
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Poinsettia, per dozen		
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Solanum, per dozen	8 0	12 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 0			
Fuchsias, per dozen					

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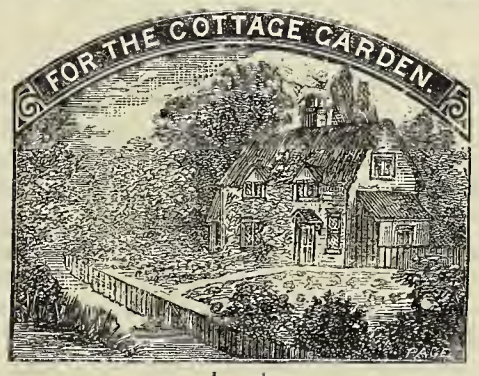

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THE fourth grand Spring Flower Show of Hyacinths, Tulips, Narcissus, Azaleas, Rhododendrons, Roses, and forced hardy plants will be held in St. George's Hall, on Thursday, March 18th.

Schedules on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Huyton.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 20, 1886.

FLOWER GARDENING.—There can be little doubt but that the long-existing form of summer flower gardening seen in bedding-out plants in variously-formed masses and in diverse associations is fast hastening to an end. It is true that the popular taste hangs closely around combinations of this kind, and myriads will still cluster round a fancy carpet bed, especially if the various combinations be striking if not chaste. But the British public, whilst devotedly attached to flowers, is hardly qualified to criticise, and is usually content with whatsoever may be provided for its special delectation. A mass of scarlet, or of yellow, or blue, or these and some half-dozen other contrasting hues in varied combination, no more fail to attract than does the rich hues of the Rose or Dahlia to attract the butterfly or the humble bee. These insects have no cultivated taste, either in the matter of colour, harmony, or effectiveness of the arrangement of plants. They are attracted and pleased—that is all; but the gardener, whilst desirous of affording as much pleasure as possible, may, after all, ask whether the pandering tastes, that if not depraved are at least mistaken, is either proper or desirable. It may be floral decoration in a certain sense, but it is not gardening. A dinner-table literally laden

with flowers will sometimes please those whose tastes and habits are vulgar; but it is neither art nor decorative skill. In the same way, a garden over-done with flowers, and specially where these masses are, show a perversion of beautiful plants to the destruction of their individuality. That is not beautiful, and still less is not gardening.

The bedding-out system has ran some forty years, and has efficiently played its part. It has been admired even far beyond its merits. It has favoured the growth largely of myriads of plants of the most fugitive kind; plants in themselves almost without nobleness and beauty, yet, giving some not unpleasing results in the mass, but still plants of only the most indifferent merit. It has added largely to the constant labour incidental to flower gardening, and it has even then under some untoward climatical conditions sadly failed of its objects. Bedding out is just now upon its trial, and it seems as if the verdict of professional experts would be "No longer in accordance with existing garden tastes." One of the difficulties incidental to the ordinary form of "bedding out," is, the inevitable sameness which exhibits itself in any arrangement from year to year. Even where carried out with exceptional skill, and with all the taste which long experience in arrangement can furnish, the sameness is still painfully evident, and the lack of variety in the material baffles the skill and ingenuity of the gardener. The various combinations may be effected from year to year with singular expertness, and the bedding kept with not less appreciation for neatness and order, but still there is satiety, and endless repetition, which eventually ends in weariness.

But apart from these elements of weakness, which are inevitable to the constant repetition of any stereotyped work in garden decoration, there is the pressing, and perhaps distressing elements of greater economy in gardens, which now exhibits itself with increasing force, and is moulding gardening more and more into utilitarian channels. The country in the mass may not be growing poorer, but individuals in many directions are, and of those who have hitherto maintained extensive and perhaps gaudy gardens, not a few have felt the pinch of harder times, and are compelled to garden more economically. Naturally, gardening leans for its support upon wealth, and pinching in high places inevitably leads to garden reductions, which are now inevitable. The flower garden, if consisting of bedding plants, is a mere garden luxury without hope of recompense. Let it go! It has absorbed much garden space, much time and labour; let it go, and the glass devoted to it, and the time and labour devoted to it be better applied. Turf down the beds, plant clumps of shrubs, put in some good hardy flowering plants that need little special care, and yet give much beauty in their season, and thus make decorative flower gardening less staid and formal, and, if less costly, not less pleasing.

We find the demand for cut flowers to be rather increasing than diminishing; how much better then to devote our beds and borders to plants that give flowers for cutting in abundance, rather than to plant those that are so far useless. If we must have flower gardens specially, why not devote to their cultivation some less prominent position, where in an informal way plants may be grown cheaply and in abundance, and where the cutting of a bushel or two of blossoms would grieve no one, or mar the bedding effects. We must now in gardening learn more and more to keep down cost, especially in the floral departments. On the other hand, by providing cheaply a large quantity of flowers suitable for cutting, we shall find that much more value for outlay is being obtained, than can result from any summer bedding out display.

GARDENING MISCELLANY.

Royal Horticultural Society's Liverpool Show.—We are pleased to be able to announce that arrangements have been made between the Council and the Mayor and Corporation of Liverpool for holding a grand exhibition devoted to all branches of horticulture, including implements and appliances connected therewith, in the Botanic Garden, and so much of the Wavertree Park as may be required, from June 29th to July 5th inclusive.

National Chrysanthemum Society.—A meeting of the general committee of this society will be held at the "Old Four Swans," Bishopsgate Street, City, on Monday evening next, at eight o'clock.

Carnations and Picotees.—Those who grow a collection of choice-named varieties of each of these, and have kept their plants in a cool frame during the winter, will find they are showing indications of their spring start. Now is the time to go over the plants, and give them a thorough cleaning; and while the weather keeps mild and genial, any plants showing dryness of soil may be carefully watered, taking care not to give too much in case frost should suddenly set in. And while it is fairly warm and sunny, the lights of the frames may be drawn quite back, so that the plants may have the full benefit of genial influences. By the end of the month the plants may receive gentle showers with advantage, if they come from the south or south-west; but they should not be allowed to become too much saturated, or a rapid fall of temperature may take place unexpectedly. Then it is well not to permit sharp and cutting winds to blow upon the plants; at the same time it is not advisable that the lights be completely closed, but allowed to remain open at the point opposite to that from whence the wind blows. To some these directions may appear unnecessarily precise; but we are indicating only proper precautions. The stronger and more thoroughly healthy the plants, the better will be the heads of bloom that may be looked for in July.

The Lawn.—If a nice, level, pleasant-looking Grass sward is to reward the labours of the gardener, then as soon as drying weather enables it to be done the lawn should be swept and rolled, doing this three times a week, but taking care not to tear up any of the Grass by using a hard stubby broom. There is a good deal of knack in sweeping a lawn properly; some gardeners do it in an awkward and ineffective manner. Now is the time to make good any defects in it. If the Grass has become sunken in places, let the turf be cut in the shape of two doors opening outwards, lift these and lay them back, and then add soil so as to bring the Grass up to the proper level; re-lay the turf and beat it down firmly. It is a good plan to give some kind of dressing to all Grass under the scythe; this can be done any time during the month of February, and just after a good rolling is a fitting time to apply it. In all circumstances a sandy compost—say, the fine siftings from a potting-bench—greatly helps to keep a solid bottom under the scythe or mowing-machine, and it also serves to make the Grass soft and carpet-like to walk upon. An old gardening friend of ours recommends finely-sifted wood-ashes as a good dressing for poor Grass.

THE TURNER MEMORIAL.

The difficulty found by the promoters of this memorial in increasing the fund beyond its present amount, shows that it is wiser to close it at once than to further afflict the feelings of those most closely concerned by hawking the memorial about for some months hence. That a much less sum than was originally looked for has been obtained must be accepted as an indication that men's capacities to give are not equal to their desires, as but for such misfortune much more would no doubt have been subscribed.

I have ventured to suggest privately, and now do so publicly, that to meet the difficulty in which the promoters and trustees now find themselves placed, that so far from making the proposed memorial permanent, it should be terminable, say, in ten years, by which time the major part of the late Mr. Turner's older contemporaries would have passed away, and another generation would have arisen who knew him not. If the memorial be made permanent there seems not the least chance of the annual sum given from it in prizes exceeding £6 or £7—a mere trifle, and unworthy the designation of memorial prizes. If, on the other hand, the memorial be made terminable in ten years, about £20 yearly may be given as the interest upon the principal with compound interest also, should produce some £200 in the ten years.

Now, £20 given annually in prizes would be a respectable sum, and sufficient to ensure good competition. There would then be the combined advantages that these competitions might be shared in largely by the late Mr. Turner's contemporaries, and the duties of the trustees might expire whilst yet in life. There can be no doubt but that memorials of this nature, commemorative of tradesmen, do evoke some distaste in other trade circles, and that feeling would be largely allayed were it determined to make this memorial, as all others of a similar kind, temporary rather than permanent.—*A. D.*

ANEMONE FULGENS.

Nothing, perhaps, among spring flowers, is more conspicuous than the rich glowing crimson-scarlet of this vivid flower; in point of brilliancy it is surpassed by none, and only equalled by some of the more intense forms of the Crown Anemone, A. coronaria. It is one of those perfectly hardy gems without which the spring garden is incomplete, and one whose culture is both simple and easy. It thrives well in most soils of a rich vegetable nature, and deteriorates but in few. Where it is found to fall off after a season or two, it should be lifted when fully matured, and gradually dried off by placing in dry silver sand in any shed or outhouse wherein an uniform temperature is likely to be maintained. If preference may be given to soil where it may be allowed to remain undisturbed for several years, then that soil is light, rich, sandy loam of fair depth; after the end of the first season its progress in such soil is very rapid, and the yield of its flowers in spring-time increases in the same proportion.

It is, where soil suits it, generally at its best the second season after planting, by which time its tubers will have reached a good size; then it is that you see crowns protruding from all sides of the tubers, and as these emerge into daylight, and the first few leaves are formed, the flowers will speedily follow; a few patches of it in any garden in spring will amply repay for any trouble in bringing it to perfection. It commences flowering late in February, and continues to produce flowers till May; this, to a great extent, however, depends on the planting.

Those who wish for a succession of its fiery scarlet flowers should plant at intervals of a month or six weeks; for spring effect, however, plant early in September, and for summer and autumn, from March to May. I have had lovely flowers of this plant during August and September, when it is truly welcome in the herbaceous border, seeing how few of its colour we have at that time, and especially dwarf-habited plants. It comes from Southern Europe and Greece, and grows about 1 ft. high. It should be planted about 3 ins. deep, always avoiding cold clayey soils, for in such it will not thrive. When established it is exceedingly free flowering, as may be seen by the annexed woodcut, which well illustrates its general habit.—*J.*

A GARDENERS' DINNER.

The recent dinner of the Royal Horticultural Society proved an undoubted failure in point of numbers, although the council in arranging it possibly desired that it should be, as the council itself is, exceptionally select. But what thirty shillings per head cannot accomplish, I think the more popular crown per head could, and I should like to see some representative body following the lead of the R. H. S. council in the matter of an horticultural dinner, but upon a wider and far more satisfactory basis.

It is so long since gardeners have had an opportunity to meet together in social intercourse, that it is most probable that large numbers would hail the chance to do so could some arrangement to that end be made. I should like to see a committee formed to carry out this idea, that should as a starting point include a representative of each of the staffs of the horticultural papers, as I am sure gardeners generally would have entire confidence in those gentlemen. But, in other respects, the promoting body should be entirely independent of any other organisation, and should act in a purely independent spirit. To secure a really attractive

programme, the assistance of some good speakers should be secured, and having a lively remembrance of the debut of the present President of the Local Government Board as a horticultural dinner chairman at Aston Lower Grounds some years ago, I think the securing of the Right Honorable Gentleman as chairman for the proposed dinner would be to ensure its entire success.

There are just now many reasons why gardeners should be brought together in social intercourse, not the least of which is found in the paralysed condition of the Royal Horticultural Society. Perhaps a great gathering as suggested, if held in London during the summer, would help to stimulate that body to more democratic action, and thus bring a society, in which every gardener feels some interest, into more complete accord with the times.—*A. D.*

WINTER FLOWERING BEGONIAS.

For a cool stove or warm conservatory there are few plants to equal the winter-flowering Begonias at this time of the year, and for a month or two yet they will be yielding their flowers in such numbers that we can cut basketfuls from a moderate collection of plants. Being easily grown and cheap, they are finding friends in hundreds of gardens where efforts are made to maintain a prolonged supply of flowers during winter and early spring. Those of the B. semperflorens section are the best known and the most generally useful, they are strong in growth, free in flowering, and are quickly increased either by cuttings or seed, all considerations of much importance. The typical B. semperflorens has white flowers, pure and large in fine clusters produced naturally from Christmas onwards without any special management, but by sowing seed at intervals or raising several batches of cuttings it can be had in bloom at any time of the year. From time to time seedlings have been selected from this distinguished by the greater size of the flowers or the presence of rosy tints, and to these suitable names have been given. Thus an enlarged form has been termed Gigantea, and of this two beautiful varieties are named respectively Rosea and Carminea, the former of a bright pure soft pink, and the latter deep rosy red in the bud, but when fully opened of a rich flesh tint. There are varieties of the ordinary B. semperflorens type bearing similar names to the above, and one Rubra, is noteworthy for the very dark red hue of the flowers, but all are valuable plants, and anyone may venture to have a good collection as they are certain to give satisfaction.

A series of hybrids named after the gardens where they were obtained, such as Knowsleyana, Ascotensis, Digswellensis, and Weltoniensis, comprise some of the best known and most useful Begonias in cultivation; and it is impossible to say too much in their praise for their particular purpose—a winter supply of graceful flowering plants. Knowsleyana has very much to recommend it; the habit is free but compact, it is extremely floriferous, and the flowers are charmingly tinted with rose or sometimes nearly white. It is a thoroughly useful plant, and either for general decorative purposes in the conservatory or greenhouse, where it succeeds admirably, or to furnish its blooms in unstinted quantity for cutting. The gracefulness of its habit renders it well suited for arranging with other plants, especially with Ferns or plants bearing brighter coloured flowers than this Begonia. Ascotensis is similarly useful, and the flowers are of a warm pink colour; Digswellensis is dwarf in habit, producing great numbers of its rosy flowers in neat clusters; while Weltoniensis, of similar colour, but having rich green foliage, is so well known as scarcely to need description.

Of a different style, but very graceful, free, and bright, is B. Ingrami, an enlarged hybrid or variety of the B. fuchsioides type; the flowers, however, are larger than that lovely species and of a darker colour, the leaves and growth are also stronger and distinct. B. fuchsioides itself should be grown in every garden, for its charming coral-like scarlet drooping flowers please all who see it in good condition. It is one of the best for planting out in a conservatory, and can be trained to the pillars or rafters with excellent effect; in fact, there is no other Begonia so well adapted for this purpose. B. Carrieri is a comparatively new hybrid, and unites some of the best qualities of B. semperflorens with the dwarfer habit of B. Schmidti. It forms a bushy plant, branching but compact, and is one of the most floriferous of the winter-flowering Begonias, small plants being frequently seen what are termed masses of bloom—that is, the foliage is scarcely visible owing to the abundant clusters of pure white elegant flowers, which have a lighter appearance than those of B. semperflorens. Many more might be mentioned, but the above comprise the most reliable and useful sorts, it being only necessary to add to them the white or blush B. nitida, that can be safely recommended to all who have not grown it; those who have it well know its valuable character.

The culture is so simple that it can be detailed in a few words, and except to assist amateurs or beginners it would not be necessary to refer to it. We have found that the best soil for these Begonias is a mixture of light turfy loam and peat in equal parts, adding for the stronger growing sorts a small proportion of old manure, and for all a liberal allowance of sand. Drainage must be carefully looked to, as the plants are of a succulent nature, and though requiring plenty of water when growing they are soon injured if it becomes stagnant around their roots. To assist the free-flowering varieties supply weak liquid manure frequently, but be sure that it is weak. It is important also not to employ too large pots, rather restrict the roots a little, and make up the deficiency by increasing the liquid manure applications. Cuttings can be struck at any time with success if inserted in sandy soil in a warm house, and not kept too moist. Seed also can be sown next month and onwards, in batches to yield plants for flowering successionally. As the old plants go out of flower cut them back closely and transfer them to smaller pots, afterwards re-potting as they advance.—*B.*

Anemone fulgens.

MR. CYPHER'S NURSERY.

There is probably no time in the whole year when Orchids, or indeed any flowering plants indoors, are more welcome than at this season of the year when scarcely a leaf dare venture from beneath the sod out-of-doors. At the present time the Orchid houses in Mr. Cypher's nursery at Cheltenham, present a very gay appearance, not a spike or two of flower here and there, but sufficient, in fact, to make a very effective display if they were all arranged *en masse*. This crowding of flowering plants into one structure, however, does not appear to be any part of Mr. Cypher's idea, as may be gleaned from the manner in which the various Orchid houses in his nursery are made gay with the complement of plants it contains.

At the present time there are many genera well represented by flowering specimens, among which the following are the most prominent and noteworthy. Conspicuous in the Odontoglossum house, were many and various forms of O. Rossii majus, pleasing in its variety and useful as well as a telling free flowering winter Orchid; suspended in small baskets near the glass, it is evidently quite happy. In the same house were plants of Cypripedium insigne Maulei and Chantinii, both very distinct as here seen; there were also numbers of Lycaste throwing up spikes with unwonted freedom, and which probably ere these notes reach the readers of The Gardening World, will be playing their part in the embellishment of a house already gay with choice flowers.

In the warmer structures were many valuable and rare Orchids, in which Dendrobes were prominent. These included the white D. leucolophotum, in which the flowers are arranged on an horizontal bar, at right angles with the spike; then came the lovely white D. Dearii, the most durable of all, perhaps; and associated with these were several forms of Ainsworthii and its variety, roseum, among them, with D. bigibbum, D. heterocarpum, and D. Fytchianum completing the group. In those named we get much variation, both of form and colour, which at such a time are doubly welcome. Nor was this all we saw, for Calanthe Veitchi was gay with lovely flowers and beautifully coloured; of these there were many plants producing a most telling effect. The Cypripediums included the useful biflorum, throwing up numbers of flowers and some already developed; then followed the ever-welcome C. Spicerianum, always pleasing and attractive; nor must we omit the many forms and the massive pendent racemes of Saccolabium giganteum, in varied hues of rose and white; some of these were extremely handsome and verging on pure white, which latter, Mr. Cypher informed me, were very useful in button-hole and bouquet arrangements, for which he is well known; and probably among the most interesting and curious were the Dove Orchid, Peristeria elata, and Angræcum sesquipedale, which are both white and of great substance.

But turning from this to the cooler quarters of the Cattleya-house, a brilliant array of flowers await us there, which include Lælia anceps Barkerii and autumnale; Cattleya Loddigesii and Holfordii, the latter yellow and apparently a very free-flowering species; C. Trianæ and others. The useful Cypripedium insigne was flowering profusely, and, as ever, it still maintains a good position among the host of new comers; noteworthy in respect to this was the fact that in many instances two flowers were produced on a scape. Barkerias were plentiful, and while several of the forms were flowers of small proportions, we had only to turn to B. Skinnerii and B. Lindleyana, both of which were in splendid form, to find both size and colour; the former

has a distinctly broad labellum and flowers of a deep rosy purple. These, then, are some of the beauties now flowering in these nurseries, soon to be succeeded by the chaste and diversified forms of the Cattleyas and the invaluable Cœlogynes, the latter, with its conspicuous yellow palate, forming one of the choicest ornaments among Orchidaceous plants at this season. —*J.*

CHRYSANTHEMUM NAMES.

The season for excitement for the lovers of the Autumn Queen is almost over. The period over which the exhibitions have extended has been much longer than the most sanguine Chrysanthemum grower could ever have expected, opening, as it did, with the Royal Horticultural Society's show on the 27th October last, and closing with the National Society's late show on the 13th January. Successful exhibitors are proud of their laurels, and unsuccessful ones are busily cogitating and endeavouring to discover their weak points, and to find out how it was they were only able to secure second prizes when they were so anxious to carry off the coveted silver cups or medals given at the various Chrysanthemum contests. And, as all are busy with the pencil notes made at the numerous shows they have visited, making a selection of the most favoured blooms for their exhibition boards next season, it has occurred to me that the present is the most fitting time for calling attention to the hopeless state of confusion into which the names of Chrysanthemums are slowly but surely drifting ; I say slowly, but I am not quite certain that I should not say rapidly.

Both continental and English distributors of Chrysanthemums are to blame for the various traps which are open to receive the enthusiastic Chrysanthemum grower. We have first the flower with two names, one given by the raiser on its introduction, and the other given by the English dealer, who is so considerate that he is under the impression if he sends it out with its foreign title we could not spell it, so, purely out of consideration for the gardener and without, of course, wishing for any credit himself, he rechristens it either after one of his friends or some well-known English horticulturist.

Numerous examples of this have appeared from time to time in the horticultural press, and, as lists of synonyms are to be found in several catalogues and works on the Chrysanthemum, it is therefore quite unnecessary for me to set them out here. Although the majority of plants we have with two names have received the second one in this country, yet the continental growers are guilty of a similar practice, and that is sending out an old variety as a new one, and charging a high price for it. Take for example Souvenir de Haarlem, a new variety received last year, with one of those glowing descriptions of shape and colour the French are so noted for in their catalogues; this has turned out to be none other than Rosea Superba sent out in 1883, with an entirely different description.

Then we have two, or in some cases even three flowers under one name ; for this the continental raisers are, I believe, principally to blame, and it is a matter of deep regret that they should be afflicted with such bad memories, when christening their new varieties, as to forget how many times they have used the same name. Surely there is enough variation in both the French and English languages to enable raisers to steer clear of the same word over and over again.

What is to be done, and how are we to avoid confusion or know that when we order a Chrysanthemum, say, for instance, one that has recently received a First Class Certificate, that we are not going to be supplied with a worthless variety of the same name that has been in commerce for years, and is of a totally different colour? Purchasers, as a rule, simply write the name of the plant they require when sending out their order, probably copied from a newspaper report of a show; but to ensure receiving the plant one has fixed upon growing, it will soon become absolutely necessary to write a lengthy description of the flower, in addition to the name. Below is given a list of cases that have come under my notice in which difficulty is likely to arise, and the reader will please to bear in mind that this is by no means an exhaustive list. As I have not had an opportunity of growing the whole of the varieties I shall mention, for the purpose of proving the distinction, I have in some instances had to rely upon catalogues of continental raisers for my information.

Arlequin.—There are three flowers of this name, one raised by Délaux, described as a brilliant crimson-red, another, by Lemoine, is of salmon-yellow ; the third is by Rozain and is to be sent out this year by Boucharlat, it is described as a bright purple-carmine mixed with yellow petals, these are all Japanese ; in addition to these there is one which varies only in the spelling, and is also a Japanese—this is Harlequin, creamy white striped with rose.

Aurore Boréale.—Here we have no less than three distinct flowers under one name : first, a golden violet Pompon ; then, in 1881, Lacroix sent out a Japanese dark crimson, golden red centre ; and, in 1884, Délaux sends us a third, described as centre florets spiral, golden colour, outer creamy salmon ; this is also a "Jap."

Boule de Neige.—The variety of this name, certificated at both South Kensington and the National Chrysanthemum Society, in December last, as a decorative reflexed flower, is, by the continental raisers, classed with other hybrids, and is described as of the purest white. There is also a pure white Pompon of this name.

Cérès.—I have had some difficulty in tracing the four varieties that have upon different occasions made their appearance under this name, and I am still in correspondence upon the subject with a friend, who is a prominent grower in France. First we have a variety said to have been sent out by Bernard in 1850, described as a very double flower, one of the largest, white, slightly flesh coloured. Then we get from Lemoine a Pompon, clear red ground tipped with yellow, and with tubulated petals. In 1884, De Reydellet sent us a canary-yellow Japanese. The variety which has been certificated by the National Chrysanthemum Society this year, and was exhibited in such grand form by Mr. Bettisworth, at the Society's late show, on the 13th January last, made its first appearance at the Royal Horticultural Society, on December 12th, 1882, when it was awarded a First Class Certificate. Strange to say, the description corresponds exactly with the flower credited to M. Bernard. It would be somewhat remarkable if it should turn out that these two flowers are identical, and it is just possible that it may be so ; take for example, King of the Crimsons, which, it has just been ascertained, was first sent out by Salter in 1844, and, although a very fine flower, was only brought to the front about four years ago.

Cœur Fidèle.—Messrs. Délaux have sent out two of these, both Japanese, the first was a bright red flamed dark yellow, the second, with the 1885 varieties, is clear silver-white, rose centre, and from all appearances of very little use as an exhibition flower.

Élise.—The same firm send us two of these, one a fine golden red speckled with gold, the other a soft lilac shaded with silver, and having curly petals, both Japanese. The second reached England in the spring of 1883, and in order to further complicate matters one English firm sent it out as Eliza.

Flocon de Neige.—Two distinct varieties, the first by Lacroix in 1881, described as an enormous flower with pure white vertical petals ; the second is by De Reydellet, 1885, white, with laciniated petals.

Jean Délaux (Délaux).—Brick red, rich and distinct colour.

Jeanne Délaux (Délaux, 1882).—Enormous flowers, dark velvety crimson, centre gold. This variety is by some said to be precisely the same as Japon Fleuri, which was sent out the same year by Délaux.

Here we have a clear case of that practice of re-naming, which cannot be too strongly condemned. Jeanne Délaux made its appearance at the Royal Horticultural Society, on November 14th, 1882, as F. A. Davis, and was awarded a First Class Certificate under this name ; but the practical Chrysanthemum grower was not to be deceived so easily—colours so distinct as this do not reach us with every instalment of new varieties.—*Geo. S. Addison.*

(To be continued.)

TUBEROUS BEGONIAS FOR AMATEURS.

With regard to their culture for the greenhouse, those who want them for early flowering, or large specimens for exhibition, should start the tubers in small pots early in February with the aid of a little bottom heat, giving them as much light and air as will be consistent with their progress unchecked. When not wanted early, they should not be started until March, and then only a very slight amount of bottom heat given them, for if not pushed into activity, but left to start gradually, they make much stronger growth, have larger flowers, and in every way give better results. They should never have much fire-heat given them, as it promotes a soft weak growth from which it is impossible to get fine blooms.

Attention must be paid in the early stages to the potting, it is better to give two small shifts than one large one. They should be potted in clean well-drained pots in a compost of two-parts good turfy loam (not too fine), one-part well-rotted manure, and one-part leaf-mould, with the addition of a good sprinkling of sand. three inch pots are best size to start them in, unless the tubers are very small, in which case finger pots should be used, care being taken not to pot them too tight ; a moderately firm pressure of the thumb just round the inside edge of the pot being sufficient, as they do not succeed so well if rammed in tight like most other plants. When the roots fill the pot, they should be shifted into a size larger, and so on, until they are in those they are to be flowered in. It is important, when the weather will permit, to give air freely, and as the season advances they should be shaded from bright sunshine, a moveable shade being much better than a permanent one ; for this reason Begonias like all the light they can get, but cannot stand strong sun which burns their blooms, therefore, they require protection from sunshine, but when there is no sun there should be no shading.

The Begonia as a Bedding Plant.

For this purpose it is best to secure tubers that have been selected to colour when in bloom the previous season, so that they can be arranged in the beds effectually. Seedlings raised early flower very freely towards the end of the summer ; but their diversity of colour, and lateness of blooming, is a strong objection to their being employed for bedding. It is a good plan to raise a batch of seedlings every year and plant out in the borders, or make a nursery bed for them where they can be grown, and as they bloom, selections made from them for bedding the next season. Commencing in March with the tubers, they should be started and treated as before stated, with this difference they can remain in the 3-in. pots until planted out, and from the beginning of May to the first week of June they should be kept in a frame where abundance of air can be given them, and where they can be hardened off ready for bedding out, which should be the first or second week in June. The beds should be well dug, and a good quantity of manure forked in, and if the soil is stiff or clayey, the addition of some light soil or leaf-mould will be of much assistance to the plants. During hot weather, in the evening after the sun has gone down, water overhead with a fine rose three or four times a week ; plants treated in this way will continue to flower until the frost cuts them off, and will give such a display, that no other bedding plant can compare with them.

Raising Begonias from Seed.

A great amount of pleasure is experienced in this pursuit if carried out in a thorough manner. Care should be taken to secure seed from a reliable source, for if not saved from the best varieties, time will be thrown away, and disappointment be the result. Seed can be sown in January, February, and March in well-drained pans, in a compost of leaf-mould and silver-sand sifted through a fine sieve. Fill the pan evenly within 1 in. of the top, water with a fine rose, and then sow the seed carefully on the soil ; the seed being small, should only be slightly covered, in fact, so slight should it be, that it is better not to cover at all rather than to cover too much, for many small seeds are lost by being covered too deeply. My plan for this purpose is to make a small sieve, 9 in. to 12 in. square with a piece of fine perforated zinc for a bottom, some dry leaf-mould placed in this, and just one shake being given, the seeds are covered sufficiently. A piece of glass laid right over the pan will prevent evaporation, and help the seeds germinate more quickly ; to prevent excessive moisture wipe the glass dry once a day, and as the seedlings appear tilt the glass a little each day, and so gradually remove it entirely. If the seed should require water before it germinates, give it very carefully, using a very fine rose. The seed pans should be placed in a warm house, and a little bottom-heat will be helpful to promote germination. When the seedlings are large enough (which should be in about six to eight weeks from sowing), prick them off into pots or pans ;

as they are very small they cannot be handled, so the best plan is to get a lucifer match, smooth it down flat at one end, then carefully cut a slot in it, making it into a miniature two-pronged fork, slip this under the small leaf, loosen the soil under the seedlings with a thin stick, then lift your fork, and you have the small plant uninjured, ready to be placed in its fresh quarters. This may seem a tedious process, but practice makes perfect, and one is astonished how quickly it is done; the little plants amply repay for the trouble, for when removed from the seed pan they grow much more quickly. They should be pricked off about 1 in. apart, and when they have grown sufficiently to touch each other, they should be potted into small pots and grown on as before directed.—*Henry J. Jones, Lewisham.*

SCOTTISH GARDENING.

Garden Work.—It would be premature to urge cultivators to go on with seed sowing, planting, and other work, which is almost impracticable (except under glass protection) in most northern localities. Though I have a few Leeks, Onions, Celery, Carrots, Radishes, Potatos, Cauliflower, Brussels Sprouts, Cabbage, and some other things moving forward in frames and pits, it is out of my power to attempt anything outside, the ground is so soddened. The snow (which was very light) is gone, but a decided thaw (9th February) has not arrived. One can prepare soils for covering seeds (should such be necessary), make stakes for peas and other plants, turn and prepare manure heaps for use (rotted manure being most suitable for many things), burn rubbish, clear off the quantities of leaves from all the brassicas (many from the severity of frost are now becoming offensive); turn gravel on walks and make the paths smooth and trim in appearance, besides a host of work in the ornamental grounds, &c., so that there is no lack of work.

But the preparation of ground for seeds and plants is what one feels to be most pressing. It is scarcely necessary to caution even young beginners not to make "more haste" than good speed in this matter by working the soil to its decided injury when it would be far better left alone. We often hear from "go-ahead" neighbours that their latest sown crops, when the ground was dry and friable, did far the best, and many of which were earlier than those sown first. This is a matter of certainty. When seeds have been cast into wet soil, something like a puddle, they either fail altogether or come stunted, and they are liable to premature seeding.

On dry sandy borders, with good exposure, a decided advantage is gained from early seed-sowing, and with a stock of old soil on hand, from pot-plants or otherwise, many difficulties are removed. It is of primary importance not to lose a good chance, especially in cold northern districts, as soon as the soil can be prepared for seed, and the kinds of seed we have enumerated above may be sown. Onions and Parsnips claim attention at the end of February and may be sown, but a week or so later makes little difference if wet unsuitable weather should prevail. Parsley may be sown for the main crop, or where a sowing was made during August, and the plants in condition, a plantation may be made. Spinach may be sown among fruit bushes, Raspberries, or between Peas and Beans; ground may thus be economised for crops of more importance.

A full sowing of early Peas may be made, also Mazagan Beans; early lots should be sown more thickly than the later sowings, the former being liable to suffer from severe weather, vermin, &c. Peas through the ground may have thin coatings of fine ashes, leaf-mould, or old Mushroom-beds, well broken, sprinkled over the plants. Dustings of soot and a little lime, to keep slugs in check, will also be serviceable. We have for a number of years had more than one plot allotted to main crops of some kinds of crops, especially Onions, Celery, Brussels Sprouts, and Carrots, and we never had more reason to be thankful that we were thus double-handed than during the past season. Three lots of Savoys and the same of Brussels Sprouts have stood us in good stead. The earlier plantations, which were fine in every way and did truly well, are now much cut down by the late frost, while the dwarfer and less bulky lots are comparatively sound and useful. It is premature to speculate on the Broccoli crops, which may be unscathed; we fear, however, a large death-rate in some parts this season.

All fruit tree work should be brought to a close without delay, nailing, tying to trellises, mulching, protecting, &c. Where planting has to be done, care must be exercised not to cram soil round the roots, treading it when wet, and perhaps putting the roots deeply in the soil; what has been already advised on these points must be enforced if success is expected; positions for planting, of course, changes matters materially. If Gooseberries have been left to escape (in a measure) the ravages of Bullfinches, thinning may still be left undone. These bushes are not easily hurt by late pruning; dustings of lime may keep off birds, but it requires repeating. Where grubs are troublesome, the surface soil around the collars of the plants may be removed, and a good coating of old tan put in its place. A good mulching of cow manure helps Gooseberries very much. Peaches, Nectarines, and Apricots, which are protected from late frosts, may have nets, doubled, stretched over them—Scrim, Hexagon netting, and even Spruce branches are used with good effect. Pears often suffer from late frosts when they are early in flower—on western aspects we have seen heavy crops year after year without fail. Referring to Peaches, we can endorse very strongly what Mr. Horsefield recommends, his paper being very opportune, both for north and south of the border; in the north, however, peach growing, on walls, barely pays itself—even with moderate success, but keeping the roots well up with well ripened wood, one can do much. An example of Peach growing, which I saw at Dunkeld last autumn, endorses this.—*M. T.*

CLIVIAS OR IMANTOPHYLLUMS.

This section of the natural order Amaryllidaceæ is, I fear, much neglected in many of our plant-growing establishments, or at least is not awarded so great a share of attention as their merits deserve. It is a valuable acquisition for an amateur's little greenhouse, or to the gardener who has forcing-houses available; and will be found a great service for the embellishment of our conservatories, or for room decoration at this dull season of the year. Few, if any, of our greenhouse plants are more easily retarded, or, with the assistance of a little heat, more easily brought forward into flower to suit the convenience of the cultivator, and that without the slightest injury to the health of the plants. Where only a few are cultivated, some may be had in bloom almost at any period of the year; but it is at the present dull time that we find them most valuable. We have a good batch in flower, with from sixty to seventy spikes, averaging from twenty to thirty of their trumpet-shaped blooms to each spike, and which render valuable assistance in keeping our large conservatory gay; and associated as they are with our earliest batch of Arum Lilies, have a very pleasing effect, and form a good background for Hyacinths, Tulips, Lily of the Valley, Spiræas, etc.

Our method of culture consists of disturbing the roots as little as possible; but to increase the stock of any particular variety, division must be resorted to, as the best means of so doing; but when once established in 8-in. or 10-in. pots, they can, with occasional top-dressings and liberal though judicious feeding in their growing season, be kept in a healthy state for some years. Our best plants are in 9-in. pots, with five spikes of bloom to each. The best time for repotting is immediately after their flowering season, and the compost we find to suit them well, is composed of equal parts of good fibrous peat and loam, used in a rough state, with liberal additions of charcoal and sand, with good drainage. Like all other fleshy rooted subjects, they must not be potted too firmly, and care must be taken to thoroughly incorporate the fresh soil between the large roots. After potting, they should be given an intermediate temperature, with plenty of atmospheric moisture, for a few weeks, after which they can gradually be inured to a more airy structure—a late vinery or Peach house answering the purpose very well, as both shade and moisture during the mid-summer months are beneficial. By the middle of September, they should be fully exposed to the sun's rays in a cool greenhouse, to thoroughly ripen and solidify their growth, from which structure they can be placed into heat, to throw up their flower spikes as requirements may deem necessary.—*J. F., Dorset.* [With our correspondent's letter came some blooms of several good seedling varieties of I. miniatum, including one of good shape and substance, raised from seeds received from South Africa.—Ed.]

THE AMATEURS' GARDEN.

THE KITCHEN GARDEN.

Wherever the garden is sufficiently large, it is usual to have either certain quarters devoted to fruit trees, or to plant these along the margins next to the walks, the object being to utilise as much space as possible, and obtain valuable crops of both fruit and vegetables. When enclosed by walls, kitchen gardens are commonly rectangular in form, either square or oblong, and this is advantageous in many ways, as a variety of aspects is secured for trees to be trained to the walls, and for crops to be taken from the borders at their base. Allowing a border next to the wall and then a path, the central portion of the garden may be divided by paths, at right angles, intersecting in the centre, thus giving abundant opportunities for planting trees without interfering with the vegetable crops.

If there are no walls, it will, of course, lessen the value of the garden to some extent, but still there will be plenty of space for fruits of various kinds. Much depends upon the form of tree selected, and by the exercise of judgment in this respect, the productiveness of a garden may be considerably increased. In small establishments it is frequently desired to grow a moderate collection of varieties, and in regard to Apples and Pears, nothing could be better for walls than cordons, and for the margins of the walks than espaliers. They have a neat appearance, occupy but little space, and are very productive if good varieties are chosen and the soil is suitable; they also permit a much larger collection of varieties to be grown in a small space than could otherwise be the case.

Fan-shaped trees against walls look well, but they require much time and trouble in training, and if not thoroughly well done they are extremely unsatisfactory. If Peaches are grown, however, it is perhaps best suited for them, though both these, with Cherries and Plums, can be grown on the cordon system. In the main quarters, a few pyramid and standard Apples and Pears will yield some substantial crops, and if Cherries succeed, a few standard trees will yield some valuable fruit if they can be adequately protected from the birds. Plums of the Victoria type, which yield their fruit by bushels, are indispensible, and a little space devoted to them will not be regretted. If the garden is very limited, and there are no walls at command, it will be easy to grow cordons of any kind if a kind of strong trellis of stout wire, with a few iron supports, is erected to tie the tree to. Such a trellis could be quickly and easily constructed, or it could be purchased at a moderate cost, ready for the trees, only requiring to be fixed in its place.

As to the selection of varieties, it is best to ascertain from neighbouring gardeners or amateurs what succeed best in the district, for there is a surprising difference in the value of a variety according to the soil and situation in which it is planted. It is strange, too, that sometimes even in adjoining gardens there will be found a strongly-marked difference in the quality of the same variety. Sometimes this is affected by the stock upon which the tree is worked, and at others upon local causes which are not easily ascertained. Whenever it is seen that certain varieties are doing particularly well in a district, those are the sorts to procure, and the cultivator will be more likely to be satisfied with the results than if a general collection of varieties is named.

A few words upon planting fruit trees may be serviceable now, as owing to the severe weather there has been little chance until now of performing the work. Planting should never be done while the soil is excessively wet, nor while there is any frost about; but directly it is fairly open, and seems to be settled for a time, take advantage of it at once and get the operation completed with as much dispatch as possible. Prepare the soil by digging it thoroughly, keeping the best soil near the surface, but stir it deeply enough to ensure good drainage. Unless the soil is very poor it will not be advisable to give any manure, as the result of such applications for young trees is often a vigorous but unfruitable growth, a habit which it will not be easy to subsequently alter. Free but sturdy well-matured growth from the first is what is wanted, and then there is more likelihood of fruit crops later on. In planting spread the roots out evenly, but not too deeply, or this will also produce strong unfruitful growth. When near the surface they are warmer and more under command; in the event of the tree becoming weak they can also be more readily assisted by top-dressings of manure or applications of liquid manure. The soil must be rendered rather firm round and over the roots, as this tends to cause the growth to be shorter and firmer than is the case in loose soil. A good sound loam is the best for most fruit trees; if very heavy it must be lightened by the admixture of other material, and if too light add some turfy loam in suitable proportions.—*Scolytus.*

PLUMS FOR VILLA GARDENS.

After Apples and Pears, the Plum is the next most useful fruit, and one which lends itself to treatment very readily on account of the number of surface roots which it emits. By removing the trees now and then, Plums can be easily kept within bounds, and a tree by this means remains in a fruitful state. For wooden fences and walls Plums are most suitable, and may either be kept in fair shape as received from the nursery, merely shortening the shoots to within 1 ft. from the main stem the first year of planting, or cordon trees may be used, which will bear good crops and give a greater variety, or trees with two shoots may be selected and trained obliquely (without pruning the first season), when, like cordons, they will form buds for fruit nearly their whole length.

Plums do not succeed as espaliers, but as pyramids they are very pretty and fertile. If a variety is wanted in a small space, the style called columnar, which is a very much enlarged cordon, and should be tied to a stake to steady it, is the best. The best results and an almost certain crop would be secured by removing every alternate tree for root-pruning each October, as the check to root action causes the formation of fruit spurs and buds in preference to woody growth, and Plums in any style of tree, with a summer pinching and a winter pruning to regulate the tree and remove useless and ill-placed shoots, soon settle to business and produce good crops. Care should be taken not to manure these trees, as the ordinary soil of most gardens is quite rich enough; but when a tree is well set with fruit a mulching of rotten manure, soap-suds, or Clay's fertiliser, to be washed in by watering, will help to swell off the crop.

Naturally, the amateur hopes to grow some Greengages, but this is an irregular grower, and the birds are particularly fond of its bloom-buds in winter. It would be best as a bush or pyramid, and must be root-pruned to get it to fruit. The kinds most suitable for culture in villa gardens will be as follows, all irregular croppers or bad growers being discarded:—

Select Plums.

1. River's Early Prolific, purple, very early.
2. ,, Blue Prolific, an early Damson Plum.
3. ,, Czar, rich flavour, fruit in clusters, purple.
4. Deniston's Gage, early and very rich.
5. Belgian Purple, very free cropper.
6. Victoria, large, pink, free bearer in any form.
7. Jefferson Gage, a luscious dessert fruit.
8. Prince Englebert, purple, cooking or dessert.
9. Cox's Emperor Orleans, large Plums for cooking.
10. Pond's Seedling, late pink, enormous size.
11. Gisborn's, yellow, for cooking.
12. Grand Duke, rich purple, the latest good Plum.
13. Bryanstone Gage, late and fine.

For walls use old Green Gage and Nos. 3, 5, 6, 7, 10, 13. For pyramids all are suitable, and for cordons also. For columnar trees, 1, 2, 5, 8, 9, 11, 12.

Damsons.

1. The Crittenden or Farleigh Prolific, a great bearer.
2. Frogmore Prolific, large and sweet.
3. Glassenbury (Kentish), late and large.

These should be used as pyramids, standards or columns.

There are many other good sorts, and if it is desired to extend the list, add for dessert Coe's Golden Drop (wall), Reine Claude Rouge and The Sultan, and for cooking Kentish Byron, Belle de Louvain, Early Orleans, and Wyedale for last crop. In purchasing cordons, ask for 1-year or 2-year trees. The latter will have a few fruit spurs, and for columnar trees procure 2-year trees, well feathered and cut for side-shoots in to 3 ins., and then summer-pinch all shoots made (as soon as they have made four leaves) back to two, and they soon form masses of blossom-buds, and are easily protected from spring frosts; and a beautiful sight it is to see them, 10 ft. or 12 ft., with fruit to the ground, and several gatherings can be made at separate times.

The pyramids must be winter-pruned to within three eyes of the old wood, and cut back at the end of June to three eyes of the new wood, and regulated again in February. Cordons may be twice or thrice summer-pinched, and kept as close to the stem as possible. Keep down Aphides by syringing with tobacco-water, and fix a lath or straight stick to each cordon to keep the leading shoot straight ahead. Pyramids should be staked till a tree is formed; a heavy crop can be assisted by gathering some of the Plums in a green state, and most of them become very luscious if allowed to perfect their growth and shrivel. The spaces between wall trees can be filled by planting Gooseberries or Currants, which may be removed when the wall trees require the space.—*Geo. Bunyard, Maidstone.*

HARDY PLANTS FROM TOTTENHAM.

I think that the charming group of hardy flowering plants shown by Mr. T. S. Ware at the last meeting of the Royal Horticultural Society was one of the leading features, and I for one lingered over them, admiring their simple and varied beauty. Foremost were some pots of the charming Iris reticulata, a native of southern Europe, Syria, and Asia Minor. Now, this species, with its early bloom, rich and brilliant colour, and Violet scent, is distinct from all other Irises in its marked individuality of character. It blooms in early spring, long before any other Iris shows itself; it loves a well-drained deep sandy soil; but then it is so admirably adapted for growing in a cold frame, so as to have the flowers clean and richly marked. If this Iris came before the public in the form of an Orchid how the fanciers of this tribe of plants would rave about it! With it were its variety purpurea, having pale reddish purple flowers; and a new form named Cyanea, of a pretty pale blue colour, and which was deservedly awarded a First Class Certificate of Merit.

Then there were the three giant Snowdrops, Galanthus Elwesi, with its broad white sepals, the king of the giant Snowdrops, its merits being recognised by the bestowal of a First Class Certificate of Merit; G. plicatus, the Crimean Snowdrop, also a fine form; and G. latifolius or Redoutei, one of the latest to flower of the large types. Then there was the chaste spring Snowflake, Leucojum vernum, like a Galanthus, but with larger and handsomer flowers; but how seldom one sees it, and yet it is as a virgin queen among early spring-flowering plants. It has long been known as a continental plant, and was valued and grown in our gardens when hardy flowers were more esteemed than they are at present; but, singularly enough, its existence as a true native was not known, it is said, until about 1867-68, when it was found in abundance on the "Greenstone heights in the neighbourhood of Britford." To succeed in the open air, it must be grown in light, rich, well-drained soil, in a sheltered position.

Then there was that lovely Crocus C. Imperati with its lovely pale mauve inner petals, and creamy striped outer ones. It should be grown in pots in a cold frame to have it in its beauty as it flowers so early and is so lovely. Then there was Narcissus monophyllus, the White Hoop Petticoat Narciss; a pot full of this was shown in a charming condition, and much admired as it deserved to be. There were pots of pretty Cyclamen such as C. Atkinsii roseum, purpureum, C. coum, roseum, and album, these had been grown in a cold frame and carried good heads of bloom. Chionodoxa Sardensis was also to be seen, dark blue in colour, with a white eye, and said to be better than C. Lucillæ. Hyacinthus azureus is like a pale blue Muscari, but unless shown in better condition will scarcely captivate.

Lastly, I make mention of the pretty Indian Primula floribunda, to which semperflorens might well be added for it is always in flower. During the winter, not being quite hardy it should have a house or frame from which frost can be excluded. It likes a soil a little dry, regard being had of course to the season of the year. As it seeds freely there is no difficulty in raising seedlings. Seed sown at this season of the year soon germinates, and the plants bloom in a few weeks. It was deservedly awarded a First Class Certificate of Merit, and it should be noted as an excellent companion to P. obconica.—*R. D.*

ADIANTUM FARLEYENSE.

In many cases this fine Adiantum is seen in a lingering half-starved condition, the owner wondering how it is he cannot grow it to perfection as he sees it elsewhere. Too much coddling is often the cause of this state of things, combined with too low a temperature, and the wrong kind of soil in which it is potted. When well grown it is one of the finest and noblest objects anyone could wish to see either in an exhibition tent or a stove Fernery. I find the best way to make it grow freely is to give a good temperature, and pot in a mixture of rough fibry loam and leaf soil in equal parts, adding plenty of broken crocks and sharp silver sand. Before adding the crocks &c., sift the finer particles out of the loam and leaf soil, and use nothing but the rough material for potting. It must at no time suffer for the want of water, and sufficient must be given at one time to thoroughly soak the whole ball. It should never be syringed but water the material well upon which they are standing, this prevents the atmosphere getting too dry about them. If this method is followed small plants may be made into large ones in one season, and the well doing of the plant will be a satisfaction to the owner. Summing up as a whole this fine Adiantum wants heat, moisture, and a porous soil without peat to grow it to perfection.—*W. G.*

SWEET-SCENTED FLOWERS.

The want of scent is a great drawback to some of our most showy stove and greenhouse flowers. To those who are sometimes a little puzzled as to what they shall grow that will give both useful and scented flowers, I will name a few that any amateur may grow with ease and any gardener grow with profit and pleasure. As a stove climber, first and foremost stands Stephanotis floribunda, a plant well-known to almost everyone. For a back wall, Hoya carnosa will answer very well, so will either of the following Jasminums, Sambac pleno, J. gracillimum, and J. hirsutum; and for suspending in baskets, Hoya bella and Paxtoni. For growing on the stages nothing can surpass the Gardenias and Tabermnæontanas for their rich perfume, but for size of bloom, exquisite form and loveliness, the Eucharis must take the lead. Rynchospermum jasminoides is another plant that may be easily grown on a trellis. All of these I have named have white flowers and are always appreciated whenever they bloom.

As a greenhouse climber the Heliotrope gives an abundance of flowers and its scent is well known. Tea-scented Roses may also be used, Gloire de Dijon and Marechal Niel being as good as any. Jasminum grandiflorum is a capital plant for the roof or for trellis work, and its pure white flowers are always useful. Daphne indica rubra is a very fine scented greenhouse plant, and may be grown as a bush or trained on a wall. Of Acacias, nearly all the varieties may be grown, and nearly all the large flowering varieties of greenhouse Rhododendrons are highly scented. Liliums are well-known for the perfume they yield in the summer and autumn, Cinerarias, Cyclamens, Tree Carnations, Genistas, Choisya ternata, and all Dutch Bulbs in the spring months. Kalosanthus, all the varieties are very sweet, the perfume being like honey. Magnolia fuscata is one of the most lovely scents that can pervade a greenhouse, the flowers are small, of a brownish hue, and produced freely; but one small flower will fill the whole house with a scent like the finest ripe pineapple.

Boronia megastigma is another plant with peculiar flowers produced from the axils of the leaves, the colour being lemon-yellow inside, the outside brownish purple, and the delicious aromatic fragrance of the flowers scent the whole house; this last plant is very delicate and should not be attempted unless some previous experience has been had with this class of plants.—*W. G.*

GLASS WALL-COVERS.

In a climate so variable as ours, the importance of glass protectors in spring for our wall fruit trees can hardly be over estimated. The subject is one that has claimed the attention of our best gardeners and horticultural builders for some years past, and many expedients have been resorted to, to meet the case, but hitherto with no very great amount of success, owing in the first place to the cost of good substantial glass protectors, and secondly, to practical difficulties in their removal from the walls when not wanted, and adaptability for application to other purposes.

Among others who have turned their attention to the designing and manufacturing of useful garden adjuncts of this character, may be named the firm of Messrs. W. Richardson & Co., of Darlington, who are about to bring out a new glass wall-cover, to be called "The Darlington," and of which we give an illustration on the opposite page. The manufacturers claim for their novelty that it is portable in the fullest sense of the word, the entire front, which is composed of sashes, the ends, and the top glass, being made so as to lift off with the greatest ease and rapidity; and that as regards cost it is cheaper than anything that has been offered before.

These are advantages which combined with those of complete protection, thorough ventilation when desired, and the many uses to which the lights can be put when not fixed to the case, should ensure for "The Darlington" system wide application.

DOUBLE & SINGLE PETUNIAS.

These are among the most showy and useful plants we possess, the double forms making admirable pot plants for the decoration of the conservatory, greenhouse, or window-sill, while the singles are simply invaluable for almost any purpose, and equally adapted for summer bedding, for window-boxes, hanging baskets, or as decorative pot plants in or out of doors. Few people, I imagine, are aware what capital town plants Petunias, especially the single kinds, are. A bed of these, grown from seed, is a mass of bright and varied colour the summer long in the heart of the smokiest town, and much more easily grown than Verbenas (as usually propagated from cuttings) or many things much more often seen.

Let us take the double varieties first. These are usually propagated from cuttings, and the present is a very good time to take them if there is a gentle heat at command in which they may be struck. There are many fine-named varieties, and plants purchased and flowered one season, and kept in 5 in. or 6 in. pots in a greenhouse at the usual temperature, will probably be now furnished with a quantity of nice stubby side-shoots 2 ins. or 3 ins. long, which will make the best of cuttings. Take these off with a sharp knife close to the old wood, trim off the lower leaves, and insert them rather thickly in small pots half full of drainage, with a mixture of about two parts loam, one each of leaf-mould and cocoanut-fibre, and plenty of sharp sand over the crocks, and just a surfacing of clean fine sand on the top. Six or eight cuttings in a 3½ in. or 4 in. pot will be about the right number. Now water them in and place them on a gentle bottom heat in a propagating house or pit at 65° to 70°, or even on a shelf or stage in a stove or warm greenhouse will do. If properly looked after they will be rooted in two or three weeks, and when they have grown a little may be potted off singly. Use a mixture of two parts turfy loam, one of leaf-mould, and half a part of silver sand. Small 60-sized pots (3 in.) for the stronger examples and "thumbs" for the smaller ones, will be sufficiently large for the present.

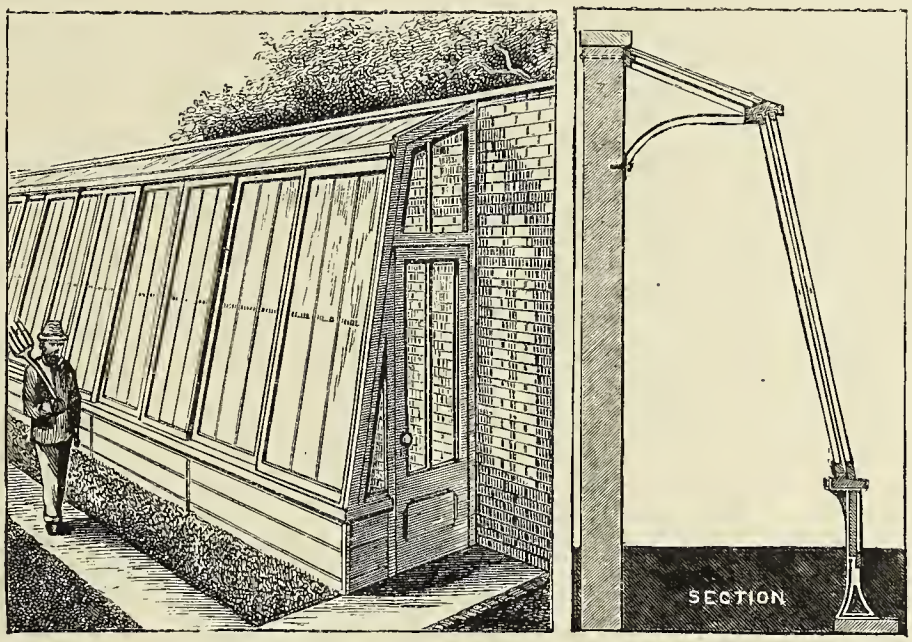
Some growers insert the cuttings singly in "thimbles," the smallest pots made, and if the extra trouble is not objected to this is really the better plan, as the roots are very fine and delicate, and the "potting off" process is by no means beneficial unless, perhaps, very skilfully done, and from the thimbles the plants can be shifted into 3 in. sizes without disturbing the roots. In either case, when placed in the larger size, the plants must be kept close in a rather warm house or frame for a week or so, and when established be grown on in a light position, with a rather free supply of moisture and a temperature of 60° or 65°. In a month or five weeks' time they will be fit for the flowering-pots, which may be 6 ins. in diameter for the stronger plants and 5 ins. for the smaller ones, using still a good loamy soil with a small proportion of leaf-mould or well-decayed manure, and a little sand and charcoal.

After the first few days admit a little air, the weather being now warmer, and gradually accustom the plants to rather free ventilation, increasing in quantity as the plants gain in strength, and approach the flowering point. Stake as required, and when the pots are getting filled with roots afford a moderate supply of liquid manure; the plants will soon come into bloom, and continue in beauty for several weeks. Petunias are very partial to light and sunshine, and do not need any shading beyond the slightest protection from a very powerful sun; they also dislike a damp or close atmosphere, at least during the later stages, and when in flower; and as they are not subject to either thrips or red spider, there is no danger in maintaining a moderately dry state of the air about them.

Good Double Varieties.

A few really good double kinds are Madame Hengist, Tapageur, Labyrinth, Mrs. Elder, Ophelia, Le Grand Duc, Miss Hender, Robert's Gem, Mrs. Webb, Berenger, Triumph, and M. Buchner, the two last named being pure white. Some of the varieties have the petals beautifully fringed, which greatly adds to their appearance; of these Madame Hengist is a very good example, and though this is now an old variety, it is still one of the very best when well grown; its habit being remarkably neat and dwarf, and the flowers, which are extremely handsome, very freely produced. It is, moreover, very constant in colour, being of a rich crimson, slightly tinted with purple, and blotched and edged pure white.

It is almost useless to describe the colours and markings of most double Petunias, for they vary so greatly with age, strengthy, or under the most slightly differing conditions that a description that would be quite correct in one season, or under certain conditions, might be totally wrong the next year, or under slightly different treatment. Most of them are, however, of various shades of rose, crimson, or purple, more or less blotched, striped, banded, shaded, or in some cases spotted with white, or a shade nearly approaching thereto. Selfs are scarce, and the old "Crimson King" is still one of the best and most constant of these; but it may be noted that a variety which is entirely self-coloured one year may sport into all kinds of variegation the next season, and *vice versa*.



The "Darlington" Glass Wall-Cover.

New varieties of double-flowering Petunias are constantly being introduced, chiefly from the continent, and some of them have certainly remarkably fine blooms, at least at first, though they seem very often to deteriorate sadly after being propagated for a few years like many other things. The great fault of these continental varieties is the strong coarse habit too many of them possess, which of course quite spoils their appearance as specimens, however fine the blooms may be; and after all I do not consider the huge *ultra double* cushion-like flowers that have been recently the fashion, are nearly so beautiful as a moderate sized neatly formed bloom.

Double Petunias may also be raised from seed, and if this is sown now nice vigorous plants and well flowered may be produced, by ordinarily careful cultivation, by July or August next. The seed is to be sown in gentle heat in precisely the same manner as will presently be described for the single varieties, pricked off once, and potted first into 3 in. pots and afterwards into 5 in. or 6 in. sizes to bloom, growing the plants, once they are fairly established, as previously directed for plants from cuttings. Even if the seed is first-class, however—and it is folly to take trouble with any other—not more than about a third, at the outside, of the plants will produce double flowers. Still, a batch of seedlings is well worth growing, as a few really fine varieties will probably be obtained which may be preserved and propagated from, and it is very interesting to watch the plants successionally come into bloom.

Single Petunias.

Single Petunias are even more generally valuable than the doubles. They are sometimes grown from cuttings, and there are numbers of named kinds in commerce; but as these almost invariably deteriorate sadly after a few years they are hardly worth troubling with, as seedlings are far more easily raised and much more successful than plants from cuttings. Not one single Petunia in a hundred—one might safely say in a thousand, even—possesses a constitution sufficiently constant and vigorous to bear propagating from cuttings for any length of time, though here and there one—like Mrs. W. Elder, one of the finest Petunias, in colour and constancy particularly, ever raised—may occur. A little good seed is better than any quantity of old plants, and by following this plan there is no trouble of wintering the stock.

To produce good flowering plants in 5 in. or 6 in. pots by the month of June, seed should be sown at once, in a temperature of 60° to 65°, although it will germinate more slowly in a temperature a few degrees less than this; but if only intended for bedding out purposes or to produce pot plants to come in later in the summer, some time in March will be soon enough, and a warm shelf in an ordinary greenhouse, with a sheet of glass over the pan or box, will be a sufficiently favourable position.

The seed being somewhat fine, must be sown on a finely sifted surface of leaf-mould, with a layer of a rather rougher compost of loam, leaf-mould, and sand beneath, and free drainage. Only just cover the seed with a little fine sandy soil, and maintain a moderate and even degree of moisture from the first. The seed will quickly germinate in a gentle heat, and when fairly up must be placed close to the light to prevent the plants becoming drawn, and moderately ventilated also. As soon as they are strong enough prick the seedlings off 1 in. or 2 ins. apart into other boxes or pots prepared in much the same way as the seed-pans, but the surface should not be sifted; grow on near the glass in a genial atmosphere, and they will soon be fit for potting off singly into 60-sized pots. Keep close for a few days after this operation, then ventilate rather freely, and when established and strong harden off gradually and plant out of doors in any sunny position, or pot on for indoor use. Petunias will grow well in almost any fairly good garden soil, but if this is at all poor it will be well to work in a moderate proportion of well decayed manure, or leaf-soil, when preparing the beds; at the same time it is a mistake to make the ground too rich, for if this is done growth will be made at the expense of bloom. On the whole, a sound loamy staple fairly well enriched, suits Petunias best, but a soil of this description is by no means necessary.

Seedlings vary greatly in colour and markings, so that it is no use depending on them where uniformity is required. In this case plants from cuttings must be employed, but Petunias are not nearly so well suited for carpet or ribbon bordering as for massing, or planting here and there in mixed borders, and in anything of this kind mixed seedlings are much the best.

It is of great importance to obtain a good strain of seed, for indifferent Petunias are very unornamental, and a bad class of these flowers is far too common. Really good seed of the true grandiflora strain will, however, produce abundance of large well-shaped blooms, from 3 ins. to 4 ins. in diameter, and of many shades of rich crimson and purple, in many cases clearly and prettily blotched, striped, and edged with pure white. There will also be some blooms entirely white, and also some very pretty pink and rose coloured varieties. The plants should be stopped once or twice in the early stages to induce a bushy or many stemmed growth. When planted in beds the shoots may be pegged down to the soil, and the points of over luxuriant growths should be taken out occasionally.—*B. C. R.*

BRITISH, OR WHAT?

YOUR correspondent "Briton" very generously says he has no objection to use the word "British" in connection with Horticulture, and especially in connection with new things raised in gardens. Now, though "Briton" is so generous, he may, perhaps, pardon me for taking exception to the remark he makes that the demand for the use of "British," instead of "English" made by me, can be considered amusing, when it is recollected that the case I mentioned was one in which *Scotch* Seedling Grapes were commented upon as *English*, no mention being made of what part of England they had emanated from, consequently some of your readers might be misinformed and mislead on the matter.

I go upon the assumption that all your readers are not posted up in the histories of the various Grapes which have been raised during the last twenty-five years, and information should be as correctly given as possible. Naturally no Scotch gardener would tell anyone he was an Englishman, and *vice versa*. No one need be thought to be deprecating his nationality by being exact in a description of anything. In many cases the terms English, Scotch, and Irish should be retained, and most certainly when English Grapes are being written about only English ones should be named, and so in regard to Scotch and Irish ones. When a comprehensive notice is being made of the Grapes raised in the kingdom, then "British" might be used.

As "Briton" remarks, Scotch gardeners have been in great request in past years among English gentlemen, and to a certain extent it is so yet; at the same time no one would assert that there are not plenty of first-rate English gardeners. We want to stimulate a generous rivalry, we want to give honour to whom honour is due, and to do this sometimes it is necessary to mark the bounds between English, Scotch, and Irish, but in all other matters we should endeavour to cultivate the use of Britain and British in describing things connected with the whole kingdom.—*Imperias.*

PARSLEY AND ONIONS.

I BEG to inform "W. C." (p. 375), that my remarks, founded upon fourteen consecutive years' experience, of the use and satisfactory results of soot as a purifier and a fertiliser of the soil, as set forth on p. 358, are substantially correct; I may add that our Onion crop is always sown on a piece of ground previously cropped with Celery. The latter is taken up early in February and laid in as deep in the soil as it was before, under a north wall. The ground is then levelled and dug (no manure being applied to it), and as soon as the soil is dry enough to work without its adhering to the feet, it is trodden down and roughly raked with a wooden rake; the soot is then applied, the drills drawn 1 ft. apart and about 1 in. deep, and into these the Onion seeds are thinly sown; the soil being afterwards closed in with the feet, then trodden, and the ground raked over in the usual way. Thus treated, I repeat, we are never troubled with the attacks of maggots or other insects at the roots.

I observe that "W. C." dresses his ground with closet manure, and sows the seed in beds, instead of drills, in which latter case the soil is frequently stirred about the roots during the growing season, but he does not say whether the ground is trodden or rolled prior to, and after the seed has been sown, as it should be. I repeat that Onions, &c., which are sown in well cultivated ground which is annually surface-dressed with soot, will not, according to my experience, be attacked by maggots. If not too late this season—and I do not suppose it is, as the ground has not yet been sufficiently dry for the work to be done—I would advise "W. C." and other of your correspondents who may have experienced any difficulty in the production of good crops of Onions, &c., to follow the method of procedure indicated above annually, and I shall feel very much surprised to hear, after the remedy has been tried for a few successive years, of the roots being attacked by maggots; in short, good cultivation and a judicious application of dry soot annually, will, as I have stated in a previous communication, render the ground uncongenial to insect life, as well as capable of producing crops of the most satisfactory description.

As regards Parsley, I find no difference between the transplanted plants, and those that have not been so treated, as regards their having a tendency to run to seed, as some people erroneously think the transplanted plants are more liable to do. I practise with the most satisfactory results, and consequently recommend the *modus operandi*, of sowing a box or two with seed in spring, and a square yard or so out-of-doors in July, and afterwards transplanting from each sowing the necessary number of plants to form the crop, on the score of economising space, because when it is time to sow the seed, the ground, which is considered the most suitable for the growth of this indispensable herb, may be occupied with some other crop of equal importance, say Lettuce or French Beans, which would not be ready for gathering for seven or eight weeks hence, at the end of which time the plants raised from a pinch of seed sown in a small space would be ready for transplanting, and this being done in damp weather, and the plants being afterwards attended to in the way of watering when necessary, until they have taken to the soil, experience very little check in the process of being transplanted in rows 12 ins. apart, and 7 ins. in the row, and show quite as little tendency to run to seed as do plants not so treated.

I never sow Parsley in a bed except to transplant from, neither do I think it advisable to have the plants any closer together than the distances indicated, otherwise they would not have room to develop themselves, and consequently become a prey to mildew. Moreover, when the crop is sown or planted in rows, it is just as easy to protect it from frost with sashes, &c., as if sown in beds, the result being much better.—*H. W. Ward.*

I HAVE been not a little interested in the letters in your two last issues on the subject of Parsley and Onions. I know that a great many find it a difficult matter to obtain anything like a good crop of the latter, more especially where the soil is of a light nature, as in this neighbourhood. I for one cannot help following in the footsteps of your able correspondent Mr. Ward, especially when I know that what he recommends, and what I have myself adopted, has resulted in first class crops, whilst the crops of others who have left them to take care of themselves have resulted in total failure. I must certainly uphold the statement that fresh soot used in a proper manner, is a preventitive for the maggot. When preparing ground for the crop I give it a good dusting over with soot and quick-lime, so that it gets well mixed up with the surface, and again on drawing the drills. I have not the slightest doubt but that this dressing destroys the larvæ that may be in the soil; but here we must stop. How are we to stay the fly that may spring up from other quarters? Anthomyia ceparum lays its eggs in our nice healthy young tops, by inserting them close to the surface. The plan I adopt is to give them a good dusting of fresh soot in the early morn before the dew gets off, as it dries, the soot adheres, and this I consider is the secret of my success. I have heard that to lay powdered charcoal between the rows is a good preventative, as it is said the fly takes as readily to it as the Onion.

I have not had any trouble with Parsley, but find more difficulty in dealing with the Cabbage fly (Anthomyia brassicæ). Here again I have to seek the aid of soot which I mix up into a thick paste, and before planting dip in the roots and allow it to dry on before consigning them to their quarters. Thus served I manage to save 90 per cent., which if left to themselves on some of our ground would not grow to the extent of 25 per cent.—*G. Baskett, Elm Croft, Parkstone, Dorset.*

How to grow Onions and Parsley free from grub or canker is often a question that puzzles gardeners. Like Mr. Ward, "W. C.," and many that took part in the discussion of the able and practical paper read in Manchester the other week, I believe that old or worn out soil is the main cause on the one hand, and the season on the other; for the fresher the soil, the more free it is of insect life, but fresh soil cannot always be commanded, and a sweetener has to be resorted to in the shape of lime, soot, &c., as recommended by Mr. Ward, and "W. C." These, however, do not always destroy insect life, but they help to stimulate the plant and to give it strength to get out of the way, for the strong is to the fore and the weakest lag behind. The best remedy I have found for grub in Onions is a table spoonfull of common salt put in four gallons of water, with a pinch of soda thrown in, and the liquor applied on a wet day.

As to Parsley, I believe it to be canker, but in this I am open to conviction. I see that Mr. Upjohn recommends Parsley to be sown amongst Onions. The finest and healthiest Parsley that I ever saw, was sown in this way when I was a youth, but I always thought this was due to the plants being isolated or thin on the beds. If it be grub in Onions, how is it that Parsley escapes? However, be the cause what it may, I never had much trouble in growing Parsley until the two last dry summers. In 1884 my beds were not worth 2*d.*, and in the district the cry was, "All gone to the dogs!" Last summer I fared rather better, and the beds were not half-a-dozen yards from the other; but the season was somewhat similar. My inference is that it is the season over which we have no control, the extreme drought having caused the roots to become dry and withered, so that when water has been applied they have not been able to take advantage of its presence. This is my idea, but, as I have said before, I am open to conviction. This is a subject that ought to be well ventilated at once, and diseased roots, if possible, ought to be submitted to a competent authority for examination under a powerful microscope. The salt remedy was applied to the Parsley in 1884 and 1885, but to no purpose.—*B. L.*

I WAS much pleased with "W. C.'s" letter in your last anent the Onion Grub, as I have had much the same experience, with the exception that the crop was a total failure here. I have found by experience that lime is of as little use as soot. About six days before sowing, I dressed the beds with sulphuric acid, and after sowing the seeds, the beds were covered with dry soil, wood ashes, soot, and a little steamed bone meal. In the previous spring the ground was limed, and to make sure I used lime water now and again during summer, but all proved ineffectual. The autumn Onions, too, that used to escape had to be pulled up before they reached maturity, to save them from the pest. We have no trouble with Parsley.—*J. M., Aberdeenshire.*

FRUITS, FLOWERS & VEGETABLES.

The Duke of Buccleuch Grape.—I was much interested in reading "Vitis'" remarks on "English Seedling Grapes" (in your issue of Jan. 30th), especially in reference to what he said of the above. "It has caused much dispute, but is unquestionably a grand Grape where well grown, as it is in several northern gardens.' Can it not be equally well grown in the south? Three years ago I planted a range of Vineries, but before doing so consulted a friend who has had great experience in Vine growing, and is in touch with all the best growers in the kingdom. I rather wanted to give the "Duke" a trial. My friend admitted it was a fine Grape, but he added it is a "rum'un". So finally it was settled that the "rum'un" should be planted in the early house together with Black Hamburgh, Foster's Seedling, and Buckland Sweetwater. These latter are old friends. I should like, however, to gain more knowledge of the "Duke." Last year it made a splendid growth—at pruning time it was shortened back to about 10 ft.—at the time of writing it has broken as many as three shoots to an eye, with a show of over sixty bunches. The former, of course, will be thinned to one shoot—as soon as all danger is passed in "tying down," and the latter to six or eight bunches; a more healthy appearance it is impossible to imagine. The roots, too, are in the best possible condition. Now I should esteem it a very great favour if any of your correspondents who have successfully grown this Grape, will say how they would proceed with the above to bring it to a perfect finish. I may say that the temperature of the house is such as will ripen the other Grapes by the beginning of June. The "Duke," it appears, will not finish by that time.—*T. W. B., Elstead.*

The Best Scarlet-fleshed Melon?—In reply to this query of one of your correspondents, I may observe that visiting the celebrated gardens of the Marquis of Waterford, at Curraghmore, some time since, the head gardener, Mr. Fairbairn, assured me that after trying all accessible varieties, he was then growing Carter's Blenheim Orange exclusively. He managed a supply by sowing in succession, commencing in January. After Monro's Little Heath there is hardly any other that will grow and mature with so low a temperature, comparatively; but this temperature must not vary too much. Curiously enough, when

visiting the beautiful show gardens, Woodstock, Mr. Gray agreed with Mr. Fairbairn. Acting as judge last year, my colleagues and myself had no hesitation in giving a 8-lb. specimen the 1st prize. Your correspondent should then be sure to include this variety.—*W. J. Murphy, Clonmel.*

The Marechal Niel Rose.—I was very much interested in Mr. Bayne's communication respecting this beautiful Rose, on p. 344, and should be glad if he would say whether, the plant he there describes, is on its own roots, or worked on the briar or some other stock. I am doubtful whether there are many plants of this Rose in the country, fourteen years old. Mr. Bayne, evidently, assumes that one of its chief reasons of success, is the fact of its being planted in an unheated structure, and I am inclined to think there must be some force in this assertion, from the numbers I have known to canker and collapse when grown in an ordinary greenhouse. In my own case I have had two plants canker and die in half the time Mr. Bayne's plant has continued flourishing.—*H.*

Narcissus Polyanthus var. Gloriosa.—This is one of the best and most striking varieties of the Polyanthus section; it is a strong grower, and very distinct from the varieties generally forced. The perianth is white with bright orange cup, and looks very effective: the spikes being well thrown above the dark green foliage, and it perfumes the house with a very pleasant odour. Some fine 6 in. pots of this beautiful Narcissus are now in bloom in the gardens here, each containing four bulbs, averaging nine spikes, and many of them bearing ten blooms each.—*G. Holmes, journeyman, The Gardens, Shipley Hall, Derby.*

Vines Bleeding.—Mr. Fry's remarks are both sound and practical, but he does not seem to believe that Vines will bleed in February that have been properly ripened and pruned in November. My own case is not the only one I have heard of. Amongst several varieties which I planted here five years ago, Mrs. Pince's Black Muscat and Trentham Black, the two best growers and bearers we have, have bled profusely every year at starting, more especially the first-named. Mrs. Pince's Black Muscat has proved to be the best black Grape grown in this district the last two years, and always bears a fair crop, which could not be the case if the wood was not fairly well ripened. Except the two varieties named the others have not bled, and I believe, with many others, that the bleeding of Vines does not do so much injury as many suppose. I should say that the house we use for a Vinery is always filled with other plants, and no more heat is given in winter than is sufficient to keep out frost and damp. The Vines roots are entirely outside on a raised border with a gravelly bottom, and for over three months in winter the house never gets any sun until after 1.30 p.m., which may account for the knife wounds not healing so well.—*A. Grigor, Fairfield, Aberdeen.*

Late Chrysanthemum Blooms.—There are several ways of obtaining a few late Chrysanthemum flowers, two of which I will briefly describe. 1. Where plants are grown on the natural system—that is, where stopping or cutting-back is not practised, and as usually adopted by those who grow for the production of large blooms—some very serviceable flowers may be obtained by placing some of the plants, after the first crop of flowers has been cut, into a slightly warmer house, such as a late Vinery, where a day temperature of about 50° is maintained. The tops should be shortened some 12 ins. to 18 ins., and by being treated to a little extra warmth, a few of the dormant stem-buds will push and produce flowers which at this season of the year (December, January, and February) are not to be despised. Amongst varieties that produce flowers freely in this way I may mention Duchess of Albany, Roseum superbum, J. Délaux, Elaine, Fair Maid of Guernsey, Marguerite Marrouch, and Belle Pauline; the latter, a somewhat new variety, seems specially amenable to this treatment. 2. Strike a number of cuttings (Japanese varieties preferable) in a cold frame, kept close and shaded from the sun, early in August. The cuttings should be inserted singly in 2½ in. pots, and as soon as rooted potted on into 4 ins. size for the final shift. When growth commences stand them in an open sunny position until the approach of frost, when they may be sheltered for a time in a cold frame, or the earliest varieties forwarded in a warm greenhouse if required. These plants will be found useful for arranging on front stages in the conservatory. Mixed with other plants, they have a very pretty effect. By including early and late varieties, a long succession may be obtained. I should have said they require no stopping or pinching. The buds should be reduced to one, and in this way fairly good flowers may be produced on plants not more than 12 ins. to 15 ins. high, and often less. I enclose a few of our last flowers.—*C. Herrin, Chalfont.* [Very good indeed.—Ed.]

Late Chrysanthemums.—It does not depend so much on varieties as on the mode of treatment to obtain late Chrysanthemums. In the first place they must have a twelve month's growth, without artificial heat if possible. Take off stout cuttings not later than the last week of the year of all the strongest-growing kinds. I put them in ordinary cutting boxes, three or four cuttings of each sort, and they are placed in a cool pit until rooted, then they are potted into 4-in. pots, three plants in a pot, and from that to a 7-in. pot, using tolerably rich soil. The last shift is given about May 20th into 10-in. and 12-in. pots. I may say that the most important point is the ripening of the wood; the finest flowering shoots are made in strong fibry loam. The natural soil here is a brown sandy clay; but I get old turf from the pleasure ground, and stack it for twelve months, then it is chipped into pieces about 3 ins. square, a few shovelfuls of soot put over the heap, one or two of bone meal, and a little well-rotted cow-manure, and thoroughly mixed. We crock the pots with old bones from the kitchen, breaking the largest bits with a hammer and I pot them pretty firm. They are then placed outside fully exposed to the sun and air, and pinched close until the middle of August, as these strong growers as a rule are long jointed, and will require it to make nice bushes; and, also, to help to keep them late, I keep off all buds that show until November, and give nothing but clear water before the last week in October. I use liquid manure made from sheep droppings and soot (guano will do), and use this three times a week until the buds begin to open, when clear water is again applied. The wood being firm now, the liquid induces a few shoots to break from the top of each stem—that is where you get the return for your labour. Keep them out as long as you can until frost sets in. I keep my late batch out three weeks after the others are housed, in a sheltered corner where there are some high shrubs, putting mats on the open side of them at night. They are then put into an airy greenhouse where they get no fire-heat, except a little during frosty nights. I keep a little air on the front night and day in mild weather, as I have nothing beside them but Camellias, Epacris, Cinerarias, Tea Roses, Heaths, and such like. Water after ten o'clock, put on plenty of air in mild weather, as it keeps them late and free of mildew. Some of the sorts have been putting out fresh buds from the stems, and flowering almost down to the rim of the pots—and nice sized blooms too—the stems being as hard and brown as the young wood of Vines. By working the plants in this way, from three to five dozen of fine blooms on each plant will be the result, and at a time when flowers are scarce.—*John Dick, Schaw Park Gardens, N.B.*

Forcing Vines.—"M. T." gives sound advice at p. 375 when he advocates the forcing of late Grapes very gradually. Nothing is gained by hard forcing in connection with late Grapes, and no greater mistake can be made than to defer starting Vineries till it is so late that very rapid forcing has to be resorted to in order that an attempt may be made to secure ripe Grapes by the end of August, so that they will keep well during the winter and spring. There can be little doubt that the secret of having late Grapes of good flavour, and that will keep well in a long season and plenty of heat, after the Vines are a certain length started into growth, combined with a free circulation of air when such can be given without lowering the temperature too much. It is penny wise and pound foolish for anyone to try and grow late Grapes which are required to keep long without liberally dealing out heat to them at the proper time, but by all means avoid too much at first. There can be no doubt that the cutting and bottling of late Grapes has this one thing which chiefly recommends it, viz., that the Vines can be started again much earlier than otherwise they could be; consequently, there is a better chance of a long season, combined with the proper treatment, resulting in good Grapes that will keep well. Never grudge a few extra loads of coal or coke if your Grapes are thoroughly ripened thereby. That is my advice to all who ask me about the matter.—*S.*

Aralias.—I quite agree with your correspondent "W." (p. 344), with regard to the usefulness of the Aralias for table decoration, or for any other purpose where light foliage is required, there is no other plant that can be used more effectively; but with regard to the names, I think "W." has made some mistake when he compares A. Veitchii with A. reticulata, as the latter has simple strap shaped leaves, and the former has digitate leaves, with about eleven distinct leaflets. With regard to A. Veitchii, and the variety A. V. gracillima, there is certainly a great variation to be found; but this arises chiefly from the different conditions under which the plants are grown. If the plants are grown in a rich compost they will develop larger leaves, and the leaflets will be much broader, and as the plants attain to a larger size they may easily be taken for a distinct variety; to retain the light slender habit, the plants should be grown in light sandy soil. I do not know the origin of A. V. gracillima, but I have sometimes doubted if it could be a true variety, as I have grown plants that have appeared quite distinct when young, which have afterwards appeared identical with A. Veitchii.—*A. Hemsley.*

The Gardeners' Calendar.

THE PLANT HOUSES.

Yet another week of dull cheerless weather, not so much to be lamented in this department as in the forcing, but still sufficiently depressing in its influences to affect both animal and vegetable life. Keep the house in which those plants are staged which have been forced rather close, and allow fire-heat for an hour or two every morning, water in good time and keep perfectly clean, removing all dead and falling blossoms as they affect all flowers near them, and if the weather is too damp to admit of the lights being opened for ventilation, open the doors for half an hour at mid-day so as to purify the air within.

Should green fly make its appearance upon Cinerarias or Pelargoniums, or, in fact, any of the greenhouse stuff, fumigate without delay, as if it once becomes established the foliage is damaged and becomes at once an eye sore for a long time. The Pelargoniums which were stopped, as advised some short time since, should now be sufficiently advanced to require a shift; use a good sound compost as that will conduce to a good stocky firm growth, very much to be preferred to a sappy one, and much more certain in its results for flowering.

Look carefully over the stock of tuberous Begonias many of which will be starting into growth, and if unnoticed will suffer; give the old pots a soaking of water a few days before it is determined to shake out the bulbs, which will enable the old soil to be removed more readily, and also greatly refresh the tubers after their long rest; the same remarks will apply to Gloxinias, in fact, until fairly started, both will require similar treatment and may be staged together.

Keep a sharp look-out as to whatever seeds may need to be sown for flower garden work, and also for in-door purposes; and do not forget to make a good sowing of Mignonette, in 6-in. pots, thinning the plants when sufficiently advanced to four or five in each pot, this will be found to succeed the autumn sowing, which, as the sun obtains more power, rapidly goes over; we find the crimson-flowering the best for all purposes.

FORCING HOUSES.

Work in this department will be confined principally to the Vineries and Peach houses, and they will need constant attention in the way of ventilating, syringing, disbudding, stopping, tying, and so on; where the Peach trees are in bloom, do not syringe in the morning, damp down the house, keep it at a temperature of 60°, and ventilate as freely both top and front as the weather will permit; go over the flowers at mid-day with the rabbit's-tail, after which, tap the trees or shake the trellis to help to distribute the remaining pollen, shut up about 2.30 p.m., and give the trees a syringing with rather warm water, this will be found to encourage growth, so much to be desired when the fruit is setting. I have always noticed that where the trees grow and flower simultaneously, there is always a greater amount of health and vigour in the trees, and consequently much better fruit.

Where the early Vines are approaching the flowering state, a good soaking of water should be given to the border, as from being kept rather dry just at that period the roots are apt to suffer if not previously looked to; damp the surface of the border morning and evening but keep dry at mid-day, tap the Vines with the hand each time when passing through the house for ventilating or other purposes, to distribute the pollen, and where any shy setter may be in the early compartment, obtain pollen from the Hambro' and apply it to the bunches when quite dry; this is particularly necessary where, as in many cases, a rod or two of a Muscat is inarched in the early house for exhibition or other purposes.

According to the length of supply, so will it now be necessary to study how long the present lot of beds in the Mushroom house will carry on in bearing, if any doubt exists as to running short, collect manure without delay, for making another good bed, making an allowance for the last bed not yielding nearly so good a supply as those made earlier in the season, as beds made up late in the season, in a house, are never what one may call satisfactory; just now we are cutting some splendid quality Mushrooms, as firm as it is possible to get them, and we have another bed spawned a month since, which will carry us well on, but still we intend to make up one more the latter end of this week, to prepare for eventualities.

The standard Roses we introduced into the early Vinery are showing a splendid lot of bloom, and we hope to place another batch into the intermediate house early this week for succession. See that the supply of Asparagus and Seakale does not fall short. The hot-bed for the former will now need renewing before placing another batch of roots in, as nothing delights more in a strong bottom-heat than Asparagus.

THE KITCHEN GARDEN.

In this department I can only advise that not a single moment be lost in getting all digging completed, more particularly where it is intended for spring cropping; because, if this is neglected now, it is utterly impossible for the ground to be in a fit condition to receive seed. Although our ground is ready, we have not been able to put in parsnips yet, which we regret, as the roots never attain goodly proportions when late sown.

As soon as possible, make a good sowing of second early and main crop Peas, and also another of Broad Beans, and between the rows of Peas may now be sown spring Spinach. I would, for this purpose, strongly recommend the Monstrous Viroflay. It is very much superior to the ordinary round variety, and quicker in growth. As soon as the state of the ground will permit, transplant autumn-sown Onions, giving them, as before advised, a good rich quarter. For first drawing, those in the seed-bed may be left standing, say 4 in. to 6 in. apart; but they must not be relied upon to make bulbs.—*Walter Child, Croome Court.*

TABLE, WINDOW, AND INDOOR PLANTS.

The Palms supply us with many of our most durable and elegant plants for table decoration, and one of the most elegant, to my mind, is, Cocos Weddeliana, which has elegantly cut foliage, and is, moreover, of a most pleasing green. Following closely on it, however, is Geonoma gracilis, which curves its foliage over even more gracefully than the Cocos, although it loses a little in other respects. These two are now to be had at an ordinary price, and as they are easily kept in a cool conservatory or greenhouse, when not in use for the table, they are available for most people.

Areca lutescens, with its golden tinted leaf stalks, is another good Palm for the table, but in my experience it is much more tender than the two previously named, and consequently not so good for winter use, at all events. Kentias of all kinds are perhaps the most durable of Palms, for indoor work, and as they are now becoming more plentiful they may be got at a reasonable price. Other Palms, which I have found both elegant and lasting for table decoration, are all the Phœnix (Date Palms), Areca rubra, any of the Chamædoreas, while small enough; Lantana borbonica, Chamærops humilis, Seaforthia elegans, Ptychosperma Alexandræ, and Corypha australis.

The most economical method is to obtain a small stock of these so as to use them in turns, and give them as much rest for recuperation in the greenhouse as possible, keeping them clean the while. So managed, table decoration is not an expensive thing.—*M. A., Camb.*

LEUCOJUM ÆSTIVUM.

This plant though a native of most of our meadows, is of rare occurrence in a wild state, under cultivation, however, it is of frequent occurrence. A plant at home in any soil though flourishing best near the margins of streams; this is not, however, to be regarded as essential to its successful culture, for it will attain its recognised height, and flower with its wonted freedom in light sandy soils. Judging by its specific name it is generally regarded as summer flowering; this is not so, as more frequently it may be met in full flower in April. Individually its flowers strongly resemble some of the larger flowered Snowdrops, and it is popularly known as the summer Snowflake.

It is of tufted growth, not unlike a Daffodil prior to its flowering, and has leaves 1 ft. or more in length, from which issue its flower stems which generally attain about 18 ins. in height; these are terminated by a cluster of large Snowdrop-like flowers, giants, however, as compared with the Snowdrop flowers generally. Its flowers are pure white with green tips, which latter render it very pleasing and somewhat inclined to be cupped. It is suited for the border or for naturalising in woodlands, or for association in the wild garden among Narcissi and similar things in places where the grass is not mown; the effect is very pleasing among the grass, and seeing that it is one of those inexpensive

Leucojum æstivum.

bulbous plants that may be had in quantity, there is no reason why it should not be planted on a large scale.—*J.*

PYRETHRUM GOLDEN FEATHER.

This old favourite holds its own against any of the more recently-introduced forms that we expected would supersede it. Take Osborn's laciniated form, for instance, with its deeply-cut leaves; how seldom one sees it, and it has made but little impression on the minds of the gardening public. I go into a great many gardens, large and small, where I am certain to see the old Golden Feather, but scarcely or never laciniatum. That handsome dwarf variety, selaginoides, sent out by Mr. B. S. Williams, makes a charming edging plant, but one seldom sees it. I think it is a very valuable subject for embroidered beds; but then you can pinch back the old Golden Feather to such an extent as to make it as dwarf as you like. Mr. Wildsmith, in his wonderful summer garden at Heckfield, keeps it as dwarf as salaginoides, and it never looks ragged through pinching. I well remember when Messrs. E. G. Henderson & Son first exhibited the Golden Feather Pyrethrum; it was undoubtedly a very lucky and useful sport. As a matter of course, when it came before the floral committee of the R. H. S.—and I was a member of that body at the time—the first inquiry was, will the golden colour stand the heat and drought of summer? The committee have to exercise due care in making awards to new plants, and as no one had had experience of the durability of the Golden Feather, some hesitation was shown by that body; but the value of the sport was soon universally recognised. I remember Mr. Bard taking it to one of the meetings of the United Horticultural Society, then held in the old Green Dragon, in Bishopsgate Street, and the interest the plant excited was very great, and a useful future was predicted for it. With whom did it first originate? There is a good useful variegated Pyrethrum known as Golden Gem. This, too, has handsome cut-leaved foliage, it is of a good colour, and produces pure white double flowers. I often wonder this is not more generally grown, for it is a very effective bedding plant; but somehow it has not hit the popular taste. Perhaps it is not to be wondered at, for the old Golden Feather is so useful all round that gardeners of all classes have a profound faith in it. We want a good yellow-foliaged evergreen plant that will stand the winter, and be as effective in early spring as the Pyrethrum is in summer. Such a plant would immortalise the name of its producer.—*R. D.*

ORCHID NOTES AND GLEANINGS.

Orchids at Woodhatch, Reigate.—At this place a nice collection of Orchids has been got together during the past few years, and the good condition they are in is well worthy of notice. J. B. Haywood, Esq., the worthy owner, is anxious and willing to obtain novelties of sterling merit, and though the collection contains none of the gigantic specimens we hear of, there are fine examples of cultivation, to wit, Denbrobium Wardianum, several plants with fine stout growths, bulbs over 5 ft. long, and 3 ins. in circumference, with over two dozen flowers. I well recollect the first plant I ever saw in flower, which was amongst the first, if not the very first imported, when I considered it one of the finest of this fine family. I am still under the same impression, a good specimen well flowered is one of the finest objects possible to behold. Another plant grown well and in great quantities, is Odontoglossum vexillarium; there are dozens of fine bold vigorous growing plants, with grand foliage without spot or blemish; and among other plants grown in the same house, and vigorous likewise, showing that the same treatment suits the two, are some Pescatorias, these are not always seen in such good health as here. Mr. Ridhout, to whom the credit is due, is to be congratulated upon his success. The collection of Orchids contains a fine lot of Cattleyas and Lælias, many of which are sheathing well; some of the Trianæ section are now in flower, as well as Lælia anceps and albida, the last a fine variety; some good Lycastes are also here flowering freely. In the cool house dozens of Odontoglossum Alexandræ, and Pescatorias are in flower, some very fine varieties there are too, Triumphans, Rossii, Cervantesii, gloriosum, and pulchellum, Oncidium cucullatum, are all well represented. These with Masdevallia Veitchii, ignea (very finely flowered), and the pure white 'Tovarense, in quantities well arranged, form a very nice display at this season of the year, the whole reflecting great credit upon Mr. Ridhout, Mr. Haywood's enthusiastic gardener.—*A. Outram.*

Cypripedium Lindleyanum.—This very distinct plant is blooming for the first time with Messrs. James Veitch & Sons, of Chelsea. It comes from British Guiana and is of very stately habit, its broad shiny green leaves, resembling those of C. grande, constituting it an ornamental plant always presentable. Its flowers are borne on tall spikes, and are greenish white delicately traced with brownish orange lines. The backs of the sepals and petals are hairy, and altogether it is a widely separated and well-marked form of the Selenipedium section.

Cypripedium Germinyanum, a new hybrid between C. hirsutissimum and C. villosum, is also in bloom with Messrs. Veitch, the raisers. The plant bears traces of both parents; but luckily, in the character of its flowers, partakes more strongly of C. hirsutissimum, which is a coveted plant by all growers, but complained of because it is often found a stubborn grower. C. Germinyanum, however, by its free growth seems to say that it will never have to be accused of such a failing.

In the Lake House Collection there is now a grand show of Cœlogyne cristata, both of the ordinary and Chatsworth varieties, large masses literally a sheet of white flowers; also a grand lot of Odontoglossum pulchellum majus (true), and a lovely plant of Dendrobium Ainsworthii, one mass of bloom on three strong bulbs. These are only a few of the good things now in bloom in the well grown collection of Mr. G. Nevile Wyatt, whose gardener, Mr. Simcoe, may justly be proud of them.

Cattleya Loddigesii, &c.—In the collection of Sir A. Ramsay, Bart., Cheltenham, may now be seen a grand spike of Cattleya Loddigesii with eight blooms of great substance, a finer example than this is seldom seen. In the same collection there are also some good forms of Oncidium Forbesii in bloom, and a fine specimen of Saccolabium guttatum, which has been thriving in the same house for twenty years. Among Cattleyas in bloom are such as Mendeli, Mossiæ, Trianæ, and Lælia purpurata, all of which are in grand condition. It seems remarkable that Saccolabiums should grow so well in so cool a temperature.

FLORICULTURE.

Seedling Raising.—*The Pansy.*—I remember an old florist saying to me some years ago that very many of his happiest hours had been spent among seedlings of the different kinds, chiefly Auriculas, Carnations, and Pansies, and I quite understood that it was so. If it be true that the thirst for pleasure, excitement, and novelty is inherent in man, where, I would enquire, may he so readily gratify this natural appetite as in the pursuit of floriculture, and, especially in raising seedlings. There is nothing connected with this delightful occupation which fails to yield the most innocent delight, and surely there is always novelty enough to satisfy the most intense cravings.

I remember that my old friend stated in regard to raising seedling Auriculas, he would advise no one to commence it unless he happened to be blessed with an extraordinary share of patience, as it very rarely happens that a first class variety is produced from seed, and even when so produced a long time must elapse before a sufficient quantity of plants is secured to make a stock of it unless it happens to be a very free grower. But with these drawbacks there is always very great pleasure in watching the gradual growth and blooming of seedling plants, even if their flowers are poor and disappointing.

To all seedling raisers I would say be very careful about the quality of your seed. A pinch taken from first class flowers is worth more than whole handfulls of inferior quality. Fertilisation is necessary as the most certain means of gaining the object in view, but this should be done only with good flowers so that the result may be as satisfactory as possible.

The seed should be so sown as that the plants may flower at the proper season. Take the Pansy for instance—a flower I would strongly recommend to young beginners. The seed should be sown about August, especially so if a small glass frame is available in which to house the plants during the winter, and give them that protection they require. Such plants can be planted out in beds in early spring, and they will flower early enough to show off their charms to the best advantage. If spring sowing is preferred, the latter end of March will be quite soon enough. The seed should be thinly sown in well-drained pots or pans, in a fresh, sweet, and somewhat sandy, but not over rich compost, and be covered very thinly. As soon as the plants are large enough to handle, let them be transferred to the open ground, and kept shaded for a time; or, better still, pricked off into shallow boxes 2 ins. apart, and kept in a cold frame until they have formed nice balls of roots, then they can go into the open air. As the plants flower, any inferior ones can be pulled out, and other seedlings later in development put in their place. Anything thoroughly good should be marked, and propagated by means of cuttings, so as to secure a stock of it. For ordinary garden decoration Pansy seed can be sown at once, and again in August. This practice secures a good autumn and spring display, and throughout the summer also. In the autumn any fine and striking varieties can be increased by pulling the plants to pieces and planting out in a prepared bed.

But how are we certain to obtain good seed? it may be asked. My advice is to obtain as soon as possible a dozen or so of good-named Pansies, and plant them out with a view of getting a few pods of seed to sow. Let the bed be dug deeply, adding some good decomposed manure, leaf-mould, and siftings from the potting-bench, mixing all well together, and as soon as it has settled down, planting out. Press the soil firmly about the roots, peg out securely the main branches, add occasional top-dressings, and than a good head of bloom may be reasonably looked for.—*R. D.*

LAYERING TREES AND SHRUBS.

Layering may be described as perhaps the most primitive mode of artificially increasing the stock of any shrub or tree, and was probably for long the only way known of perpetuating such desirable varieties as did not come true from seeds. It is simply the art of rooting a branch while it is yet attached to the parent stock. The introduction of other methods has greatly curtailed its use even in nurseries in recent years. Budding and grafting when suitable stocks can be found are preferred to the slower and more laborious practice of layering. Experience also has shown that many of the subjects formerly believed capable of being increased only by layering may now be propagated by cuttings freely enough for all purposes. These circumstances, combined with a not very well authenticated but commonly entertained opinion that trees and shrubs, especially the former, propagated by layering are shorter-lived than those obtained by any other method, have tended much to lessen the practice. Still there are a good many species and varieties of trees and shrubs that are and must continue to be propagated by layers till our knowledge and possession of suitable stocks to work them upon by either budding or grafting or in-arching is more extended, for they are not amenable to the more easy way of increase by cuttings.

The season for layering is usually regulated in nurseries by convenience, and the most convenient time is either autumn or winter. The *stools*, as they are called, in other words the parent plants, must be cleared of the previous crop of layers, which may be planted out, and for the time be done with before a fresh crop can well be provided for, and this is most conveniently done in autumn or winter. This system answers well even though it is theoretically somewhat opposed to the physiological principles on which success is believed to rest. The theory is, that complete success in layering depends on a check being given to the descending sap at a point on the branch that is brought in contact with the ground. Hence it follows that the check should be administered at a time when the descent of the sap is most abundant, which would probably in most cases be about midsummer. But experience has taught us that this work may be done any time in autumn or winter, the earlier, however, the better, with unvarying success, and that it is never well to leave it over till spring, which is not only the worst time for the work, but is usually overburdened with other operations which can only be well performed at that season. But the chief reason for doing the work in autumn and winter is, as has already been observed, that the previous crop can be cleared away, which is a necessary preliminary to laying down another. This then should be done in autumn as early as it can be done with safety. Evergreens may be dealt with first, because they can be lifted and transplanted as soon as the ultimate or last-formed leaves are full grown and the points of the shoots of the season are tolerably firm. Deciduous subjects, on the other hand, cannot be dealt with till there is a pretty close approach to the end of the autumn, but the fall of the last leaf should not be waited for, the wood must be firm; but it will be an advantage rather than otherwise if there are a fair number of the leaves attached when the layers are transferred to their own bottoms in permanent quarters. The work of layering should then be set about forthwith as if time were precious, which it is assuredly. Now for the mode or modes, for they are several.

But first let it be understood that where there is much call for the practice of layering on the part of a forester, there should be a well-ordered stool ground established, containing well-selected specimens of the various subjects to be operated upon. These should be planted at such distances apart as will ensure ample convenience for the necessary work, including barrow-work, and also for the spread of the branches without the risk of their being injured while in growth or disturbed after they are layered. If the requirements are small and there are parent plants of the kinds wanted in the woodlands or grounds, there will be no need for a stool ground of the kind indicated, as the layering may take place where the parent stands, if it is in a practically favourable position for the operation.

The principal consideration in layering any plant is how best to check the descending sap at a point of the layer placed in contact with and covered with soil. Experience has shown that this object is best attained by making an incision on the under-side of the branch in an oblique direction upwards 1 in. or more in length, according to the dimensions of the branch, and penetrating to half the thickness of the same. This is the most common method, and when it can be practised is the best. But there are brittle and pithy subjects that will not submit to this treatment; they snap asunder as soon as it is attempted to bring them in contact with the earth, and elevate the point of the shoot as much as is necessary towards the perpendicular. In such cases barking and scarifying the bark hard into the alburnum or young wood; ringing the bark, that is, removing it all round or only on the under-side to the width of ⅛ in. or ¼ in.; piercing, that is, forcing a small knife or an awl through the branch horizontally, and wiring or twisting a piece of wire round the branch at the point to be layered, and then scarifying the bark on the under-side, may be tried to overcome the difficulty. The point of the branch operated upon must then be brought in contact with the earth, and held there with a peg or pegs according to the strength of the branch, but there should be no risk of its drawing the pegs and setting itself free after it is placed in position. If the check is effected by incision as first described, be careful in pegging the branch down to keep the tongue or heel formed on the under-side from returning to its position and closing with the upper half again, otherwise there may be a failure in the operation. When the pegging is satisfactorily done, the point of the layer may be brought as near perpendicular as possible, and the base covered with 3 ins. or 4 ins. of sharp sandy soil. It is, perhaps, necessary to add that if the natural soil is heavy and wet, it should be rendered light and dry before the operation of layering is attempted, and that the soil in which the layers are placed should also be deeply stirred.—*Forestry.*

Obituary.

We regret to record the death, on Monday morning last, of Mr. David Doig, for twenty years gardener at Rossie Priory, near Dundee. Mr. Doig was seized with paralysis nearly twelve months ago, and had since June last been laid aside from active duty. He was born at Kirkinck in 1821, and served his apprenticeship in the gardens at Rossie Priory, under Mr. James Kidd, who had charge of that establishment for some fifty years. He subsequently became gardener at Keithock, Inchmarline, and Haftons, and on the retirement of Mr. Kidd, returned to Rossie Priory as head gardener, and during his twenty years of service with the late and present Lord Kinnaird, did full justice to his charge. The gardens and pleasure grounds at Rossie Priory are very extensive, the kitchen garden alone occupying some six acres, while the glass department is on an equally extensive scale. The pleasure grounds contain some of the handsomest Conifers in Scotland, many of them memorials of political victories in the county of Perth. Some ten years ago, when visiting Mr. Doig, we noticed also a considerable number of other choice trees and shrubs in the grounds, and which, owing to the gravelly sub-soil and comparatively dry climate, make a better growth than many would suppose possible so far north. Fruit culture under glass was, we noticed, carried out to a considerable extent, and in the most admirable manner by Mr. Doig, who was warmly respected by his employers as well as by those who served under him, as well for his abilities as a gardener as for his goodness of disposition.

QUESTIONS AND ANSWERS.

Pragnell's Exhibition Beet.—*P. T. S.:* You can obtain it true from Messrs. James Veitch & Sons, King's Road, Chelsea, S.W.

Plant Collecting.—*A Young Botanist:* Your best plan would be to obtain employment for a time in one of the large plant importing establishments, such as those of Messrs. Sander & Co., St. Albans; Messrs. Hugh Low & Co., Clapton; or Messrs. Veitch & Sons, Chelsea. A year or two in the Royal Gardens, Kew, would also be of advantage to you in enabling you to acquire some knowledge of the subject. Plant collecting is not all sunshine, and our advice to you is look into the matter well, and consider it in all its bearings before finally deciding.

Shading.—I have just put up a small span-roofed hot-house for plants, 15 ft. by 10 ft., supplied by a Norwich firm. They recommended me not to have roller blinds as they are constantly out of order, but to whiten the glass during summer. The house is fully exposed to the sun all day. Which had I better do, have roller blinds, fixed blinds, or whitening? Is there *much* advantage from moveable blinds? I am away at business most of the day, and fixed shading would be most convenient for me.—*Amateur.*—[Under the circumstances "Amateur" would find it most convenient to have permanent shading, and instead of using whitening mixed with milk, he should paint the glass outside with Elliott's Summer Cloud, which answers admirably for breaking the rays of the sun, and looks better than the former.]

Camellia Buds Dropping Off.—*J. Cox.:* The appearance of the leaves indicates poverty, and we suspect the roots are in a bad condition. You do not say if the plants are in pots or planted out, but in either case have the roots and compost examined, and the latter if sour and inert, replaced with a mixture of good peat and rich fibrous loam. Be careful to make the drainage perfect, and while you have the plants in hand, prune them back moderately. If you have a warmer house than the greenhouse, put them into that to make their new growth, if not delay the operation for another month. It may be that the balls are dry in the centre—a fertile source of bud-dropping—and in

that case they will do no good till thoroughly moistened. The leaves seem to want a good washing with a sponge and soapy water rather than syringing. When you fumigate the greenhouse you do not thoroughly kill the green-fly. It must be done two or three nights running to make a clean sweep of them.

STOVE TEMPERATURE.—*R. A.:* You have done quite right during the last two months, but now as the days lengthen and the sun gains power, you must raise the temperature to 65° at night, and 70° by day, reducing it a little in sharp weather. The thermometer ought to be placed where the sun will *not* shine on it, or it will mislead you. Fasten it to a piece of wood, and keep the back to the sun. We will give the table you require next week.

VINES.—*R. F.:* Without further information as to the cause of the young Vines dying it is difficult to advise you. Don't commence forcing yet, but give us some particulars as to how you planted them, what in, and how you have treated them since, and we will endeavour to assist you.

COMMUNICATIONS RECEIVED.—P. T. S.—E. S. D.—G. T.—J. S.—D. P. S. (many thanks).—A. R.—A. O.—H. W. W.—H. J. R. J. D.—T. W.—A. E. S.

TRADE CATALOGUE RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham, London.—Illustrated Catalogue of Choice Hardy Perennials, Hardy Florists' Flowers, Chrysanthemums, Hardy Climbing and Trailing Plants, Single and Cactus Dahlias, &c.

LONDON SEED TRADE.

February 17th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a better trade for agricultural seeds without any alteration in values. Canadian Alsike is remarkably cheap, and owing to the satisfactory quality, merits a steady sale. Values of Foreign Red Clover, White Clover, and Trefoil are unchanged. English Red Clover of inferior quality is being sold at lower rates. Timothy is scarce and much dearer. Grass Seeds are in good request at present low prices. Bird Seeds unchanged.

COVENT GARDEN MARKET.

February 18th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	2 6	5 0	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each.....			Canadian Apples, brl.	10 0	14 0
Peaches, per doz....					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 0		Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	2 0	1 6
Brussel Sprouts, lb...	0 3	0 4	Onions, per bushel ..	5 0	6 0
Cabbages....per doz.	1 6	2 0	Parsley, per bunch ..	0 6	
Carrots, per bunch ..	0 6		Radishes, per dozen..	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
			Sea Kale, per basket..	2 0	3 0
Celery, per bundle ..	1 6	2 6	Spinach, per strike ..	2 0	
Cucumbers, each	1 0	1 6	Tomatos, per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips, per bunch ..	0 6	
Herbs, per bunch....	0 2	0 4			

POTATOS.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms		
Acacia mimosa, French per bunch	1 0	1 6	Marguerites, 12 bun...	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun...	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches..	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays....	0 6	1 0	— scarlet, 12 sprays..	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms.....	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea, French ,,	0 9	1 6
Daffodils, per bunch..	1 0	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 6	3 0
Eucharis, per dozen..	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	24 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms....	0 9	1 0
Lapageria, white, 12 blooms.....			Violet, 12 bunches ..	1 0	1 6
			— Czar, French, per bunch....	1 6	2 6
Lapageria, red, 12 blms.	1 0	2 0	— Parme.....	4 0	6 0
Lilac (French), bunch	2 0	7 0	White Jasmine, bun..	0 6	0 9
Lilies, 12 sprays	0 9	1 6			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths, per doz...	6 0	9 0
Asters, per doz.			Hyacinths, Roman, per dozen		
Azalea, per dozen ..	24 0	42 0	Hydrangea, per dozen		
Begonias, per dozen..	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen..	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Narciss, per dozen ..	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen ..	4 0	12 0	Pelargoniums, doz. ..		
Daffodils, per dozen..	9 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz..	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Primula, single, doz..	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanum, per dozen..	8 0	12 0
Ferns, in var., doz. ..	4 0	18 0	Spiræa, per dozen....	12 0	15 0
Ficus elastica, each..	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each.....	2 0	10 6			
Fuchsias, per dozen..					
Genista, per dozen ..	10 0	15 0			

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 27, 1886.

PLANT STIMULANTS.—An interesting question was the other day propounded: "What are plant stimulants?" Probably, not a few will at once say, "Oh! there are plenty of such, as, for instance, artificial manures—salts, soot, guano, &c." If we judge of these by their active results, we may say—perhaps not without truth—that they are stimulants, or, perhaps better still, that they stimulate. But, then, if so much be admitted, we must also materially change or modify our estimate of stimulants or their effects upon men and animals. Practically, with the latter we associate few stimulants. Perhaps, when we give poultry certain condiments to promote bodily heat, and thus assist or promote egg-production, or when we give to horses and other cattle certain condiments to produce sleekness of coat or promote extra appetite, we may be said to employ stimulants; but their use is not to be regarded in the same sense as the use of stimulants to plants, because we employ these so called at all times and under all sorts of conditions.

Again, with man—who is, perhaps, the greatest employer of stimulants—we find the use to be diverse, as fancy shall instigate or custom exact. We do not term ordinary food stimulants; the term is never fitly applied to anything which is really food and assimilates with the blood of the human body. With man a true stimulant is something which creates a certain effect for a certain purpose; but if that effect is not created, the stimulant is more harmful than otherwise. Man needs no kind of stimulants in health; indeed, their use may be the instrument of deranging health. It is when health is deranged, and the system is low or impoverished, that some kind of stimulus is needful and desirable; but only then that it may promote such action on the part of the assimilative organs of the body that real food shall be converted into nutriment, and thus help to create health, strength, and the constituents of the body. Thus, with the human family, stimulants are not food, but may be wisely employed to promote good digestion. Even in that case, however, the ordinary human being is far from being his best prescriber, or shall we say gardener, and it is very likely will imbibe stimulants not only when undesirable, but possibly of a kind that is rather harmful than healthful.

Now, it is hardly possible for us to deal with plants in that way. We can apply to them no form of stimulant that does not comprise actual good elements, with one exception, and that is warmth. Even then it is difficult to class heat with ordinary stimulants, because it is a natural product, and one of the essentials of plant life at some stage or other of its existence. Yet it is certain that artificial heat is a genuine stimulant; it is not food, and is applied under unnatural conditions. Had some earlier suggestions as to the application of the electric light to plant culture been adopted generally, we might, with equal good reason, have said that light might be termed a stimulant also; but, of course, it would be only when thus artificially applied. Practically, the only true stimulant applied to plants, and not found in the form of food, is artificial heat, because that produces a condition of atmosphere which is artificial, and hence plant life and activity is stimulated into growth, when without such application it would be at rest.

But of all the stimulating materials or elements as given to man or to animals, there are none which we can offer to plants in the expectation of producing healthful results. With these, apart from artificial heat, we can offer only food or real plant constituents in the form of ammonia or phosphates, or of some other gaseous compound, still further in the form of highly concentrated solid or liquid compounds—guano, superphosphates, nitrates, ammonia; indeed, one and all of these so-called stimulants are food, and really only valuable just as they contain more or less of assimilative food. Soot sown broadcast over Grass soon changes its hue and promotes growth, and because these results follow speedily the material is termed a stimulant. The term is only correct in so far that it has caused this change to occur quickly; but really the change has resulted from the fact that soot contains food elements which Grass can assimilate as speedily as the manure can part with it, and that it can do at once. Really, the same food constituents will be found in a heap of ordinary stable or in other animal manures, and in guanos, phosphates, &c., only in the latter case in a more highly concentrated form, and thus the sooner parted with. Bones, on the one hand, if roughly crushed, only prove to be a lasting and far from stimulating manure; but if subjected to a bath of sulphuric acid they become immediately soluble, and can be rapidly absorbed by plants; hence, in this changed condition, would be termed a stimulant, though really a food.

We give plants liquid manure and call it a stimulant, but it is really given to supply the lack of nutritious matter in the soil about the roots. If in any other form than as food, although thus materially liquified, the application would be harmful rather than beneficial. It is well we should have a clear appreciation of the forms of stimulants partaken of by mankind and those we give to plants under that name. Man partakes of little which is food when he partakes of stimulants, whereas—with the exception of artificial warmth, as we have pointed out—plant stimulants can promote life and growth only as they are food and nothing else. The most ordinary stimulant employed by man is alcohol, and yet he rejects presently almost every particle of it, assimilating none. Plants never do that; they emit perfumes, but those are the products of plant chemistry, and not the stimulants absorbed and then emitted unchanged.

GARDENING MISCELLANY.

Mr. John Rees, for the last four years and a half foreman to Mr. Williams, at Canford Manor, Wimbourne, Dorset, has been engaged as gardener to Lady Llanover, Llanover Park, Monmouthshire.

Messrs. Messenger & Co., of Loughborough, have just been awarded the Gold Medal, the highest award, by the Society of Architects for the general excellence of their horticultural buildings, at the annual exhibition of the Society, which is being held this year at Sheffield.

Royal Aquarium, Westminster.—A scheme has just been submitted, by their request, to the directors of the Royal Aquarium, Westminster, by Mr. Richard Dean, Ranelagh Road, Ealing, for a series of four exhibitions to be held during the coming spring and summer, and the said scheme has been adopted. The shows will take place as follows:—A great exhibition of Hyacinths, and other spring flowers in pots, with cut Daffodils, on Tuesday, March 30th, and Wednesday, March 31st. A great artistic exhibition of cut Roses on a novel scale, to take place on Friday, June 25th, and Saturday, June 26th. A great Strawberry exhibition and fete, on Friday, July 2nd, and Saturday, July 3rd; and a great display of table decorations, bouquets, &c. on Friday, August 20th, and Saturday, August 21st. Liberal prizes are offered at each. This series of exhibitions will be carried out under the superintendance of Mr. R. Dean, from whom schedules of prizes may be obtained.

Cutting Down Gardenias.—A case of some importance to gardeners, nurserymen, and others has recently come before Mr. Hannay, one of the Magistrates at the Worship Street Police Court. Mr. Robert Coombs, of Holly Lodge, Stamford Hill, one of the partners in the firm of Clarke, Nicholls, and Coombs, Wholesale Confectioners, of Hackney Wick, charged his late gardener, George Rogers, with having maliciously destroyed a large number of plants of Gardenias and Ficus elastica, by cutting them down just at a time when they were most valuable for sale purposes. The plaintiff some time since erected a number of plant houses in the rear of his residence, at Stamford Hill, for the purpose of growing plants and cut flowers for market. About the middle of January last, the prosecutor had in his possession a large number of Gardenias, estimated at 1,800, many of them young plants in large 60-pots, dwarf and bushy, just coming into bloom, and a number in 32-pots, 2 ft. or so in height, and also well furnished with buds; and in addition some large specimen plants of Ficus elastica, 6 ft. or more in height, and laden with young growths. Mr. Coombs deposed, that finding the business of growing plants for sale did not pay, he determined to sell off the Gardenias, and advertised the same in the various gardening papers. Being dissatisfied with his gardener, the defendant, he gave him notice to leave; and after having done so, it is averred that Rogers cut down, almost close to the pots, a very large number of the Gardenias that were just coming into flower, thus destroying their value for present sale purposes; and also cut away the leading shoots of the plants of Ficus elastica. Plaintiff averred that he had not given him instructions to do this; moreover, he had distinctly told him that he should sell off the plants; and he charged the defendant with having cut them down with a malicious intent, and for the purpose of depreciating their value. The branches cut away were thrown on a rubbish heap, and not in any way employed for propagating purposes. The defence set up was that the Gardenias were foul through being affected with mealy bug; that they were cut down for the purpose of rejuvinating them; that the shoots of the Ficus were cut off for the purpose of making cuttings. That part of the statute under which the case was heard sets forth that the act of cutting down is with the intent to destroy; but witnesses for the prosecution admitted that the plants were not destroyed by being cut down, but simply depreciated for present purposes of sale. The magistrate at this point stopped the case, ruling that there was no proof of the defendant's intention to destroy the plants; but was willing to re-hear the case under another section of the statute, when in all probability the matter would be sent for trial. The defendant was allowed £6 as costs.

Propagating Ficus elastica.—Some few years ago, Mr. G. Westland, then of Witley Court Gardens, recommended the increase of plants of Ficus elastica by grafting on to the thick roots of any variety of the common Fig that might be available. He said that "grafting could be performed at any time when grafts are procurable during the winter and spring months. So quickly and certainly is a union affected that the mode of grafting signifies but little, so long as the root and scion are fitted to each other and slightly bandaged; no mastic is required. Any portion of the Ficus with a couple of buds will grow; but when a moderate supply only is required, a sufficiency of scions with terminal buds is easily procurable by the introduction of a few old stools into a brisk humid temperature." After grafting was performed they were put singly in small pots in a light soil, merely covering the stock, and plunged in a brisk bottom-heat, excluding air for a few days by a covering of glass. They soon establish themselves, and, as soon as possible, require to be potted on to grow into size. Mr. Westland held the opinion that "the time saved and the vigour produced by grafting are important to those who grow largely for the market." Have any of our readers experience of the grafting process?

The Narcissus Committee of the Royal Horticultural Society will hold three meetings during the coming season, viz., on March 23rd, April 13th, and April 27th, the proceedings at which will be conducted as follows:—The committee will meet in or near the Conservatory at 11 a.m., when a list of the specimens sent in for examination, and of questions for discussion will be presented. The committee will first determine what specimens and questions it will take into consideration, and thereupon be adjourned in order that the members may examine the specimens. At 1.30 p.m., the committee will reassemble and proceed to the discussion of the specimens, &c., according to the list previously agreed upon. It is hoped that those interested in the Narcissus, will send up to one or other of these meetings any new forms or specimens of any interesting species or varieties which they may possess. All such specimens should be sent in so as to arrive at South Kensington not later than the day before the meeting, in order that they may recover from the journey before they are submitted to examination. They should be addressed "The Royal Horticultural Society," Narcissus Committee, and each specimen should bear a label (waterproof) with the sender's name, and some number or token by which it may be recognized, and be accompanied by a statement, sent by post or otherwise, of the inquiry which the sender desires to put to the committee, and of any facts which may guide the committee in their decisions. The committee will also be glad to receive communications or enquiries relating to the natural history and culture of Narcissus, also suggestions for investigation, in order that the work of the committee may be made as broad and useful as possible. Such communications should also be addressed to The Royal Horticultural Society, for the Narcissus Committee.

MR. B. S. WILLIAMS' NURSERY.

The show-houses in the London nurseries are now getting gay again with the influx of showy spring-flowering plants, and amongst those which may be visited with profit and pleasure, all the more so by reason of the cold and gloomy character of the weather, is the Victoria and Paradise Nursery at Holloway, where the display of brightly coloured and fragrant Hyacinths, Cyclamens, Daphnes, &c., in conjunction with Chinese Primulas and a host of other miscellaneous subjects, in the large conservatory at the top of the nursery is quite pleasing and refreshing. To a true lover of plants, spring in a nursery as in a garden is a most enjoyable period, the continuous improvement made in the appearance of the plants, as with the aid of increasing light, and a more genial condition of the atmosphere the plants assume their summer garb, being a constant source of interest. Mr. Williams has been for so many years closely connected with the Orchid interest, and takes so much care to have always something good in flower to show his visitors, that one instinctively asks to see the Orchids first. Going through the collection a few days ago, we could not help remarking how well the plants have wintered, and how grandly very many of them are showing those indications of future beauty, which are so dear to every Orchid grower. The fine specimen Cattleyas and Lælias are sheathing superbly, and when the hundreds of C. Mossiæ, and C. Mendeli are in bloom at no distant date, what a sight they will be! The large specimen Vandas are in grand condition, and already bristling with flower spikes. On no previous occasion have we noticed the Phalænopsis in such a thrifty and

healthy condition as they are now, a pretty batch in cylinders, being the picture of health and promising to flower with great profusion. We should mention too, as a matter of interest to those who have not very hot houses, that the plants are in the warm Cattleya house where the temperature does not exceed from 60° to 65°. In the same house too, we noted a fine batch of Odontoglossum vexillarium, the clean thrifty character of which betokened the fact, that what suited the Phalænopsis in this instance suited them too.

One of the most interesting plants in flower now, is Phajus maculatus, an Orchid not nearly so much appreciated as its merits deserve. It is a plant easily recognised when not in flower, by its large ovate-lanceolate dark green leaves which are spotted with yellow; and its flowers are borne on a tall scape, their colour being yellow, with the edge of the cylindrical lip reddish brown. A distinct form of Oncidium crispum, has the sepals and petals olive-green instead of brown, with a forked one behind the lip. The Calanthes are still very showy, amongst them being C. Turnerii and C. Regnierii, so pleasing is the pretty rose shade in the labellums; C. nivalis, a pure white form with no trace of colour in it, and which like above always flowers late; C. Sanderiana, new and not yet plentiful, and very pretty, the sepals and petals being rose coloured, and the lips bright rosy crimson. Of the fine Lælia anceps Dawsoni, we noted a nice piece with three strong leads; and of the new Cattleya Lawrenciana, Mr. Williams will shortly be the fortunate possessor of some thirty or forty spikes. Lælia harpophylla with its rich scarlet self-coloured flowers was a very conspicuous object; as also was a very fine variety of Dendrobium Findleyanum. D. Ainsworthii, one of the most free blooming Orchids in existence, Mr. Williams is rapidly increasing the stock of, and has already a nice lot of plants; and among the many examples of D. nobile, is one named rubra, which is very richly coloured in the way of nobilus but not so large. One of the original pieces of Cypripedium Lowii proves its superiority over some of the later imported plants. The hybrid C. selligerum is also in bloom, and fully maintaining its reputation as a good thing. Another fine hybrid, one of Mr. Warner's seedlings and named C. Williamsianum, is to be sent out from Holloway this season. The dorsal sepal is large, white with a very dark brown central bar, and well marked green nerves; the petals ciliate on both margins, with numerous black dots in rows near the base, the chief nerves green, and a brown line along the upper side.

SELAGINELLA VIRIDANGULA.

In the Odontoglossum house, there will soon be a splendid display of Alexandræ, some 300 or more spikes being already well advanced. At the present moment perhaps the most attractive object is the prettily spotted O. blandum, a fine variety which has been singled out for illustration in the March number of the *Orchid Album*.

In large specimen Camellias and Indian Azaleas Mr. Williams has always been rich. The former are still carrying an immense number of blooms, and the latter are in rare condition and will doubtless render a good account of themselves at forthcoming exhibitions. A special feature is being made here of the new race of warm greenhouse Rhododendrons, which have a great future before them, so continuous is their blooming habit. The cooler section are also by no means neglected, if we may judge by the large, handsome, trained specimens of Countess of Haddington, Macnabiana, Gibsoni, and fragrantissima, which are such conspicuous objects in the Azalea house.

The extensive collection of Amaryllis will soon be worth a special visit. The plants are well on the move, and stout spikes are springing up in all directions. Of the new ones to be sent out this season, Comte de Germiny and Harry Williams, the latter is now in bloom, a fine bold flower, deep crimson, with greenish yellow centre and light markings near the margin. Mr. Williams has also what we have not seen for some time, several fine plants of the evergreen Amaryllis blanda, which we believe formerly belonged to the late Mr. Samuel Wolley, of Cheshunt, with whom it was a great favourite. In the adjoining house to the Amaryllis Mr. Williams has gathered together an excellent collection of Imantophyllums, including several continental novelties. Several of the specimens are of great size and throwing up flower stems of wondrous proportions.

We have not space to do more than allude to the fine house of Pitcher Plants, the large collection of stove and greenhouse flowering and fine-foliaged plants, or the many good things which are rapidly being increased in the propagating department. Suffice it to say that amongst the last-named we noted, as a plant of great merit, that fine scandent species of Club Moss, Selaginella viridangula, of which we give an illustration, and which, Mr. Williams states, grows several feet in height. It has a terete stem somewhat thicker than a straw, furnished with alternate branches 1 ft. or more in length, divided into ovate pinnæ from 4 ins. to 5 ins. long. The main stem and branches are furnished with scattered leaves, while the pinnæ bear close-set distichous leaves about two lines long, obliquely oblong-falcate, decurrent and auricled at the posterior, and rounded at the anterior base. The pinnæ are twice divided alternately on the pinnate plan, the alternate divisions all terminating in long elegantly quadrangular spikelets, the bracts of which are long and much acuminated.

THE CULTURE OF CELERY.

THE original wild Celery (Apium graveolens) may be found in pools and ditches, but it is not very common. The plant has an acrid taste and disagreeable odour. The varieties of Celery grown in our gardens have all been derived from it, and are so much unlike it in appearance that it is only by the aid of botanical science that the identity can be proved. The object aimed at in its cultivation is the production of the greatest possible quantity of radical or root leaves, without unduly exciting what properly belongs to the second years' growth, for when it arrives at that stage it is comparatively useless, as it then regains a great portion of that acrimony which the original wild type possesses. To ensure successful results in its cultivation, it must always be borne in mind that any undue check received from being kept too dry for any length of time may stop its growth sufficiently to cause it to bolt.

For the main autumn crop sow from the middle to the end of February in pans, using light and finely sifted soil, and covering the seeds slightly. Place the pans in any heated structure, such as a Cucumber or Melon frame or early Vinery, and shade from bright sunshine. A piece of brown paper covered over serves to retain the moisture, and till the plants are up saves some little time in watering. After they have perfected two leaves transplant into boxes, using rich, finely sifted soil, and replace them in the warm house or frame; when they begin to crowd each other transplant them into a bed of 4 ins. of rotten dung, or any rich light soil under glass taking care to water well whenever it becomes necessary, it being a matter of supreme importance to keep the plants in a growing state from first to last. Three inches between the plants and 4 ins. from row to row will be very suitable distances; these will be fit for their permanent quarters by the middle of June. Measure out the ground 5 ft. from row to row, dig the trenches out 1 ft. in width and a good spit in depth, throwing the soil out equally on each side, and put in from 4 ins. to 6 ins. of the richest dung available. Cow-manure is the best, and dig it in well; if the soil is poor and shallow dig over the bottom of the trench before putting the manure in, and instead of digging the manure in, level it, and throw over it 3 ins. of the best soil which came out of the trench. If dry give a good soaking of water previous to planting, when ready select the strongest plants and plant them with a dibble or trowel down the centre of the trench, 4 ins. or 5 ins. apart, giving a good watering to settle the soil about the roots.

If the season prove dry and sunny, mulch them with either short grass from the lawn mowing, or well-decayed leaf-soil. The last named is the best, it serves to keep them moist, and the young fibres will soon be found working among it; they take to this more readily than the strong rich manure, and it saves quite one half of the watering which will be necessary in a dry summer. Little other attention is required beyond keeping them free from weeds till they are ready for earthing up. Some commence this operation when the plants are not more than 8 ins. or 9 ins. in height, and continue the earthing at short intervals. This, we think, quite unnecessary, and if anything, hurtful, it being far better to let the plants have all the light and air they can till they obtain 1 ft. or 15 ins. in height, when they will be far stronger, and give better heads when blanched than they will do when the earthing up is commenced at an earlier period of their growth; besides they bear handling better and give less trouble in securing them, so that the mould is kept from the heart of the plant. There are several methods employed in moulding up; some tie every plant loosely with a piece of matting, and as they grow draw it up. Another plan is to have a length of soft string, fastening it to a stick at one end of the row and giving it one twist round each plant, this keeps the leaves together, and when the moulding of the row is finished for the time, it can be unfastened and used for the next, and so on. The most usual, and perhaps the best way, is to gather up the leaves of each plant in the hand, and prop some of the finer soil round the plants with the hand, this takes more time than either the tying or using moulding boards. Two of these are required, and 1 in. boards will do, they are pressed close up to the plants one on each side, and kept in position with pointed sticks; one man can do this, but two are far better, one on each side. Get it well earthed up before the hard weather sets in, and when it does some protection must be given to exclude frost.

For later crops we frequently plant into the trenches direct from the pans or boxes; this saves a good deal of labour during a very busy time of the year, and with about the same amount of time and attention given to the earlier crops after planting in the trenches, we secure very good Celery. The only difference we make is to shade them for a few days from the scorching sun. Where labour is abundant, no doubt the trenching of the ground previous to digging out the trenches is advantageous, but I fear that in these degenerate days few of us can afford the time. A sharp look out must be kept for the Celery fly through the season, and the blistered leaves should be picked off and burnt. I have sometimes, when it threatened to be troublesome, sprinkled the plants when damp with soot, but could never feel very sure if it had acted as a preventative to the attacks of the fly. It certainly is very beneficial to the Celery, imparting to it a vigour and robustness of growth which certainly enables it to withstand the ravages of the fly much better than it would do without its assistance. Some cottagers are loud in their praises of soap-suds, thinking it keeps the fly at bay, and I have seen Broad Beans planted between the trenches, it being alleged that the Celery fly will not come near them; but as it happens sometimes for several years in succession we have very little trouble with the fly, the praises of these remedies may be sung without their having much foundation in fact.—*W. B. G.*

CHRYSANTHEMUM NAMES.

(Concluded from p. 390.)

Writing on the re-naming of Jeanne Délaux, in my last, I was reminded that the family circle of Messrs. Délaux is quite as large as most of us would wish. It is to be hoped that ere this they have succeeded in selecting a creditable flower to represent every branch of the family, for up to the present we have no less than thirteen of these, varying only in a very slight degree. The following is a list of them:—François Délaux, Guillaume Délaux, Jean Délaux Jeanne Délaux, Louis Délaux, Madame Délaux, Mdlle. Anna Délaux, Anna Délaux, M. Délaux, Pére Délaux, Simon Délaux, and in the new list of varieties just received from the continent for 1886 I find Maria Délaux and Simon-François Délaux.

Jupiter (Délaux, 1885).—Fiery red shaded dark crimson. All who have seen this flower will admit that it is well deserving of the certificate awarded to it, and it is a matter of regret that such a fine flower has to share its name with one sent out some years since, described as a very large flower of the clearest white.

Mandarin (Délaux, 1885).—Creamy white passing to pure white, shaded rose. Here again is a new certificated variety with an old name; the first one that appeared was dark yellow flamed red.

Madame Bernard (Bernard).—Described as an Incurved, very large flower, carmine-amaranth colour; and second a reflexed by Boucharlat, very dark violet with tubulated petals.

Marguerite Marrouch (Marrouch, 1878).—A Japanese, dark crimson tipped yellow, golden reverse. There is also one of the same name by Pertuzès, said to be of the Incurved type, violet with tubulated petals; and in addition to these we have two distinct flowers sent out by Délaux, named M. Marrouch, one Madame Marrouch, and another M. F. Marrouch by Dr. Audiguier.

Madame Boucharlat Ainé.—There are two of these, both Japanese, one by Lacroix, described as one of the largest flowers with long tubulated petals of a fine canary-yellow; the other by Délaux, large fine slate coloured.

Madame Pertuzès.—Two: the first by Pertuzès in 1852, a violet-rose shaded white; the second is described as a reflexed flower with dark violet tubulated petals.

Madame Lemoine.—Here we have a Japanese by Boucharlat, a large flower, dark rose shaded white, then follows a very pretty small violet reflexed flower; in addition to which there is the crimson-red and yellow Japanese M. Lemoine, which blooms very late and was awarded a First Class Certificate at the Royal Horticultural Society's meeting, held on the 16th December, 1879. This has also made its appearance this year as Lowe's Late Bronze, and is referred to in the issue of The Gardening World for the 23rd January (p. 328).

M. Harman Payne.—Last year Délaux sent us a variety of this name; dark brown, very fine centre of old gold; a sport from Marguerite Marrouch. This year, amongst the new varieties De Reydellet is to send us, I find another of the same name described as a hybrid Japanese—very large, flower carmine golden red, tipped gold, centre yeltow.

Orphée.—A few years since Délaux distributed the reddish crimson of this name, and with De Reydellet's new varieties for last season we get another light brown, twisted; both of these are Japanese.

Perfection.—There are no less than three of these—one a Japanese, large dark velvety brown-red, by Délaux; the second by the same firm, described as of an incurved form, brilliant violet-rose, tipped with white; the third is a very pretty violet reflexed flower.

Pomponium.—The first variety of this name was sent us some years since, it is a delicate violet rose, tipped with white. Last season Délaux sent it to us again as a dark yellow.

Rosa superba (Lacroix, 1880).—Pretty delicate rose. This plant obtained a First Class Certificate at Kingston in 1883.

Rosea superba (Délaux, 1883).—Lilac-rose, shaded and tipped with buff. This has also been awarded certificates at the Royal Horticultural Society and Kingston, and well deserves the distinction it has attained; it is a grand colour and a great favourite. Here we have two good varieties with only the slightest difference in the name, and in order to cause us further confusion, as I have already mentioned, Souvenir de Haarlem, sent us by Délaux, is Rosea Superba of 1883, over again, at least, my plants were, and I believe others complain of the same thing.

Tendresse.—Three times has this name been used. First we get from Délaux a large full bronze rose Japanese; then again, in 1882, they send us a Pompon of a delicate lilac-rose tipped with white; and last season De Reydellet treated us to a second Japanese, white shaded with rose.

Venus.—Here, again, we have three distinct flowers. First comes the old lilac-peach Incurved, known to all Chrysanthemum-growers; then, in 1882, Délaux sends us a Japanese, a delicate violet sport from La Frisure; and again, in 1885, De Reydellet sends us another Japanese, a lilac-rose.

From the above facts it will be seen that the English Chrysanthemum nurserymen are not always to blame for the errors that occur in the execution of our orders, and it is not at all surprising to hear a grower say he has had to send to two, and sometimes three, different people before he could obtain the variety he was searching for. It is possible to obtain almost every variety that appears in the above list. I have not searched back for an indefinite period for the purpose of swelling the list, but have confined myself to the last five years, and every flower I have mentioned is to be found in catalogues sent out during that period.

This year will without doubt beat all previous records for confusion in Chrysanthemum names, for in two of the catalogues of new continental varieties, I find no less than eight in duplicate each with a glowing description. Hitherto I have adopted one of two methods to distinguish different plants with the same name, I have either marked the tally with the name of the raiser or with the year each one was distributed, but neither of these methods will do to distinguish the eight above referred to.

The name of Délaux is as familiar to Chrysanthemum growers as household words, and it is well known that a great number of good varieties have been distributed by them. There has been a split in the firm and each of the Brothers is issuing separate catalogues, one continues to carry on business at the old address, and the other has started an establishment a short distance away, each firm claims to have raised the whole of the varieties that appear in their respective catalogues, and high prices continue to be the order of the day.

In the catalogues above mentioned will be found the following. In the one case they are printed thus:—Robert Owen, Lady Matheson, W. C. Boyce, G. Wrigley, M. William Holmes, William Clark, and Paul & Son. In the other there is a slight variation; they are as follows:—Robert Owen, Lady Matheson, M. W. E. Boyce, M. Eulor, G. Wrigley, M. William Holmes, M. W. Clark, and M. M. Paul & Son. The descriptions in each case do not exactly correspond, but I have examined them carefully, and there is sufficient similarity to convince me that the majority of them will turn out to be the same flowers in both catalogues, notwithstanding the fact that each man claims those he is distributing as his own raising. The only two I have any doubt about in the above list are those named after Mr. William Holmes and Paul & Son.—*Geo. S. Addison.* Since writing the above, I regret to say that news has reached me of the death of Guillaume Délaux, on the 10th January, at Lalande. This is the younger Brother whose Catalogue is above referred to.

EUPHORBIA JACQUINIÆFLORA.

This very useful plant is simply indispensable where flowers are wanted in quantity during the winter months. In most places the plants will now have just finished blooming, and will require a short season of rest. This can be obtained by placing the plants at the dry end of the stove, and giving them only sufficient water to keep them from shrivelling up. The end of March is a good time to start the plants into growth, and if a quantity of young stock is required the following is a good plan to follow:—The plant will always commence growing at the top first, and the young shoots should be taken off close to the old stem with a heel when about 2 to 3 ins. long. By this method nearly all the eyes on the stem can be worked out, when the old plant can either be thrown away or grown on again from the bottom eyes. Dibble the cuttings into pots ready prepared by being half filled with crocks and then filled up with peat and silver sand in equal parts. After the cuttings are in the soil give a good watering overhead with a fine-rosed water-pot, and let this drain well away. Afterwards plunge the pots in a good bottom-heat of about 70° and shut up tight, either by covering with bell-glasses or in a propagating case. Great care must be taken that the cuttings do not damp. A great number of cuttings may be struck in this manner.

After the cuttings have rooted, pot them off and keep them close for a fortnight. When the small pots are nicely filled with roots, give a shift into 4-in. or 5-in. pots, using a mixture of loam, peat, and sand, and pot firmly. As soon as the roots begin to take hold of the new soil, pinch the point out of the plant, when they will break three or four shoots, and these may be stopped again if more shoots are required. The plants will be benefitted by another shift about the middle of August, at which time they will be growing rapidly and will make shoots 3 ft. long. By the end of October they will begin to form their flower-buds, and it is ad-

visable that they should be supplied with weak liquid manure-water twice weekly until they open their flowers. Plants treated in this manner will make sprays of flowers 12 ins. and 18 ins. long. This size of plant is very useful to place about amongst foliage plants of any description, and a very fine appearance they have so used, the arching shoots, loaded with bright flowers, showing up remarkably well.

The Euphorbia may also be planted out and trained to the back wall or rafters of a stove, where they grow vigorously and produce very long sprays of flowers. It is very apt to die at the roots when so treated, especially after blooming; therefore, it is advisable to have a stock of young plants on hand to supply vacancies. —*W. G.*

SCOTTISH GARDENING.

Garden Work: Planting.—The season has again arrived when planting claims primary attention, and few years of our gardening experience have passed in which we have not been actively engaged in work of this kind. At present there is much of it in prospect, and the previous preparation of the soil (whatever it may be expected to grow) is the question demanding immediate consideration, as it has much to do with after results. Wet sloppy soil placed about the roots and afterwards trodden down, is not planting, and failures from this cause are by no means rare. I have often heard cultivators speak of their system as being in accordance with sound practice when planting has been performed during "showery" periods; but for myself, I would prefer an excessively dry soil to that which is soddened. Shrubs are best taken direct from the nursery or other ground to their permanent position. Much mischief is often done by allowing trees to stand in the ground "heeled in," when they may have the soil lying loosely around the roots in which the fibres are perishing. Another evil fraught with much disappointment, is the cramming of the roots into small holes, in which they are fixed as in a vice; in clay-land these pits hold water, and in very dry ground there is danger from the roots being scorched in summer. Freedom for the roots to extend outwards into well-broken ground is as advantageous to a Cabbage as an Oak, or to any plant which is expected to develope rapidly.

Shrub planting, especially evergreens, we have always found (when not completed in September or October) is most successfully performed when growth is about to be resumed. This practice is generally adopted with plants in pots, and it also holds good with the giant of the forest. All newly planted shrubs and trees are the better for a good mulching of such material as rotten leaves, well-broken peat (where it abounds), or manure in which a goodly portion of straw forms a part. With dry land a good watering may be given over the mulching, and then a coating of soil over the whole gives an orderly appearance and saves much labour in watering afterwards. Deciduous plants may have attention as soon as circumstances will allow. Evergreens need not be made a pressing matter, except they are to be lifted with balls of soil attached to their roots; in such cases one is often so pressed for time, that they have to push forward the work at some hazard.

Planting of Box, Berberis, Mahonia, Heath, St. John's Wort, Vinca, Ivy, and a host of other plants for edgings to shrubbery borders may have early attention. Such edgings as some of these answer well where bands of grass would be out of place, or might be liable to suffer from shade or drip. Shrub edgings are dressy, and give little labour. There are so many striking colours among shrubs now, that grounds may be made permanently beautiful where bedding plants have long filled the space with questionable taste. Hardy herbaceous plants requiring re-arrangement may have attention as soon as the ground can be manipulated. These beds and borders are often injured by chopping out roots, and leaving portions of them in the ground. Edgings for such borders, formed by Primroses, Thrift, and others of the cheerful dwarf hardy plants, are often preferable to Box edgings. We have some hundreds of feet (about 1,800 ft.) edged with dwarf pink and scarlet Primroses, which are much admired. They have been struggling into flower all the winter, but little progress has been made till now, when the propelling power of the little sun heat we have lately experienced is bringing out the masses of bloom. All such plants can be turned into great numbers in the course of a season.

We do not despise Box edgings when they can be neatly kept. There is a variety of opinion regarding the proper period of the year for trimming these edgings. In some very old garden literature, the end of July is recommended for northern districts. We did some last year in August, and would have been pleased had all the Box edgings been cut then. Little or no growth was made, but the edgings are now green and compact. I have cut Box during March, April, and May; but think just before it starts into growth is very suitable to northern districts. Turf laying should be finished as soon as possible. I have laid turf (in warm districts too) all through summer, but not from choice. The preparation of ground for Grass seeds may have attention now; the whole made firm after it is well broken, and enriched with good soil (not rank manure), it may be raked and made ready for seeds, which do well when sown during April. Much blame is often given to Grass seed, as being inferior, when it has been of the best quality. Badly prepared, sour, or inert ground, filled with seeds of weeds, and the birds being allowed to feed on the Grass seeds, are some of the evils to be avoided.—*M. T.*

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

Where space is limited it is never advisable to keep a large stock of plants for summer bedding, they occupy a considerable portion of the houses during the winter, and render them dull, when by growing a succession of other plants they might be cheerful at all times. A careful estimate of the plants to be required the following year should be made in the autumn, and then a few potfuls of cuttings can be struck, or some old plants re-potted and preserved, so that by propagation in spring a sufficient number can be raised for the purpose. For suburban or town gardens even this trouble is scarcely needed, as ordinary bedding plants can be purchased so cheaply from the numerous nurserymen round large cities, that the time, trouble, and space can be better employed for other plants.

In small country gardens, some distance from nurseries, where the amateur has sufficient time to devote to the matter himself, or where there is sufficient labour at command, the home propagation may be resorted to advantageously. It is readily accomplished where a small house or pit is devoted to the purpose of general propagation, and frequently a division of some other house at the warmest end is employed in the same way with capital results. By good management a large number of plants can soon be raised, indeed, it is surprising what an enormous quantity can be obtained from a small space by introducing batches of cuttings at intervals, rooting them quickly, re-potting, and placing them in cooler quarters. If old stock plants have been kept through the winter for propagation, they can now be placed in slightly warmer quarters to induce fresh growth, preparatory to commencing striking the cuttings.

Pelargoniums that may have been preserved as cuttings rooted in autumn, can be re-potted, and encouraged to grow, so that they can be topped later on, and these rooted, will form useful plants by bedding-out time. Iresines, Coleuses, and similar plants should be topped as they are in the pots, for it is desirable to have these as nearly equal in size as possible, and if the earlier plants are encouraged to grow too freely, this cannot be effected. Alternantheras, of which so large a quantity is now employed for carpet bedding, can be safely left for a month or more yet, as they cannot be placed out until June, and a short time suffices to obtain a great number of cuttings when the plants are growing rapidly. Attention may at present be confined to the preparations mentioned, for as the sun gains power, cuttings root much more readily, and March is a good time to commence operations in real earnest.

Some plants, such as Lobelias, which are raised annually from seed, require a little more time, as they have to be pricked off and potted before they reach the necessary size; therefore, seed may be sown to ensure securing a sufficient supply when needed. The soil should be very fine, and rather firmly pressed into the pots, covering the seeds with a slight dusting of soil, and place pieces of glass over the pots, shading these for a few days until germination is advancing. The soil must be carefully and lightly dewed with water from a pot with a very finely punctured rose, as the seeds being small, they are soon washed out of the pots or too deep into the soil to germinate if water is applied carelessly or in too large quantities. It is advisable to give sufficient water to render the soil thoroughly moist without being unduly wet before the seeds are sown; and this applies equally to seeds of all kinds, whether sown in pots or out of doors.

Calceolarias, which are generally rooted in the autumn in frames, should now be ventilated liberally, as if kept close and covered during the recent severe weather they will have been considerably weakened, needing additional care to harden them and render their growth sturdy. If these plants are weak and "drawn" at bedding-out time, failure can only be expected, and Calceolarias are more frequently injured in this way than any other, the consequence being that when placed in exposed beds they fail to make satisfactory progress, and die in what is thought to be an unaccountable manner. They must be grown as hardily as possible from their earlier stages, never allowing them to become root-bound; but by restricting the growth as advised, they will not need much potting, and strong compact plants will be obtained. When successful, Calceolarias are highly important in the ordinary flower garden, and though some may decry them, they can be effectively and beautifully employed in conjunction with other quiet-tinted plants. Where people err is in planting them adjoining colours that present a glaring contrast to their bright yellows or browns, and in such cases they are very objectionable. Ladies know full well how important a colour yellow is when judiciously employed, and how detestable when used without taste or too freely. Calceolaria amplexicaulis is especially to be recommended, as it is of a very soft shade of yellow that might almost be termed a sulphur tint. The flowers are large and the leaves bold; moreover, it is a rather better grower than some of the others.—*Scolytus.*

EXHIBITION BROAD BEANS.

How can we get these as fine as possible? said an exhibitor of allotment produce to me a few days ago. My reply was, first, have a good sort worth growing. That is a matter of the first importance. There is Taylor's Improved Windsor, there is the Harlington Windsor, and Carter's Improved Windsor. I do not say there is much material difference between these, but they are fine stocks of the Windsor Bean and all vigorous growers, having well filled large pods. A good exhibition Windsor Bean should produce pods having at least five large beans in each; if this can be secured it will be a valuable stock. Then the soil must be good. The Windsor Beans like a stiffer soil than do the Long-pods. It is true that the Long-pods and Windsors are all included under the head of Broad Beans, but I am making in this paper a difference between them; I am dealing exclusively with the Windsor or broad type. Therefore it is that I say grow Windsor Beans in a good moist sandy loam, deeply dug and well manured; and the third point is as important as the other two, sow wide enough apart. It is a great mistake to crowd Beans of this character too closely together.

Fine pods are required. One of the most successful cultivators of exhibition Broad Beans grows his plants 1 ft. apart; by doing this they are of the most robust character, and having plenty of room in which to develop, they produce very fine pods. As a matter of course the plants are stopped at a certain stage, when a few promising looking pods have set, no others are permitted, and thus it is that some very fine ones are secured for the show tent. If those who grow Beans and Peas both for exhibition, would give the individual plants more room, they would be surprised at the result. The capacities of a Bean or Pea, the latter especially, to ramify into lateral growths is something remarkable, but it can only be witnessed and appreciated by those who give their plants the requisite space in which to develop. We saw this plan once followed in the case of Sweet Peas, a line of which had been planted against a fence, each plant 3 ft. to 4 ft. apart; they grew into extraordinary bushes, and made a great display when in flower. Exhibitors should not only sow thinly, but pull out their plants in order to give them ample space in which to extend themselves.—*R. D.*

ALL ABOUT BLACKBERRIES.*

The Blackberry is with us so common a fruit, and in our rural districts so abundant in the autumn, that almost any quantity may be had for the mere trouble of getting. Very pleasant and wholesome, too, are our British Blackberries, and we much doubt whether, of all the enjoyments open to townspeople, any could compare with that found in being set down in some remote rural lane, where Blackberries were plentiful. They would, indeed, reap a rich if rather staining harvest, and at the same time obtain the highest enjoyment. Indeed, in most country districts where woods and hedgerows abound, the residents treat Blackberries so indifferently that vast quantities of this wholesome fruit are left to spoil and decay year by year, whilst literally millions of town population sigh for a taste of the fruit in vain. It is true that in some districts this fruit has become a marketable commodity and thus finds its way into towns; but the quantity is not such as will enable the toiling millions to enjoy of what their sparse rural compeers have so much.

We have never undertaken in any practical shape the cultivation of the Blackberry for market purposes; indeed, hardly so in any shape as far as English kinds are concerned. It is true that we now and then meet with a robust form of bramble that produces unusually fine luscious fruits, and country boys call these Dewberries, to distinguish them from the more common form. Perhaps these fine fruits arise from the plant having found nutriment of an unusual kind and thus generated luxuriant growth. Perhaps it is really a superior natural break. In any case these fruits are unusually good. But whilst we have been so far negligent of our native bramble and its sable fruits, our American cousins have taken theirs in hand, and created from it not a few remarkably fine kinds that are, as a rule, earlier than ours, are all more robust growers, and certainly produce very much larger fruits; indeed, these rival our finest Raspberries in dimensions, only being distinguished from them in colour.

To assist in popularising these American kinds, Messrs. Viccars Collyer & Co., nurserymen, Leicester, have issued a neat pamphlet that is not only full of interesting matter, descriptive and cultural, about Blackberries, but also gives numerous interesting illustrations, not only of fruits, but also of styles of training and cultivation. Hence, the tyro who may desire to embark in the growth of these novelties may find himself admirably worked up in the knowledge requisite. The fact is, Blackberries of any kind if grown at all should be grown well. We find in the common Hazel-nut for instance, that in woods and hedge rows it is of very little value. Transferred to enclosures where it may be properly pruned and cultivated, it becomes much superior in all points. But just what the delicious Filbert and Kentish Cobs are in Nuts to the common Hazel-nut of the woods, so are the grand fruiting American Blackberries to our hedgerow fruits. They seem to belong almost to another family or race, and yet all own the same parentage.

Strong holding soil seems to be most favoured by Blackberries, because the plants root deeply, and of such soils there are large areas in this country too often regarded as unfit for ordinary crops. Only drain these stiff soils, plant them with the new American sorts, give ample manure, and really good cultivation, and age and fruit product is presently assured. Of course brambles cannot be left to haphazard growth, indeed, they must be treated somewhat after the fashion of Raspberries, and have the old stems annually removed, the new growths shortened back and tied up to stakes, or, if thought more pleasing, trained against stout wire trellises or even formed into arches, with, of course, the fruit hanging down. Naturally the bramble is thorny, and these stout and robust growing Americans are not less so, perhaps rather more thorny than less; hence in their culture and training a stout pair of leather gloves and some protection for the arms is desirable. Thus armed, the pruner may soon clear away all surplus or useless growth, and burn it out of the way; then with stout twine or tar cord the rods are tied into subjection, and the thing is done for a year. Where suckers run out these may be removed and planted up in a nursery bed until strong enough to plant out permanently. During frosty weather a dressing of manure can be laid on the ground, and later, if that be forked in, about all that is desirable in the way of winter cultivation is performed.

The most favoured of these novelties seems to be the Wilson junr. and Early Wilson, the former especially being of a very hardy robust kind, and very prolific. We are told in the pamphlet that one acre of this remarkable kind has produced 110 bushels of fine fruits per year, and even that quantity has been exceeded. If in this country we could secure a crop of 50 bushels per acre, the product would be very profitable, especially if a fair market could be found. As to how far these kinds may become popular for market purposes, much remains to be shown, but when so much good land, capital, and labour are lying idle, certainly the planting of a few acres of land with Blackberries is an experiment worth trial, and most probably would prove a great success. The book favours readers with some useful information respecting the making of Blackberry wine, jam, jelly, and other domestic delicacies, all of which should interest the housewife, as materially as the cultural matter should interest the head of the family and the gardener. Those who desire further information can purchase this useful little book, and it is satisfactory to learn that stocks of all these interesting American Blackberries may now be obtained in this country.

*All About Blackberries, by Viccars Collyer, and A. W. Crews. Leicester: J. Fleming & Co.

PURPLE POTATOS.

Various are the tastes as to purple skinned Potatos, but I have almost always found them to be of good table quality, and presenting a good colour when cooked. They are all best for winter work, as early in the season before peeling is practicable, the colour of the skin is boiled into the flesh. However, the bulk of these dark coated blues are late croppers. The most popular purple skinned round kind of the day is, without doubt, Vicar of Laleham; its true colour is purplish red, but varying in diverse soils; it is a grand cropper and fine keeper, and in dry soils of capital quality. As its name implies it was raised by the then Vicar of Laleham (a fishing village near Staines) the Rev. Mr. Peake, from Paterson's Victoria, crossed with Red Emperor; that it should have shown such a dark coloured skin is odd. Mr. Peake brought me a couple of tubers the second year after he had raised it, but being then somewhat greened from exposure I could not tell the colour. The following year when lifting the produce, I found the tubers to be remarkably handsome and of a beautiful colour. Mr. Peake was so pleased with it that he determined to name it, and upon my suggestion gave it his own parochial appellation. Few coloured Potatos have been more popular or widely cultivated. In quality and depth of colour, and materially in form, it is excelled by its progeny The Dean, which is out of it from a cross with Woodstock Kidney.

The Dean has flesh showing texture and colour as near to that of Patterson's Victoria as possible, and as a fine keeper, heavy cropper, and a grand main crop Potato, it will be a long time ere this kind is excelled. As is the case with most first-class kinds, I found for the first two or three years that it did not present very striking evidence of robustness, but as it became older strength came also, and now it is as robust as the Vicar. Growth of constitution so evidenced, is indicative of long life and great usefulness. The best of all Paterson's coloured rounds was Scotch Blue—remarkably good in quality, and handsome, but lacking strength. That kind is now seldom met with. The best of Lye's seedlings of this colour is Purple King; but it is inferior in form and quality to the Vicar and The Dean. As to purple kidneys, none at present excel in beauty the fine Edgecote Purple, which was raised by Mr. Wiles, of Edgecote Park, near Banbury. This is in appearance really a purple Lapstone; it is so smooth and handsome. Prior to its introduction, perhaps the best self purple kidney we had was the pretty well-known American Purple. That kind is a heavy cropper, and its tubers are fairly handsome and of good quality; indeed, I do not know a better American kind. It is as a table Potato much better than is Edgecote Purple; the old Purple Ashleaf never was good, although in its day thought much of.

A review of the purple Potatos of the past ten or twelve years shows how much we have advanced, and yet this section is always the smallest, and comparatively few seedlings give purple self skins. Mottled skins are common enough, indeed, out of a break from the Radstock Beauty crossed with Woodstock Kidney, I have several forms with purple and spotted skins, as also some with red markings, and both white rounds and kidneys also. I made during the past season a cross between American Purple and Prizetaker, red kidneys, in the hope that something good may result from the combination. We yet need better red kidneys; indeed, the great want is a Mr. Breesee of first class quality, as that is the finest and handsomest of its section. No true raiser of Potatos is satisfied, let his parent sort be ever so good, and certain combinations sometimes give very interesting and unlooked-for results. I have found, so far, that those who have devoted time and skill to the production of good new Potatos, have usually got more kicks than halfpence for their trouble. No pecuniary reward, commensurate to the time and labour involved, ever results; but some personal satisfaction and pleasure does, and with that we must be content.—*A. D.*

THE EUCHARIS MITE.

This troublesome insect has become far too abundant during the past few years, and many gardeners have had occasion to lament its appearance amongst their bulbs, for unfortunately it does not confine its ravages to its principal nest, the Eucharis, but indiscriminately attacks Amaryllis, Hyacinths, and other bulbs of a similar character. The bulbs are just affected round the upper part of the scales near the neck, which become discoloured and mark the progress of the insects, which, if promptly treated in this stage, can be destroyed, and the bulbs saved. If unnoticed they soon penetrate the inner scales or layers, and the bulbs are found to become smaller annually while the foliage gives undoubted signs of weakness and disease in the yellowish and spotted appearance it assumes. If these bulbs are cut open crossways, it will be seen that some of the layers are completely decayed, and consequently shrunk, while others are partially affected in the same way. Nothing that I have tried can save these, and the only mode of dealing with them is to burn them and the soil in which they were potted. A very close watch should be kept wherever there is a large stock of Eucharis or other bulbs, and especial care must be exercised in the introduction of fresh bulbs from other gardens, for if one diseased bulb be placed in a collection, the others are very quickly affected, and the mischief is done before it can be prevented.

Whenever there is the slightest suspicion that the Eucharis mite is present, prompt measures must be adopted if it is wished to avoid serious loss. I am sorry to say that I have had considerable experience with the pest, but now I have the satisfaction of knowing that our plants are as healthy and as free from these insects as they were before the attack. Some little time elapsed before I discovered the mite, but it became so evident in a portion of the stock that there was no question respecting it, and we adopted the extreme course advised above, namely, burning them. The others were treated in the following manner: a solution of fir tree oil was prepared, about an ounce to a gallon of tepid water, and in this the bulbs were well washed, and then allowed to remain for several hours, being subsequently again washed in clear tepid water. They were then potted in fresh soil, and have since progressed favourably. Gishurst Compound and Petroleum were used in a similar way, and with equal success, but it must be remembered that these measures would be utterly useless if the mite has penetrated deeply into the bulbs, and are only efficacious in the early attacks. —*A Young Head Gardener.*

PRIMULA FLORIBUNDA.

This has been well described by Mr. T. S. Ware as one of the prettiest and most free-flowering of all the family, and certainly, although not exactly a new plant, it well deserved the First Class Certificate which was awarded to it at the last meeting of the Floral Committee. It is a plant that should delight the heart of every amateur who can give it in winter the protection of a warm frame or greenhouse, as it seeds most freely, can be treated as an annual, seedling plants flowering the same year, and with great freedom. It is a native of the Western Himalayas, dwarf and tufted in its habit of growth, with hairy deep green leaves, and red pubescent scapes bearing bright yellow flowers. Our illustration was prepared from one of the plants exhibited at South Kensington, and kindly sent to us by Mr. Ware.

HOW JAMES LYE GROWS HIS SPECIMEN FUCHSIAS.

On one occasion when visiting this worthy florist I interviewed him, and got from him some details as to the mode he adopts in order to grow such fine specimen plants as those described a few weeks ago when his portrait was given in The Gardening World. His mode of culture may be set down as follows:—About the end of October his specimen plants are cut back—that s when they have done flowering and the wood is ripe. They are pruned back to the shape required, but in doing this the main branches left to make the frame are left two or three joints longer than they were the previous year; by doiug this the plants increase in size as they age. The pruning done, the plants are placed in their winter quarters to rest through the dead season of the year, and they are kept moderately dry about the roots, so that they make but little growth. At Clyffe Hall, the specimens are wintered in an ordinary greenhouse from which frost is excluded, but only enough warmth maintained to do this.

About the last week in January, or the first week in February, the plants are shaken out of their old soil, and the roots slightly cut back, and they are re-potted in the pots iu which they are to flower. Formerly, he gave his plants two shifts, but he finds they do much better with only one. His show plants are geuerally in 16-iu. pots. Then as to the compost that he uses, it is made up of three parts of good yellow loam, with a fourth part of good rotten cow or horse-mauure, and then a proportion of about one-fifth of the whole of leaf-mould, silver sand, and peat is added. This is, of course, well mixed together and seasoned before being used.

At Clyffe Hall the specimens are grown under glass until the first week in June; meanwhile they are pinched back and otherwise trained so as to assume good symmetrical proportions; carefully watered and syringed, and well looked after in the matter of cleanliness. The plants are then placed in the open air, on a sheltered border—that is, where there is shelter on the east, north east, and north west—and the position selected is oue where they can enjoy the full power of light and sunshine; on sunny days they are well syringed once or twice a day to keep down red spider, and ensure cleanliness aud a healthy foliage. Mr. Lye sometimes finds the sand fly troublesome, and he searches for them and quietly crushes them out of existence; if left in the soil they so affect the plants as to cause the buds to drop.

As a matter of course pinching back is necessary during the summer in order to ensure a good outline, the last stopping being given some seven or eight weeks before the day of exhibition. A week or ten days before the show the specimens are placed under glass, in order to assist them to flower finely, and such shading as may be required is given.

An examination of one of these fine specimen Fuchsias shows that the branches are tied in somewhat closely and this is rendered necessary for the plants to be taken in vans to the place of exhibition. They are then of a more formal shape than is generally seen in the case of Fuchsias for house decoration; but as they sometimes travel fifty miles to and from a flower show, the necessity for close tying will at once be perceived. The plants are too tall to be sent by rail; the gauge of a railway arch is too limited to admit of a truck containing the plants passing under it.

Every year some young plants have to be grown on to take the place of those specimens that have become too old to be of further use for show purposes. The strongest cuttings are selected in March and April, struck and potted singly in small pots. As soon as the roots reach the sides of the pots another shift is given, and shifts as required are afforded the plants until the first or second week in July, when they are allowed to flower. And as it will be certain to be the desire of some of the readers of The Gardening World to know the age of the plants when they are first shown as prize specimens I may state that at eighteen months old Mr. Lye has shown Fuchsias 7 ft. to 8 ft. high and 4 ft. in diameter. The show plants range from two to five and six years old. Something depends upon the variety, and that is a matter of experience. A successful exhibitor finds out for himself many valuable wrinkles, and he is able to turn them to good account.

Primula floribunda: Flowers Yellow.

Of the varieties of Mr. Lye's owu raising, named in the account of his doiugs which accompanied his portrait recently given, the following light varieties have proved very fine and suitable for exhibition purposes: Beauty of Wilts, Blushing Bride, Beauty of the West, Lye's Favourite, Arabella Improved, Beauty of Swanley, Mrs. James Lye, Pink Perfection, Harriet Lye, Mrs. Bright, Mrs. King, aud Star of Wilts; and the following dark varieties: Charming, Elegance, James Lye, Royal Standard, Hon. Mrs. Hay, Henry Brook, Final, Mr. Hooper Taylor, Spitfire, Duke of Albany, Lye's Rival, and Crimson Globe. Three other varieties not of his own raising, are also grown by Mr. Lye, viz.: Albo coccinea, a charming and distinct tricolored Fuchsia, remarkably free and effective; Marginata, a pretty and attractive light variety, and Doels' Favourite, a very free-flowering dark Fuchsia, and an excellent grower.

It has been stated that Mr. Lye is a raiser of Fuchsias from seeds, and iu attempting this, he is careful to fertilize the best varieties. The process of fertilization is done about the month of September, when the flowers have been expanded about three or four days, and the pollen is fit and dry, he takes a feather or a rabbit's tail, and by this means he is able to convey the pollen to the flowers he is desirous of crossing. The plants are housed and guarded by tiffany to prevent winged insects from affecting the blossoms operated upon. When the berries are ripe they are gathered and laid by carefully on a piece of slate or board, and placed on a warm shelf in the greenhouse in order to shrivel. As soon as dry enough, the berries are opened with a small penknife, and the seeds laid on a piece of brown paper to dry.

The seed is sown in the mouth of March in a compost made of three-fourths of nice mellow loam and one of leaf mould, with the addition of a good sprinkling of silver sand. The seed is sown in well-drained pots or pans, and placed in a Cucumber-house or Melon frame, whatever is suitable for the purpose, in a temperature of about 70°. The seeds soou germinate, and when the plants are large enough to handle they are potted singly in small pots and placed in the Cucumber-house or frame to get them established in their pots. They are then hardened off and moved into a cold frame where they are kept during the summer, the lights being thrown open at night to prevent the plants becomiug drawn; many of them will flower in the month of September.

It is not a good plan to overpot seedlings, as they grow to wood, and take longer to flower. Those that do not bloom the same summer flower early in the following one, and the best are selected and subjected to another season's trial Every variety is thoroughly tried before it is named and sent out.

I think I have now given full details of the mode of culture adopted by our champion Fuchsia grower. I often wish we had opportunity of seeing these superb plants in London, but that is not possible for the reason above stated. One thing, there is not an opportunity for seeing specimen plants of this character in London; but it is high time better specimens of Fuchsias were seen at some country shows. They are generally of an indifferent character, and I say it with something akin to shame that I am occasionally called upon to make awards to Fuchsias at provincial shows that should not have been taken there; and I always do this under protest, but I am told that the prizes must be awarded.—*R. D.*

DUKE OF BUCCLEUCH GRAPE.

Your correspondent, "T. W. B.," asks for information about the treatment which this Grape requires in order that it may be had iu perfection. No doubt the Duke sometimes is a "ruin'un," as "T. W. B.'s" friend said; but it has also proved itself a very fine Grape at many places throughout the country, and there need be little fear that "T. W. B.," having been so far successful, will uot continue so, and be the proud possessor this summer of the Duke in fine condition. "T. W. B.'s" success will be made more certain if he attends to the following hints:—First, be sure to assist the setting operation by the use of a feather or

foxtail. A shake of the Vine in passing when the pollen is in order is sometimes sufficient; but I would also advise the use of the feather in addition. I would advise "T. W. B." not to leave as many as three shoots to one eye till tying down time; this is an unnecessary waste of force, and also is calculated to help to weaken by overcrowding. Two may be left at some of the eyes, especially if there be plenty of room; but to leave three shoots from each eye till tying down time simply for fear of breakages, is a mistake. The Duke, if not tied down too soon, and carefully handled when tied, is not so very bad for breaking as "T. W. B." seems to think.

I would also advise a gradual tying down; sling the shoots for a time, perhaps, half-way towards where they are ultimately to be tied, and the final operation will be much more easy and safe. By all means avoid crowding the shoots; let them have plenty of space to develop their leaves to the fullest extent, and also get every chance to get thoroughly ripened by the influence of plenty of air and light upon them. The ripening of the shoots is one difficulty which sometimes attends the culture of the Duke, therefore extra endeavours should be made to overcome it. If possible, "T. W. B." should try to maintain a rather drier condition of soil and atmosphere towards the time of changing colour than is necessary in the cultivation of most other Grapes.

When the Grapes are ripe the house should be kept as cool, dry, and airy as possible, and such being the case, and the border an inside one, there need be little fear of cracking. Where the Duke is in an outside border, or partially so, it would be well to cover the part of the outside border in rainy weather with boards, so that cracking may be guarded against; I mean, of course, at the period when the Grapes are beginning to change colour, and from thence on till cut. Before then the Duke may be watered freely, but not "stewed" in a steaming atmosphere. When "T. W. B." prunes his Duke next autumn, he should leave three or four eyes, as such a style of pruning suits the Duke best. Regarding the question of the Duke ripening in the beginning of June, I am not able to say that it will do so to be as satisfactory as it will be if allowed till July to develop its excellencies. Certain it is, that grown in a house of Black Hamburghs, which are grown to be used at the end of July and beginning of August, the Duke is eatable before them. However, I cannot advise "T. W. B." on the matter of having the Duke ripe in June from personal experience, and that no doubt is what he wants. Perhaps some other cultivators may be able to do so.

Should signs of cracking appear when the Duke is getting towards maturity in spite of the precautions I have mentioned, then cutting the lateral half through between the bunch and the main stem should be resorted to. This has proved effectual in stopping cracking, notwithstanding the fact that some writers have attempted to ridicule such a method of coping with the evil of cracking. Very learned disquisitions have been indulged in in the past numbers of some of the gardening papers on the question of cracking, its cause and cure, I do not intend here to attempt to prove or disprove anything by learned arguments, but simply state the fact that cutting the laterals has been followed by an immediate stoppage of cracking, and that is sufficient for me. "T. W. B." will remember when thinning the Duke that its berries are enormous, and consequently he must thin out to an extent that no other Grape save perhaps the Gros Colmar requires. I speak of course of Vines in full vigour.

Thinning should be delayed as long as possible, so that it may be easily discerned which are the properly set berries. It is also impossible for a cultivator getting his first experience of the Duke, to overthin the bunches, and "T. W. B." may have to go over them again after the berries have begun to swell in earnest. The Duke has been seen with berries nearly 5 ins. in circumference, and when such is the case overthinning is not easy. "T. W. B." may not have the Duke in such vigour this season that he will have berries up to this size, but judging from his description, his vine is so strong, that if he secures a proper "set" of berries, he may thin very freely, because he will certainly have berries as large as Gros Colmar. I hope that "T. W. B." will be able in future numbers of THE GARDENING WORLD to announce that he has been entirely successful in his cultivation of the Duke, which is a noble Grape, in spite of some peculiarities which have been the cause of many and warm discussions in the horticultural journals.—*Reader.*

NOTES FROM GARDENS.

SOME NOTABLE TREES AT SPIXWORTH HALL.—In the grounds surrounding Spixworth Hall, near Norwich, there are some very fine timber trees. One of the most remarkable is a Beech with a bole that measures 18 ft. in circumference at 2 ft. from the ground, and from this height it has five boles towering up 60 ft. to 70 ft. high. Some of the lower branches extend 45 ft. out from the stem, and these branches have taken root on their way out to this distance, and form trees of themselves, though not separated from the parent tree. The ground beneath it is carpeted with moss, and here very large numbers of ladies and gentlemen have sat at the garden parties given by Mr. R. P. Longe, J.P., who resides here. In another part of the grounds there are two more very fine Beeches near to each other, I measured the one whose bole looked the smallest and at 3 ft. high it was 13 ft. in circumference; these send up clear boles 20 ft. high, and then part into two or more limbs. One of these two affords a striking illustration of natural inarching, inasmuch as when the two boles proceed up from the height stated, they are again united Siamese twin fashion. In the space between were these two gigantic growths leave the column to the union above, a good-sized boy might crawl through; the union may extend about 1 ft. in height or length, and then they separate again into two boles as before. There is also a very fine Sycamore in the dressed grounds, whose bole looked as large as one of the latter-mentioned Beeches; and here too is also a very old Hickory tree or Carya.

Spixworth Hall is a very fine old Elizabethan mansion, covering a large area, and has three spacious garden fronts, on the north side being the garden offices. It stands in a well-wooded park of some 170 acres, and has been owned by the Longe family for nearly two centuries. The gardens and grounds are finely laid out in the old English style. A great deal of shrub planting had been done many years ago, and there seemed to me to be miles of grass and gravel walks winding about amongst these shrubbery gardens, with seats and vases nicely arranged about. A spacious conservatory extends nearly the whole length of the south front, and was very gay in the second week in February. There are, too, some very fruitful Orange trees, bearing from 200 to 300 fruits each; also Citrons and Shaddocks in plenty. Mr. Longe is fond of his garden, and has a good gardener in Mr. Golden.—*Visitor.*

FRUITS, FLOWERS & VEGETABLES.

Three good Carnations.—All who grow these much esteemed subjects for winter flowering will do well to put in a good stock of cuttings of the following varieties:—Andalusia, Valencia, and Empress of Germany. The first named is a fine full primrose-yellow flower, and very floriferous when the plants are in good condition. Unfortunately this variety does not produce cuttings from the base of the plant so freely as one would wish, for nearly every shoot shows unmistakable signs of being a flowering one, and, consequently, they will not make good cuttings, but if these are stopped early in January they will produce side shoots suitable for cuttings, if taken off with a heel when they are about 2 in. long. Valencia is a splendid deep red, almost the colour of the old Clove (border Carnation), and flowers and produces cuttings freely. Empress of Germany is the largest flower of the three and a grand thing in every way, the ground-work of the flower being white, irregularly marked with small bars and spots of rose, the whole presenting a most pleasing appearance.—*H. Dunkin.*

Sutton's Primula "Gipsy Queen."—I am the fortunate possessor of a nice batch of these glorious Primulas. I am a true lover of this class of plants, and the advent of anything new, if good, in the way of Primulas delights me beyond measure. In the plant under notice, we have magnificent foliage followed by a succession of beautiful white flowers, with an occasional red stripe; under gas-light the leaves are transparent, and being fern-leaved adds much to its beauty. No collection, however rich, is complete without it. The time for sowing Primulas is now at hand, and I would say to all growers "order at once," and you will never regret it. No plant of my knowledge pleases me more than "Gipsy Queen" Primula for table decoration.—*R. Gilbert, Burghley.*

Setting the Fruits of Strawberries.—During the end of January and through February, the setting of Strawberries in Vineries and Peach-houses is a very uncertain operation, inasmuch as the treatment usually given to the Vine and Peach are so opposed to that required by the Strawberry when in flower. Hundreds of plants are annually thrown away that have not set a fruit solely on account of the moist close atmosphere of the structures they are in acting adversely on the fertilising organs. Hence writers on the Strawberry tell us to keep the atmosphere dry and admit a little fresh air during the time the plants are in flower; but who cares to discontinue using the syringe, filling the evaporating pans, or damping the floors and borders of a Peach-house or Vinery for two or three weeks, which is about the time a batch of Strawberries takes to set at this early date. Ours were longer than that this season in consequence of the absence of sun during the time they were in flower. By starting the plants a month or six weeks before the Peach trees, in a pit or some other structure where a temperature of 45° to 55° may be maintained, so that both may be in flower at the same time, they may be set fairly well. The treatment required by the Vine and Peach from the time of starting suits the Strawberry well; but we dare not risk them when in flower, and as they expand we move them into the Pine stove and place them on a shelf near the glass and close to the ventilators, so that they may have air whenever it can be admitted. The temperature this season has been oftener at 63° than below it at ten o'clock at night, which is rather higher than anyone would care to recommend for setting Strawberries, but they set very well indeed, and by the time these lines are out of the press we hope to have some ready to pick. We placed about two dozen pots on a shelf over the path in a span-roofed house devoted to Tea Roses, Bouvardias, and Tree Carnations, where the temperature would be 10° lower than that of the Pine stove, as well as being more freely ventilated. Here they all set, but not so even or so rapid as those in the Pine stove. From this time onward there will be no difficulty in securing a good set in Vineries and Peach-houses, as we shall have more light and sun, and air can be more freely admitted, and for the short period the plants are in flower the internal atmosphere may be regulated to suit their wants. If the first thing in the morning the leaves or flowers carry the least condensed moisture, it is sure evidence that matters are unfavourable for Strawberry setting, and a drier atmosphere must be maintained. The atmosphere of a plant stove in February would be more suitable than that of a Peach-house or Vinery, or at any rate it could be made so without seriously affecting its regular occupants.—*W. P. R.*

Carter's Blenheim Orange Melon.—Allow me to substantiate all that your correspondent Mr. W. J. Murphy says anent this excellent Melon, it is in my opinion without exception the very best scarlet-fleshed Melon in cultivation. It is a strong grower, sets its fruits freely, is of handsome appearance, perfect in shape, and most beautifully netted with very deep flesh, ripening well back to the rind, and of most exquisite flavour. Anyone who may not have grown it, cannot do better than give it a trial this season. We get our seed direct from Messrs. Carter, as then we have a better chance of getting it true to name.—*W. C.*

How to Winter Strawberry Plants.—I notice that a short discussion is taking place in one of your contemporaries as to the wisdom or unwisdom of stacking pots of Strawberries on their sides in ridges, according to an old method, during the winter months. We speak of old methods as time-honoured, and as gaining a kind of sanctity by usage; but gardening, in common with many other methods of opinion and practice, is progressive, and old methods are found giving place to new ones. The old method of stacking pots of Strawberries on their sides in order to ripen them off and make them fruitful, is strongly advocated by Mr. T. Challis, of Wilton Park Gardens, backed by that sturdy gardener, Mr. R. Gilbert, of Burghley Park. Now, my neighbour, Mr. J. Roberts, of Gunnersbury Park, is a strong advocate of a very opposite practice, and he carried it out, too, and is found asserting that it answers so well, that he would not on any consideration revert to the old plan. He forces annually some 8,000 or 9,000 pots of Strawberries, which affords a fair test of the system. As the winter approaches, the pots of Strawberries are stood in sunken

beds lined with boards round the sides, the boards reaching a few inches above the ground level. The pots of Strawberries are plunged in cocoa fibre, and about an inch in depth is placed over the surface of the pots. Here the plants remain until they are taken into the houses for forcing, and they are exposed to all weathers. An inch of cocoa fibre kept out an astonishing quantity of frost, and when the plants are brought forth for forcing they are fresh and vigorous, the soil full of roots, and the roots near the surface. For a time they are kept in a moderate temperature until they commence to grow, and the temperature increases as required. If anyone interested in the matter will pay a visit to Gunnersbury Park during the Strawberry-forcing season, they will see excellent plants bearing rare crops of fruit. Mr. Roberts is too sensible a man, and too intelligent a gardener to say that the advocates of the old method are wrong; he simply asserts that the system he adopts answers better in his own case than the old plan he has abandoned. It is as unwise to dogmatise about matters of practice in gardening as it is in regard to theology or politics; each one should follow the method he deems to be best, but not regard his brother who differs from him either as a fool or knave. We may differ widely in matters of detail, and at the same time believe in the thorough sincerity and honesty of one's opponents. "Charity helpeth all things" in gardening as in other departments of thought and activity.—*R. D.*

Himantophyllum, Imantophyllum, Imatophyllum.—In nurserymen's catalogues, and in the horticultural press, the name of the beautiful warm greenhouse or cool stove plants which head this note is variously written as above, most generally in the manner occupying the middle place, sometimes in the third way, and most rarely in the manner standing first on the list; and yet if the derivation of the name is carefully noted, there can, I think, be no doubt that the first is the correct name, and that both the others are equally incorrect. The name is derived from two Greek words ἱμας (*h*imas), a strap, and φυλλον (phyllon), a leaf from its strap-like foliage. The genitive case of the first derivative name is ἱμαντος (himantos), therefore the name can only be correctly written when it is spelt Himantophyllum.—*W. E. Gumbleton.*

Chimonanthus fragrans.—In the shrubbery almost the only ornamental shrub in flower during the months of February and March is Chimonanthus fragrans, a winter flower, which produces its delightfully fragrant blossoms from December till March, though they are in the greatest perfection about February. Then there is the pretty Lonicera fragrantissima, to which we not long since called attention; but it is so charming that we feel justified in referring to it again. It is the spring-flowering Honeysuckle, the blossoms of which are delightful in a bouquet with Violets and Lily of the Valley. The Chimonanthus was introduced so long ago as 1776; but as it was at first supposed it would not live without protection, and as it will not flower until it is of considerable size, it was very little grown. At last it seems to have struck some cultivator that as it was a native of Japan it might very possibly live in the open air, as many plants in that country are found to do in England, and it is now found to grow freely in the open gardens in the neighbourhood of London, and to produce abundance of flowers, particularly if trained against a wall. This is the best position for it; but then it should be a high wall for the reason above stated, because the plant grows to a good size before it flowers. The blossoms are yellowish with a purple mark on the bottom of each petal, and they appear before the leaves, which are of a smooth shining light green. There are two varieties; the first, which is common, has the flowers much larger and handsomer than those of the species, but not quite so fragrant, and the other, which is very rare, has the flowers much smaller and entirely yellow. In China and Japan it is said that at great banquets pieces of the Chimonanthus are laid by every plate.

Poinsettia pulcherrima: How to obtain Dwarf Plants.—During the past few weeks several of your correspondents have described their modes of growing this plant. I think it is as well that all systems should be properly laid before your readers, and therefore venture to give them details of a plan we adopt here for obtaining a stock of very dwarf plants, and which proves very successful. The old plants have now finished flowering, and we shall store them away under a dry stage in an intermediate house, and keep them very dry till the commencement of July. They will then be cut back close to the old wood, and afterwards be given a few good soakings of water to penetrate the whole ball of soil. They will not be placed in a warmer house until they show signs of breaking into growth, when they will be placed upon a shelf in the stove close to the glass. When the young growths get about 2 ins. long they will be taken off with a heel close to the old wood and inserted round the edge of a cutting-pot, plunged in a good bottom heat, and kept close, where they will soon root. They will be potted off when well rooted into a rich compost, and kept close for a fortnight till they draw root nicely, when they will be placed upon the shelf in the stove and kept close to the glass. By being thus kept close to the glass the plants keep very short-jointed and sturdy, and scarcely ever exceed 6 ins. in height, and at this height the plants form their bracts, which are fully 6 ins. across. Plants of this size are very useful to edge the front of a stage in a stove intermingled with pots of Panicum variegatum. Let the reader imagine a line of fifty or a hundred plants, all about the same height, arranged in this manner, and I think he will be convinced the idea must be a good one for the purpose named. We do not find it advisable to start earlier than July to get our young plants this height. After we have taken as many cuttings as are required, the old plants are reduced at the ball, re-potted in a good compost, and after recovering from the effects of reducing are again placed in an intermediate house till the early part of October. After this time they are again taken into the stove and kept as near the glass as possible. These old plants make three or four good strong shoots treated in this manner, and are used for cutting from, leaving the younger ones for furnishing as described. It is as well to mention that the shelf in the stove is covered with fine ashes, and this prevents the young plants from becoming too dry, and the plants are fed with guano-water after the pots get full of roots. The size of pot used for the young plants is 4 ins. across, outside measurement.—*W. G.*

Dickson's Matchless White Celery.—Almost every gardener has his favourite sort of this valuable vegetable. Last year I was presented with a packet of the above-named kind by my friend Mr. Milne, of the firm of Dickson's, Waterloo Place, Edinburgh, who informed me that his father had selected it some years ago, and had annually grown several thousands of it for the Edinburgh market. Of all the varieties of white Celery that I am acquainted with, it is certainly the best for salading purposes. It is of medium growth, very crisp and solid, and does not run to seed so quickly as many other kinds, some of which are bolting already; but the one in question is as good as it was two months ago. I send you a stick by parcels post, so that, perhaps, you will give your opinion of it.—*W. J. Ireland.* [A very good Celery, undoubtedly; but as stripped of its outer leaves we could not distinguish it from Turner's Incomparable Dwarf White.—Ed.]

The Marechal Niel Rose.—Replying to "H's." query on p. 395, I beg to state that the Rose in question is worked upon the briar-stock. From the ground to the union of the branches the stock measures 2 ft. 3 ins. After the first heavy crop of flowers we were told that the big Rose would die. To prevent it from going, another advised us to place a mound of soil high enough to reach the union, so that they might root into it. The plant has not died, neither have we adopted the soil care. Like all other good things it is certain to fail some day, but at the present time the promise is encouraging. There is no doubt that the fact of the Rose being planted in an unheated structure is the chief cause of success. Another point in its favour—and in my opinion not one of the least—is that it was planted in the natural soil of the garden, which could be made into capital bricks if needed for that purpose. Is not the soil the main cause of failure in many of the greenhouse-planted Roses? I am afraid the orthodox composition of half loam, half leaf-mould, and a third of sand is the too prolific source of failure in the Marechal Niel Rose, as well as a host of other things.—*J. W. Bayne, Kingston Gardens, Derby.*

Adiantum cuneatum.—There are over sixty kinds of Adiantums in cultivation, but out of all that number there is not one that can claim to be half so useful as the old cuneatum, whether for arranging with flowers for room decoration, or for making wreaths or crosses, or for ball or bridal bouquets. No matter what kind of floral decorations may be required, Adiantum cuneatum is the Fern to use, and what a blessing it is to gardeners and Florists that it is so free to grow, and so easy to cultivate. Yet one often finds it kept in far too warm and moisture laden houses which makes the fronds very tender, and the consequence is, when they are exposed to the air or heat of a dry warm room they shrivel up almost immediately. The best place to keep them in while making their growth is a Vinery at work, where they will luxuriate under the genial shade of the Vines, and when growing freely should have liquid manure water about the colour of bitter ale once or twice a week, this enables them to throw up their fronds in greater numbers, and puts strength and vigour into the plants also. When they have completed their growth they should be removed to a cooler and dryer house, such as a greenhouse, where they can be shaded for a few hours during the hottest part of the day; in such a house they will mature their fronds and remain fresh and green on the plants for months, and also stand for a considerable time when cut. The best compost I find to grow them in is two parts of good turfy loam not chopped but pulled to pieces with the hands, one part of peat, one of old Mushroom bed, some charcoal broken small, and enough sharp sand to keep the whole porous; they should be potted rather firm, and after they have began to grow. We give ours this treatment, and no one need wish to have finer plants than we have. Many of them are in pots ranging from 10 ins. to 13 ins. in diameter, and when at their best are 3 ft. and 4 ft. across them. Next to A. cuneatum comes A. gracillimum, which does precisely under the same treatment and which is very useful for putting in bouquets, but for general purposes cannot approach the good old cuneatum. Adiantum Pacotii is also a useful Fern to grow for button-hole work, and this in my opinion is all it has to recommend it.—*W. C.*

The Gardeners' Calendar.

THE PLANT HOUSES.

In most instances the different plants which were plunged as recommended in a previous calendar, will have made sufficient growth to allow of a batch of cuttings being taken, which should at once be done; plunge in good strong bottom heat, shade and keep close to prevent flagging, that they may strike as quickly as possible. Look over the stock of Salvias and take sufficient cuttings for the supply, a pot-full of each variety will be ample, and be sure and not forget, amongst the newer made friends, the old, but unsurpassed, S. splendens; if these have been kept in a cool house, the cuttings, after being inserted and placed in heat, will root very readily, pot them off as soon as ready and gradually harden off into pits.

Now will be a good time to start a good batch of Achimenes, keeping, of course, a part of the stock for later on, those started now flower well in early summer, and greatly help in decorative work; give good drainage to the pots, using a light open compost with a good amount of half rotten flaky leaf-mould and do not pot too firmly. Keep all seeds as near the glass as possible and out of the way of the syringe, or damping will ensue; should there be any failures sow again without delay; this remark will also apply to propagating, indeed, it is absolutely necessary to keep a very sharp look out just now.

With special articles written on the cultivation of the Chrysanthemum, it is hardly necessary for me to write, but still where not done, let the stock at once be potted off and kept in a growing atmosphere, but do not stop until growth commences again; after their being disturbed, gradually harden them off and place them in cold pits as soon as ready, as if coddled they are attacked with green fly. As the plants which have recently been potted in the stoves commence to take hold of the soil, a little less moisture may be used and a little air given upon all favourable occasions, or the growth made will be very flimsy and certainly not be able to stand long.

Keep a look out on the Orchids, as these require to be potted at different periods, and, generally speaking,

just as they commence to make growth is the best time for the purpose; be particularly careful not to damage the young roots in the operation.

FORCING HOUSES.

The advice given last week with regard to the Vineries and Peach-houses must be repeated, disbudding, tying, heeling-in, and so on, each in its order as required. Where the early Vines are in flower, and this dull cheerless weather continues, it will be advisable to maintain a higher day temperature—say, 75° with a fall of 5° by night; look well to the fertilising for fear of a failure, which may very easily occur while the outer elements are so unfavourable to the production of pollen. In the later houses simply keep things going, and do not attempt much forcing. March will very shortly be here, and with its advent we have reasonable hope of more sun, and consequently, also, of a more rapid and favourable growth of all forced subjects.

The Asparagus roots which were placed on the renewed hot-bed are pushing through well, and as soon as they can be spared the roots will be removed from the other half of the pit, the bed prepared in the same way, and another batch put in. Introduce Sea Kale, Chicory, and such like into the Mushroom-house as required, and, if wanted, one more lot of Rhubarb roots may be introduced, after which a slight covering of any light material on the stools outside will give the requisite supply.

If not done as advised, put in a good batch of dwarf pot Roses at once into the intermediate house. These will be found most useful for decorating the conservatory, as they will stand now when brought on steadily. Spireas and all such subjects must not be forgotten, but still introduced more sparingly now, as few, if any, will fail; and where the Lilium candidum is forced, be sure and do not unduly excite, or the spike will become blind.

Through the material not being quite fit, we did not make up the last Mushroom-bed as we hoped to do at the latter end of last week; but we have done so to-day, and as we have the previously-spawned bed just showing, we are not in any immediate concern as to failure in supply, which just now is abundant and of extra good quality. Where room can be found, Mustard and Cress will be found to come much more satisfactory sown on the border of any forced house in rows, simply sifting a little waste potting soil to sow on; it is less liable also to damp off.

THE KITCHEN GARDEN.

As little or no rain has fallen within the past few days, so we have been enabled to make a considerable advance in out-door work; the vacant plots are all turned up leaving us free to attend to the planting of Sea-kale, Horse-radish, Shallots, Garlic, and other subjects which will no longer bear neglect if they are to succeed, so they must be seen to at once. Although we have not had rain we have not enjoyed much sun, nor has there been any drying wind to make the ground in a fit state to receive seed, so we are rather reluctantly compelled to remain idle in this respect, which is preferable to courting failure. We are now proceeding with the pruning of the Gooseberry bushes, and if the birds do attack them we must sprinkle them with lime-wash before digging, which will help to stay them.

If not already done, look to the seed Potato store, if lying thickly together they will make growth and become matted to the serious injury of the sets, and consequently of the crop; where the practice is followed of cutting off the lower end of the seed or set, let this be done now and so save time when planting; Potato sets of very firm texture are in my opinion benefitted by this cutting. Where the sets have made too much growth instead of rubbing off, cut off to within ⅛ in. of the set, particularly in the case of early varieties.

We have staked and tied all the standard roses so as to prevent the March winds from damaging them, and to make them look more tidy, we also take advantage of all spare time to roll verges, so that they may be got firm before the edging knife will be used, by this means a much cleaner face is given to the cut; roll walks and lawns (particularly the former) after rains, as unless a good face is got now it is quite hopeless to keep one during the summer; turn gravel walks where necessary.

Walter Child, Croome Court.

ORCHID NOTES AND GLEANINGS.

Phalænopsis Stuartiana Lendyana.—We are glad of the opportunity to give an illustration of this extraordinary and beautiful variety, which has again flowered in Major Lendy's collection at Sunbury House, Sunbury-on-Thames, thus proving itself constant in its peculiarity, not only in individual flowers, but in every flower produced on the plant; and answering the question which was raised on its first flowering. It will be seen by our illustration that Major Lendy's Stuartiana makes an attempt to form what is called a regular flower; the column is straighter than in the normal form; the sepals are arranged more equally, and the two side petals make good advances towards making themselves equal to the lip, by exhibiting in lesser degree the tooth-like processes, the narrow base, some of the marking, and other characteristics of that organ.

The fact of such a freak becoming constant, suggest thoughts as to what might, in the course of time, take place were its progeny to continue to move in the direction it has so decidedly advanced so far. In time, probably, we should get Phalænopsis with the three large segments all equal, and resembling the petals of

Phalænopsis Stuartiana Lendyana.

a Calochortus. The flowers are pure white, spotted with rich dark red, the petals and labellum being slightly tinged with yellow at the base. Major Lendy, who grows these plants well, has now a good show of the different varieties of P. Stuartiana, P. Sanderiana, P. rosea, P. amabilis, P. Schilleriana, and P. grandiflora.

Oncidium Brunleesianum.—This extraordinary and exceedingly rare Orchid is now in bloom with R. B. Lemon, Esq., Moat Lodge, Beckenham. The plant in habit and general appearance is exactly like a stout O. sarcodes. The flowers are densely set on an ascending much-branched spike, gracefully curved over at the point; in form and colour they are unlike anything else we know. The plant at Moat Lodge has a grand spike of over 150 flowers; the sepals are primrose colour, and the petals, which spread flat, are of the same tint, but are faintly barred with light brown. The labellum, which is the showy portion of the flower, is very singularly arranged for an Orchid, in that for two-thirds or more of its length it juts straight out from the centre of the flower, the side lobes curving upwards until they meet, thus forming a tube. This portion is bright yellow, and from it the middle tongue-like lobe abruptly turns down, presenting in striking contrast its rich maroon colour. The sepals also are very curious, the top one clipping close over the column, and further protecting it by covering the lap between the tube-like portion of the lip, the lower ones are only separated at the extreme point by a slit like that in a quill pen. Altogether it is a very quaint and lovely plant.

The Odontoglossums and Dendrobes, too, are well cultivated at Moat Lodge, the former being especially stout and healthy in their pretty house with Fern rockery, and many are in bloom or bud; but one—a superbly formed large fringed flower, exquisitely marbled and tinged with mauve—is equal to the best known in its class. Some well-flowered pans of the Chatsworth Cœlogyne cristata, many fine Dendrobium Wardianum, D. heterocarpum, D. Ainsworthii, D. nobile pendulum (true), D. crassinode, Sophronitis grandiflora, Zygopetalum rostratum, some Cattleya Trianæ, and a profusion of lovely spikes of Phalænopsis Schillerianum and P. amabilis make a charming display, the like of which could not possibly be got at this season in any class of plants beside the Orchids.

CARNIVOROUS PLANTS.

At a recent meeting of the Ealing Microscopical and Natural History Society, Professor Boulger, F.L.S., F.G.S., delivered a lecture on "Carnivorous Plants." Alluding to the fact that the day before had been the seventy-seventh anniversary of the birth of the greatest of English naturalists, Charles Darwin, the lecturer began by drawing attention to the fact that of the multifarious topics which that great observer elucidated, as bearing on his theory of "Natural selection," few were more fascinating than that of insectivorous or carnivorous plants. It used to be said, that one of the differences between plants and animals was, that animals were capable of taking in solid food, while plants were not; but it was only true in a very limited sense that animals took in solid food. They did, it is true, take solid food into the stomach, but before it could be taken into the tissues and blood it must become liquid; whilst there were plants, such as the Pitcher plants, which possessed organs quite as much entitled to be called a stomach as was that of the little Hydra, or fresh-water polyp. The food of animals and plants alike, had to undergo a process of fermentation before it was capable of assimilation, and it was remarkable that, to effect this, there were four chief substances, known as "ferments," which were practically identical in the plant and the animal: first in the saliva was a ferment known as 'ptyalian' which converted starch into a soluble form of sugar, parallelled among plants by the 'diastase,' by which the embryo in a grain of corn was enabled to live like a parasite upon the starch stored up in the seed, and by a ferment known as 'azerin' in the secretion of the Pitcher plant; second, the 'pepsin' produced by the glands of the stomach which acted upon the albuminoid or nitrogenous elements of food, and was parallelled not only by 'droserin,' a substance found in the Pitcher plants and Sun-dews, but also by ferments found in peas and other seeds, and elsewhere in various plants; third, an emulsive ferment acting upon fatty substances, converting them into 'emulsions,' *i.e.* fluids with minute suspended particles, and changing them into glycerine and fatty acids by a process of saponification. Such a ferment exists in many seeds. Fourth, the 'inverting' ferment, so called because it was found that even cane-sugar (though a soluble, crystalloid substance) could not be assimilated by either animals or plants before it had been converted into other forms of sugar in which the action of polarised light was inverted. The processes of digestion were thus identical in plants and animals, and were not confined to the so-called carnivorous plants, whose chief peculiarity was that they exuded their digestive fluids, so that digestion took place on the outer surface of the leaf. There were whole groups of plants which lived exclusively upon organic matter, such as the fungi and other plants destitute of green colouring-matter. These were, therefore, exactly like ordinary animals in their nutrition.

A series of slides were then thrown upon the screen by the lime-light lantern, beginning with a group of micro-fungi, such as the Yeast Plant and Moulds. Some plants, the lecturer continued, have the habit of catching flies without apparently using them as food, as the Campions and Catchflies and the little three-fingered Saxifrage, common in the south-west of England. The Teazle has been termed "the English pitcher-plant," from the accumulation of rain-water, in which insects are often drowned at the base of its united leaves; but though Dr. Francis Darwin once thought that he detected protoplasmic filaments projecting from glands on the stem into this water and absorbing the animal matter, this idea is now abandoned. The truly carnivorous plants belong to widely different groups of dicotyledonous flowering plants and occur in all parts of the world; but they are all either submerged or marsh plants, with but a slightly

developed root-system, upon which, in fact, they merely depend for water. Of these, the first to be described were the Sundews, a genus of about 100 species, of which forty were natives of Australia, where they sometimes clambered up to some height, whilst other species occurred over most portions of the globe, the commonest of our three British species, Drosera rotundifolia, upon which Darwin's chief experiments were made, growing also in the Himalayas. The family to which it belonged was related to the Saxifrages, and its structure was illustrated on the screen, under the microscope, by diagram, specimens, and a much-enlarged papier maché model. The tentacular extensions of the leaf secrete a viscid fluid most copiously during sunshine, which is at first neutral, but affords the most delicate known test for nitrogen. If touched by any substance containing nitrogen, even the 20-millionth of a grain of phosphate of ammonia, the tentacle bent over, carrying the fly or whatever it might be, to the centre of the leaf, and the secretion on all the tentacles at once became acid. In the course of some hours all that was soluble in the fly was digested.

Careful experiments had shown that the product of digestion was absorbed by the leaf; and by taking a number of specimens and feeding half of them with beef, whilst excluding all insect food, Dr. Francis Darwin had shown that the fed plants weighed more, and produced more buds, flower spikes, fruit-capsules, and seeds than the others. A Portuguese plant (Drosophyllum), allied to the Sundews, was hung up by the peasants in their cottages to catch flies; whilst another allied genus (Byblis) had similar glands within the flower. The next type referred to was the Sarracenias or Side-saddle plants of western North America, introduced into cultivation in 1640, one species being half hardy. These plants, which are, as Linnæus pointed out, related to the Water Lilies, have a cluster of pitcher-like leaves, furnished with a flange baited with honey to entice insects to crawl up it. The inner surface of the pitcher is partly smooth and slippery, partly studded with downward-pointed hairs, so that it practically resembles an eel-trap. The lid of the pitcher has sometimes colours resembling those of the flowers, or is furnished with semi-transparent patches against which insects might stun themselves, as birds often do against plate-glass windows. The internal glands secrete a liquid which does not show any digestive power, but is very wet—wetter than water, so that a fly falling into it would die of asphyxia, as it would in glycerine. Some moths lay their eggs in the putrefying mass of matter in the pitchers, and birds slit them open to get at the maggots, so that many leaves simply decay and manure the roots; but others are believed to absorb the liquid products of decomposition.

The lecturer next passed to Bladder-worts (Utricularia), submerged aquatic plants of world-wide distribution, furnished with little bladders, seldom a ½ in. long, which have been erroneously described as floats. They have trap-doors opening inwards only lined with with four-rayed hairs. They capture water-fleas, which they resemble as much as the statues of Memnon resemble human beings, and which apparently only enter out of curiosity, and when in, die of overcrowding; no true digestion occurring in this case, any more than in Sarracenia. In the allied genus of the Butter-worts, however, with a simpler structure, there is a higher physiology. Its rosettes of bright green leaves are sticky, and roll up their edges over captured flies; and in Sweden are used for curdling milk. If the milk be left on the leaf, it is ultimately all digested, except a little oil; this being the strongest known digestion among plants. The next type was that of the true Pitcher plants (Nepenthes), of Borneo, India, and the Malay region, where the apex of the leaf is pitcher-shaped, and secretes a fluid from which the two ferments, "azerin" and "droserin," have been obtained, together with several acids and salts, by means of which a true digestion takes place, which is even more rapid than that of the pepsin of the pig. A yet higher organisation than this was that of the Venus's fly-trap (Dionæa), a plant confined to some twelve square miles round Wilmington, in Carolina, but first described by Ellis in a letter to Linnæus in 1768, and experimented upon by Knight in 1818. It has a round leaf with tentacular teeth, but a dry surface. Towards the centre are six long jointed hairs, and when one of these is touched by a nitrogenous substance, the leaf shuts up like a rat-trap, the mid-rib acting as a hinge. This movement is accompanied by a deflection of the normal electric current, present in all living beings; and this current is found by Professor Burdon Sanderson to be conveyed along the protoplasm of cells of the leaf, not along the veins. When a leaf closes on a fly, a copious secretion, in which formic acid has been detected, is poured out, running in some cases for as much as nine days, though generally completing the digestive process in about twenty-four hours.

The leaves of the Drosera and Dionœa seldom eat more than two or three meals, old leaves becoming inert. The last plant referred to was Aldrovanda, a rootless, submerged plant, found in Queensland, Bengal, and the south of Europe, with its leaves in whorls of six, edged with teeth and having sensitive hairs over the central part of their surface, and four-rayed ones near the edge. Darwin spoke of it as "an aquatic Dionœa"; but it had been suggested that these four-rayed hairs might absorb the liquid products of decay, as in Utricularia, in which case the plant would combine in itself the characters of the two physiological types. Alluding to other cases in which glandular structures have been alleged to absorb organic matter, such as the floral-glands of the Grass of Parnassus and of the Christmas Rose, in which the characteristic "aggregation of the protoplasm" takes place, which was first pointed out by Darwin, as an accompaniment of absorption, in the tentacles of Drosera, the lecturer suggested that glands not usually absorbent might be so occasionally.

HORTICULTURAL SOCIETIES.

Aberdeen Horticultural Association.—The usual monthly meeting of the members of the Aberdeen Horticultural Association was held on the evening of the 19th inst. in the Christian Institute, Aberdeen, Mr. Harper (president) in the chair; there was a large attendance. A paper on the propagation of Roses was read by the secretary on behalf of Mr. Innes, gardener, Blairgowrie, and a short discussion followed. The secretary also read a paper from Mr. Forrest, gardener to the Earl of Aberdeen, on the construction of fruit and vegetable gardens. Discussion followed, and both gentlemen were awarded the thanks of the society for their papers. Mr. Henderson, Cults, on behalf of a committee appointed at a former meeting, submitted a report recommending the formation of a benevolent society on the lines of the United Horticultural Benefit and Provident Society, London. Having read several of the rules of that Society, and explained its objects, Mr. Henderson pointed out that unless a hundred members were obtained it would be useless thinking of forming such a society in Aberdeenshire. On the motion of Mr. John Robson, it was agreed that a remit be made to take steps to enrol members. An extensive collection of botanical specimens, sent by Mrs. Farquharson, of Haughton, were explained with the aid of the microscope by Mr. John Roy, secretary of the Aberdeen Natural History Society. A vote of thanks to the president terminated the proceedings.

Manchester Horticultural Improvement.—*February 18th.*—At the usual fortnightly meeting of this society, held on the above date, Mr. Bruce Findlay, President, in the chair, Mr. T. W. Stansfield, of Sale, read a paper on "Modes of reproduction in some of the lower orders of plants." The chairman said they were aware that there was all but one natural mode of reproduction or propagation of plants, that is by seeds or spores; all other modes, as striking from cuttings, budding, grafting, or division, are artificial; yet the only way of perpetuating many kinds is by adopting the artificial mode of increase, and but for this mode many valuable varieties of plants would be lost to us, inasmuch as they do not come true from seed. The class of plants to be brought under their notice that night are replete with interest and wonder, and notwithstanding the little attention they commonly excite, they are important objects of study, inasmuch as they pave the way to the higher developments of vegetable life. However much art may, for convenience, reduce the productions of nature to isolated groups and divide them into separate sections, and although relatively distinguishable, they are not absolutely separable, for, however diverse the distant members may appear, they are all intimately connected and essential to each other, and form in their respective subordinations but integral parts of one harmonious whole.

Mr. Stansfield said he assumed that all present were more or less acquainted with that peculiar substance called protoplasm, which Professor Huxtable has described as the physical basis of life. Wherever there is life there is protoplasm, and the simplest forms of life are little bits of protoplasm. All forms of reproduction consist in the splitting up of protoplasm, and by means of the black board he demonstrated the modes of reproduction by this splitting up of protoplasm into two or more pieces. In the next place he described the reproduction which takes place by the mixture of one portion of protoplasm with another, which he called the sexual process. He then explained the process of reproduction in Ferns by means of this intermingling of protoplasm.

The Chairman at the close of the lecture, said Mr. Stansfield had treated his subject in a scientific manner, and perhaps some of the gardeners present were asking themselves the question "Cui bono"—What's the good of it all? Franklin once put a counter question, What's the use of a baby? for no one will venture to inquire what is the use of a man. Ferns have spores little differing from those of Mushrooms and of mosses, and, like them, they are most prolific, for a single frond has been computed to produce upwards of a million spores. So minute are the reproductive spores of Ferns that their existence was for a long time doubted, and before microscopes exposed them to our sight this belief was common, and many references are made to it in our oldest writers. Shakespeare, in allusion to this then popular opinion, observes, "We have the receipt of Fern seed; we walk invisible." However, if the lecture only awakened in them a desire to examine into the structure and existence of these plants, they would not have met in vain. Mr. Butterworth moved a vote of thanks to the lecturer, which was seconded by Mr. Griffiths Hughes, and adopted. Mr. Stansfield in reply to a question whether it was possible to cross-fertilize Ferns, said it is not only possible, but often takes place. It cannot be done in the same way as by taking the pollen of one flower and putting it on that of another; the only way in which such fertilization can be effected is to put the spores of the Ferns in such a condition that they can fertilize themselves.

National Chrysanthemum.—At a well attended meeting of the general committee of this society, held at the old Four Swans, Bishopsgate Street, on Monday evening, the secretary, Mr. William Holmes, reported that all the gentlemen elected at the previous meetings to act as judges at the society's shows this year had accepted office, and that it had been arranged that the September show should be held on the 9th and 10th; the great annual Chrysanthemum show on November 10th and 11th, and the exhibition of late blooms on January 12th and 13th. The sub-committee appointed to frame the schedule, reported that having well considered the probable income and expenditure of the society for the year, had arranged for prizes to be offered to the amount of £75 at the September show; £170 at the November exhibition; and £50 in January; independent of special prizes, and supplementary ones given by the Aquarium Company. After some discussion, principally bearing on the difficulty of adequately defining a Japanese Anemone, the recommendations of the schedule committee were agreed to. At the September show, besides early-flowering Chrysanthemums, there will be classes for Dahlias, Gladioli, &c., and in January, Cyclamens, Primulas, Solanums, and hardy ornamental plants will be invited.

Crockham Hill Gardeners' Mutual Improvement.—The members of this useful and somewhat recently established association, met on the 16th, under the Presidency of Mr. T. Stephens, when the Secretary, Mr. H. Finn, read a good practical paper on the cultivation of Borecole, which was much appreciated by all present. In reply to a cordial vote of thanks, Mr. Finn alluded to the present depressed state of agriculture, and the necessity that arose therefrom of cottagers improving their methods of cultivation, and increasing the number of vegetables grown, and expressed a hope that the Society would be the means of bringing about such a desirable result. Several subjects of interest to the members were exhibited, including Blenheim Orange Apples, Beurré Bretonneau Pears, Cottagers' Kale, Chinese Primulas, and Allium neapolitanum, &c.

QUESTIONS AND ANSWERS.

Gas and Vegetation.—Can any of your readers refer me to a case of plants being injured in a nursery in close proximity to a gas factory, or to any legal decision bearing on such a case.—*A.*

Sulphide of Potassium.—*C. J. L.:* The manufacturers are Messrs. P. Harris & Co., Bull Ring, Birmingham.

Nursery.—*T. D.:* At Holloway, in the north of London. The nearest railway station is Upper Holloway; and Finsbury Park, on the Great Northern main line, and Kentish Town on the Midland and Great Eastern system, are within about fifteen minutes' walk.

Stove Temperatures.—*R. A.:* The day temperature should range about as follows:—January, 65°; February, 65°; March, 70°; April, 70° to 75°; May, June, July, and August, 70° to 80°; September, 70° to 75°; October, 70° to 75°; November, 65°; December, 65°. The night temperature should always be not less than 5° lower. Necessarily you must have in the summer months a higher day temperature by sun heat.

Mushroom House.—*G. S.:* With walls so thick, and a loft overhead, no artificial heat would be required. The best plan, if you want to fully utilize the space, would be to have a series of beds in tiers, from 1 ft. to 15 ins. deep, but it is impossible to say what weight of produce you will get from such a building,

so much depending upon your skill as a grower. Get Mr. Wright's excellent manual on the subject, *Mushrooms for the Million*, and study that before commencing operations.

GOLDEN MARGUERITE.—*J. B.*, K: Your plants are badly attacked by the small leaf mining larva of a little two winged fly called Phytomyza nigricornis. The only remedy is to cut the plants down, burn the tops, and then keep a close watch on the new growths, removing at once any leaves in which the larva make their appearance.

NAMES OF PLANTS.—*J. J. D.*—1, Euonymus japonicus medio-aurea; 2, Libonia floribunda; 3, Mediola asparagoides; 4, Adiantum cuneatum; 5, Abutilon Sellowianum marmoratum; 6, Begonia metallica; 7, Adiantum gracillimum; 8, Tradescantia zebrina. *J. P.*—Klenia crassifolia.

COMMUNICATIONS RECEIVED.—W. E. G.—W. G.—C. J. L.—W. K.—J. W. L.—J. S.—R. & Co.—L. D.—H. J. J.—C.—G. T.—R. S.—M. A., Camb.—W. J. I.—W. E. B.

TRADE CATALOGUES RECEIVED.

R. B. LAIRD & SONS, Royal Winter Garden, Edinburgh.—New Florists Flowers.

DICKSON, BROWN, & TAIT, 43, 45, Corporation Street, Manchester.—New Farm Seeds, &c.

MORLEY & Co., Rosedale Exotic Nursery, Preston.—Special list of Tuberous Begonias.

MAX DEEGEN.—Köstritz, Germany.—Dahlias of all kinds.

J. N. MAY, Summit, Union County, New Jersey, U.S.A.—Wholesale trade list of choice Roses.

J. C. VAUGHAN, 42, La Salle Street, Chicago, U.S.A.—Flower and Vegetable Seeds, Bulbs, and Tools.

LONDON SEED TRADE.

February 24th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report less enquiry for seeds owing to unfavourable weather. Red Clover continues remarkably firm, and lower grades are scarce owing to large exports to America. White Alsike, and Trefoil, in moderate demand at rates current last week; Rye Grasses meet a steady sale. Bird seeds and Blue Peas unchanged in value.

COVENT GARDEN MARKET.

February 25th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	1 0	3 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	2 6	5 0	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 6	3 0	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 3	0 4	Onions, per bushel	5 0	6 0
Cabbages ....per doz.	1 6	2 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 0	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms		
Acacia mimosa, French per bunch	1 0	1 6	Marguerites, 12 bun.	4 0	8 0
Anemone, 12 bunches			Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 9	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea, French ,,	2 0	2 6
Daffodils, per bunch	1 0	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	24 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths, per doz.	6 0	9 0
Asters, per doz.			Hyacinths, Roman, per dozen		
Azalea, per dozen	24 0	42 0	Hydrangea, per dozen		
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Narciss, per dozen	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Daffodils, per dozen	9 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanum, per dozen	8 0	12 0
Ferns, in var., doz.	4 0	18 0	Spiræa, per dozen	12 0	15 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 6			
Fuchsias, per dozen					
Genista, per dozen	10 0	15 0			

LATE WHITE CHRYSANTHEMUM BOULE DE NEIGE

R. OWEN is now Booking Orders for the above—the best late White known. Splendid habit and free-flowering. A grand Market Plant. R. OWEN was awarded two First Class Certificates December, 1885. 10s. 6d. per dozen. Plants ready in March. Cuttings, 6s. per dozen. Specimen blooms, 6 stamps. Orders executed in rotation. Trade Price on application.—FLORAL NURSERIES, MAIDENHEAD.

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WHOLESALE SEED CATALOGUE.—Our Catalogue of Garden and Flower Seeds, Novelties, and Bulbs for Spring Planting, is now ready, and may be had on application. All our customers should have already received one by post, and they will oblige by advising us if not to hand.

The above also includes List of a few choice Lilies just to hand from Japan—L. auratum, L. longiflorum. L. Krameri, &c.

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DANIELS' Crimson Rocca	0 6
DANIELS' Giant Rocca	0 6
DANIELS' Improved White Spanish	1 0
DANIELS' Giant Zittau Yellow	0 4
DANIELS' James' Long Keeping	0 4
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EVIDENCE OF QUALITY.

From **Mr. G. H. RICHARDS**, Gardener to the Earl of Normanton, July 22nd.

"I was much pleased with your **White Elephant Tripoli Onion** I had last year, and consider it the finest white selection I have yet tried or seen. I exhibited a dish at South Kensington, July 14th, in my First Prize collection of vegetables, and they were much admired."

From **Mr. WILLIAM LLOYD**, Lillingstone, Lorell, Sept. 5th.

"For **Onions**, I may say, we had nine First Prizes, and three Second."

From **Mr. T. WELLS**, Burnestone, Bedale, Yorks, Jan. 28th.

"I took two First Prizes and one Second with your **Golden Rocca Onion** last year, against more than twenty competitors."

From **Mr. G. BAKER**, The Gardens, Marlingford Hall.

"I consider your **Giant Rocca Onion** the best ever introduced, very mild in flavour and an excellent cropper. I have not a single bulb under one pound in weight."

From **Mr. W. M. HEYHOE**, Station Road, Swaffham, July 16th.

"The **Onions** which I grew last year from seed supplied by you were a magnificent crop. An eightenpenny packet yielded upwards of one and a half cwt. of splendid round Onions, which have kept good till now."

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DANIELS' Crimson Rocca	0	6
DANIELS' Giant Rocca	0	6
DANIELS' Improved White Spanish ...	1	0
DANIELS' Giant Zittau Yellow	0	4
DANIELS' James' Long Keeping	0	4
DANIELS' Early Queen	0	4
DANIELS' Blood Red...	0	4
DANIELS' New White Globe	1	0
DANIELS' Rousham Park Hero	1	0

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CRESS—Plain, Curled, &c.	8 ozs. & 2 pkts.	2 ozs. & 1 pkt.
CUCUMBER—Sutton's Cluster and other best sorts	3 pkts.	2 ,,
ENDIVE—best sorts	2 ,,	1 ,,
LEEK—Musselburgh	1 ,,	1 ,,
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MUSTARD	1 pint	3 ozs.
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READING, BERKS.

Liverpool Horticultural Association.

POSTPONEMENT OF SPRING SHOW.

THE fourth grand Spring Flower Show of Hyacinths, Tulips, Narcissus, Azaleas, Rhododendrons, Roses, and forced hardy plants will be held in St. George's Hall, on Thursday, March 18th.

Schedules on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Huyton.

Royal Aquarium, Westminster.

HORTICULTURAL EXHIBITIONS.—GREAT EXHIBITION of HYACINTHS, &c., MARKET PLANTS and cut DAFFODILS, on March 30th and 31st. GREAT ARTISTIC ROSE SHOW, on June 25th and 26th. GREAT STRAWBERRY EXHIBITION AND FETE, on July 2nd and 3rd. Great display of TABLE DECORATIONS, BOUQUETS, &c., on August 20th and 21st.

Liberal Prizes are offered.

Schedule of Prizes on application to Mr. Richard Dean, Superintendent of the Exhibition, Ranelagh Road, Ealing.

CRYSTAL PALACE SPRING FLOWER SHOW—March 26th and 27th. Schedule of this and other Flower and Fruit Shows during 1886, to be had on application to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, MARCH 9th.

Promenade and Band from half-past three o'clock p.m. Admission, 2s. 6d.

N.B.—Entrance for Fellows and the Public, N.E. Orchid House, Exhibition Road, and Exhibitor's Entrance, West side of Royal Albert Hall.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 6, 1886.

THE EDUCATION OF GARDENERS.—Our contemporary, *The Gardeners' Chronicle*, has just instituted a species of competition amongst young gardeners in the matter of composition and elementary knowledge of plant life and its operations through roots, in the form of written essays upon that interesting topic. Certainly, whilst invisible to our sight, roots play on behalf of all vegetable life so important a part that gardeners ignorant of their nature, use, and operation must indeed be sadly lacking in some of the most valuable elements of horticultural knowledge. It is, therefore, extremely interesting to find that some really intelligent effort is about to be made to promote in young gardeners some studious habits, and induce them to inquire deeper into the economy of plant life, with which all their work, and the success of their work, is so indissolubly connected, than has been the case in the past.

Our gardening knowledge and teaching so far has been of an exceedingly practical kind, but it has not been either theoretical or intelligent; hence any stimulus to a better state of things can hardly be too heartily welcomed. There seems, however, to be in the conditions imposed upon competitors in this enterprise something lacking, especially in the direction of ensuring

that the work sent is purely the labour, unaided and singular, of the essayist himself, and not that of some other person. Something may be trusted to personal honour; but it is noticeable that in all similar examinations and competitions little or nothing is so trusted, but ample precautions are taken to ensure that the work done in the competition is genuine and *bonâ fide*.

The Society of Arts was, some twenty years ago, moved to institute, in conjunction with its annual examinations in various scientific and other subjects, certain examinations in Fruit and Vegetable Culture, and in Plant Culture and Flower Gardening. These competitions proved successful in bringing together a fair number of young gardeners, who, no doubt, gained much from the studies needful for any prospective chance in the examination; but they too soon collapsed. This result arose first from general apathy on the part of the young gardeners, and secondly, from the difficulty experienced in securing available centres for examination, because gardeners, as a rule, reside thinly all over the kingdom rather than in urban communities; but the system upon which these examinations were based was sound and absolutely prevented collusion. In the first place, the young gardener had to become a member of some local Institute; then the syllabus published some months previously gave a general outline of the peculiar branches of the subjects to be examined in, and the best text-books for consultation. At the time and place appointed for the examination, the students assembled, in charge of a local committee, who placed them at the tables of the room in which the actual work of examination took place, and so mixed up that no two having the same subject sat near each other or could overlook each other. Then, at the appointed hour, the envelopes containing the set questions to be answered by the students were opened in the presence of all in the room, and copies handed round according to the respective subjects taken. Three hours was the limit of time for each examination, and every student was prohibited from taking in with him books or notes of any kind; hence it was absolutely certain that whatsoever work was done was that of the student himself and no one else.

It will be seen that in this case the examination consisted of set questions, and, of course, definite replies were essential. The papers gathered up after being signed, were then forwarded under seal to the Society of Arts for distribution to the examiners. Naturally, the giving of set questions kept the subjects considered within reasonable bounds, and the time permitted only the accomplishment of so much work and no more. Essays may be of illimitable length, some competitors, perhaps, being of the opinion that the longer the yarn spun the better the chance of winning. In the examination to which we have alluded, a few queries well and truly answered were held to be of much greater value, and exhibiting better practical as well as theoretical knowledge, than all the questions attempted but not accurately replied to. There is one good result flowing from competitions of this kind—viz., that inquiry is stimulated even if nothing else be obtained. All cannot win, but all may rise from their intellectual labours much wiser gardeners.

Very desirable is it that young gardeners—and specially those who are looking forward to obtaining good status in their profession—should aspire to some higher form of theoretical knowledge than they now possess. There is amongst us ample ability; there is a vast amount of that form of knowledge which goes by the appellation of enlightenment. Indeed, we have an abundance of practice, but very little of science; not that we would advocate too much of the latter at the expense of the former. At the same time there are too many gardeners who know that such-and-such results follow from certain acts of cultivation, but little or nothing of the why and the wherefore. It is true that our best practical gardeners—the men whose lives are spent in the laudable work of raising food for the people, are men of no scientific attainments, and rather apt when they see the work of those who are "all science and no practice," to ask, what is the good of it? But such questioners would find it difficult to say what the lack of scientific knowledge may have cost them. The supremacy of England—shall we say Britain—depends as much upon the intellectual capacities and technical knowledge of her people as upon their practical or constructive capacities. We have much to do to hold our own in the world's competition, and quite as much in gardening as in anything else. Our young men must learn to realise their position and their responsibilities, and if the competitions we have referred to will help in that direction they will accomplish much good.

GARDENING MISCELLANY.

The Chiswick Gardens.—Mr. Shirley Hibberd and a few friends, members of the Fruit and Floral Committees, on the 26th ult. invited the *employés* of the Royal Horticultural Society at Chiswick to a supper at the Bolton Hotel, as a testimony of their appreciation of the uniformly attentive and careful manner in which the young men do their work in connection with the trials and experiments carried on in the garden. A very enjoyable evening was spent, and it was suggested that the event should be made an annual one.

Professor Edouard Morren, the well-known Belgian botanist and horticulturist, died at Liége on the 28th ult., aged 53 years. The Professor was born at Ghent in 1833, and succeeded his father as Professor of Botany in the University of Liége, and during his tenure of office greatly improved the Botanic Gardens in that city. He was also for many years editor of *La Belgique Horticole*.

The Taunton Chrysanthemum Show has been fixed for November 18th next.

The New Park at Exeter.—We understand that Messrs. Lucombe, Pince & Co.'s tender for the supply of the ornamental trees and shrubs required for the Belmont pleasure grounds at Exeter, has been accepted by the Exeter Town Council.

Warwick Horticultural Society.—The annual exhibition of this society will take place later than usual this season, namely, on Bank Holiday, August 2nd, and will be held in the pleasure grounds attached to Warwick Castle.

Pansies from Seed.—What a supply of Pansies can be kept up from seed! Only it is important to sow seeds of a good strain. A batch of seed sown in a cold frame in August or September, or even later, the seedlings planted out in the open ground as soon as they are ready in well prepared beds, will, in the south of England, and in some of the midland and northern parts, give a grand display of flowers in April, May, and June; while another batch from seed sown in April and May, will yield another display from August till December, according to the character of the autumn. The plants are most easily raised from seeds, and seedling plants are invariably strong, and bloom profusely. We often wonder that Pansies are not more frequently used for making flower beds gay from March until the time comes round to bed-out for the summer in June; then the plants can be thrown away, save and except a few select varieties it may be advisable to preserve.

Sowing Seeds of Cyclamen persicum.—Mr. H. B. Smith, the manager of the St. George's Nursery Company, at Hanwell, and a noted Cyclamen grower, is now adopting the practice of sowing his Cyclamen seeds individually in thumb-pots, and not collectively in seed-pans as heretofore. He thinks this to be a much better arrangement in this respect. He states that at the time of pricking-off from the seed-pans into store-pots, and then singly into thumb-pots, a great deal of time was lost in addition to the plants receiving a great check. The labour of sowing the seed singly in thumb-pots is not greater than the pricking-off of the young plants in the same way; and as the seedling plants raised in thumbs are not shifted until they need it, there is no appreciable check, and the plants, provided they are well cared for, come to maturity more quickly. As Cyclamens are produced in very large numbers at Hanwell, it may be assumed that Mr. Smith's new method is found to answer.

The Birmingham and Midland Counties Gardeners' Mutual Improvement Association, which was formed a few weeks ago, appears to be making excellent progress, about 180 members having been already enrolled. The managing body consists of a President, T. Martineau, Esq., Mayor of Birmingham; three Vice-Presidents, viz., A. W. Wills, Esq., Wylde Green, Birmingham; E. Tonks, Esq., Packwood Grange, Knowle; and A. Coleman, Esq., Hayley Road, Edgbaston; and a Committee of sixteen, including the following officers:—Mr. W. B. Latham, Botanical Gardens, Chairman; Mr. G. Page, The Gardens, Maple Bank, Edgbaston, Vice-Chairman; Mr. W. Spinks, 46, Harborne Road, Edgbaston, Treasurer; and Mr. J. Hughes, Northwood Villas, Metchley Lane, Harborne, Honorary Secretary. At the meeting held on Wednesday evening last, the subject of the lecture was, "The Mutual Relations of Plants and Insects"; the lecturer being one of the vice-presidents, A. W. Wills, Esq. On the 17th inst., W. Hillhouse, Esq., Professor of Botany, at Mason College, will lecture on "The Scientific Value of Gardener's Experience"; and on the 31st, the Professor of Botany at the Midland Institute, J. W. Oliver, Esq., will speak on the subject of "Leaves and Roots—their relations to the air and soil." On April 14th, Mr. William Dean has undertaken to give "A Fifty Years' Retrospect of Horticulture"; and on April 28th, the lecture will be on "Practice with Science," by E. W. Badger, Esq.

Fish Manure.—A limited liability company has been formed with a capital of £130,500, to take over the business of the firm of J. Jensen & Company, which was established by the late Mr. R. S. Hudson, of Chester and West Bromwich, and by Mr. Alfred Borwick and Mr. A. G. Meissner of Lloyds, to make Fish Manure from the refuse of the great Cod and Herring Fisheries of the Lofoden Islands, Norway. We learn from a circular before us, that both Cod Fish and Herrings are reduced to a dry powder, with an average of only six per cent. of moisture. The Manure is clean, easily applied, and with its combination of Potash forms a normal and complete fertilizer, which has won for itself the approval of the best cultivators throughout the kingdom. After much trouble and delay, suitable sites were obtained, works built, and operations commenced. With the works came an increasing population, and it was found necessary to organize a Store to supply the people, which proved a profitable addition to the business. With the Fish refuse (the heads and backs of Cod Fish) the fishermen brought fresh livers, and thus the department for making "Medicine Oil" originated. The disposal of semi-used livers led to the establishment of a branch for producing Cod Liver Oil for leather dressing, which has become of considerable importance. When the Cod fishing is over the Herring season usually commences. Herrings are offered in such abundance, that it has been found necessary to develop a special department for the manufacture of Manure and Oil from Herrings, which in this the first season has exceeded all anticipations. The offices are at 10, St. Helen's Place, E.C., and both Mr. Borwick and Mr. Meissner will join the board after completion of the purchase, the former as managing Director.

Hardy Fernery.—In constructing a hardy Fernery use anything of the nature of stone, and the more porous this is the better; but on no account use old tree stumps, or anything that is decayed. Upon old tree stumps and branches, especially in moist and shady places, will soon be developed imperfect and rudimentary forms of fungi, the presence of which is exceedingly detrimental to the health of a Fernery. We saw recently a Fernery of this character that had been pulled to pieces solely on account of the unhealthy character of the Ferns planted on it. The evil principle, which did not appear much on the surface, was revealed as soon as the foundations were disclosed to view; there, mingled with the rotting wood, &c., were quantities of the white threads that constitute the mycelium of the fungus, corresponding to dry-rot, and which were the real sources of the mischief.

THE IMANTOPHYLLUM.

(With illustrations on pp. 424 and 425.)

Custom, which has to be answerable for so many things, must be our excuse for writing the name Imantophyllum without the initial H, which the correct reading of the derivation demands. In this country, in nursery and private gardens, the plant is known as Imantophyllum, as on the continent it is recognised as Clivia; therefore, as this is a popular periodical, we prefer to use the popular name. These plants have now become such great favourites that Messrs. Jas. Veitch & Sons, of Chelsea, Mr. B. S. Williams, of Holloway, and others in the nursery trade, specially devote houses to them; and in some private gardens, such as those of Baron Schroder, at The Dell, Egham, and of Lord Wolverton, at Iwerne Minster, Dorset, where they have not only the best-named sorts, but fine seedlings of their own, a like provision is deservedly made for their accommodation; while on the continent they are deservedly numbered among the most popular plants of the day.

I. miniatum, the first of the race of the showy section of the genus, introduced from South Africa a little over thirty years ago, exhibits a remarkable proof of the rewards to be obtained by good culture and careful hybridisation; for to these agencies are the present grandly formed, highly coloured varieties mainly to be attributed, although they are not evolved wholly from the original species which was characterised by the freeness with which it sent up offsets from the base, the small number of flowers on the spike, the narrowness of the segments which allowed of openings between them down almost to the ovary, and the pale yellowish orange of its flowers. Later on, and before the cross fertiliser began to work upon it, I. miniatum superbum, a variety better in every respect than the type, and I. miniatum giganteum, a form foreshadowing much of the excellency of the newer varieties, appeared out of an importation made by Messrs. Veitch & Sons; and another form much resembling it was imported by Mr. Wilson Saunders. These two last named were of distinct habit, with much larger, very dark green leaves, of more equal width than the original type, and, unlike it, displaying much reluctance to break up from the bottom, but seeming to increase the noble proportions of its main growths year after year. These placed the requisite material in the gardener's hands, and for the result, as seen in those grand flowers, some of the best of which we shall enumerate, he is worthy of all praise.

Few plants are amenable to more general cultivation. They want not a stove-house temperature, but thrive admirably in greenhouses, conservatories, or fruit-houses, which are not allowed to go below 45° Fahr. in winter; and as a correspondent, in an article on plants for growing in the dwelling-house, in a recent number states, they are among the best for that purpose, being ornamental as plants at all times and glorious when in flower. For potting material pure turfy yellow loam, broken up by the hand, with a dash of some good fertiliser, is the best. So much are these plants held in esteem on the continent, where some of the best varieties have been raised, that the horticultural press is frequently sounding the praises of new forms as they appear, or the older, as they gain in strength, the better show themselves. Among the more intelligent of their chroniclers is Mr. Ed. Pynaert, of Ghent, a valued correspondent of our own, and a great raiser of, and authority on, Imantophyllums. Mr. Pynaert grows an extensive collection of these plants, and in several articles, contributed at various times to the *Revue de l'Horticulture Belge*, he has given much information about them, including his experience in obtaining and raising the seeds, a summary of which will interest many of our readers.

Raising Seedlings.

Mr. Pynaert says that the seeds of Imantophyllums ripen generally from November to February, or even later where produced on a second flowering; that the change of colour in the capsules tells when the seeds are ripe and fit to gather, and that seeds even in apparently unripe capsules will often germinate. On the other hand, if the seeds are left ungathered too long, the first step in germination takes place on the plant, but that does not destroy the utility of the seeds for producing young plants. The seeds being gathered, they should be exposed to the air on a stage in the house in which they are intended to be raised for several days, and after that they should be sown as directed. In all cases Mr. Pynaert recommends their being sown at once, although he says he has known them keep good a long time, and names an instance in which some of them were sent from Ghent to Brazil and returned through mis-direction, thus being kept about for three months. Another month elapsed after their return before they were sown, and yet only about 5 per cent. failed.

In sowing the seeds, some well-drained pots or pans should be filled with light sandy soil, which, after being pressed smooth, should have a sprinkling of sand over it. After being moistened lightly, the seeds should be placed side by side, lengthwise, pressing them up to the line A...B as shown in fig. 1, cover each pot or pan with a flat piece of glass and place in a temperature of about 60° Fahr., which may afterwards be raised to 65°, 70° if convenient. In fifteen or eighteen days root growth will develop, which coming into contact with the soil partly raises the seed and causes it to assume the position indicated by the line C...D, and the plants are then ready for removal to store pans. These should be prepared with good rich earth, lightly placed

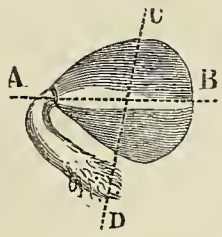

Fig 1.

so that the germinating seeds may easily be inserted each in the place made for it by the dibber, after which the surface should be lightly covered in, and the whole settled down with a watering from a rose can.

Soon they will develop the first leaf as seen in the illustration Fig. 2, and later on when they have two or three leaves they should be placed in single pots, and then 50° Fahr. is quite sufficient to bring the plants well along. Thus Mr. Pynaert describes a work which

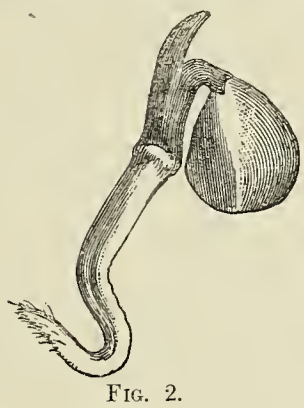

Fig. 2.

many have failed in, simply from not being acquainted with the facts he so ably sets forth.

Select Varieties of I. miniatum.

The following, many of which were noted by us in various places last year, are among the best:—

B. S. Williams (Pynaert).—This is one of the most noble looking of the genus. In the habit of the plant it is robust, and the immense heads of bloom frequently have over thirty flowers, such as that of which we give an illustration, expanded at once. In form and in the brightness of its colour the bloom resembles that of the handsome reddish scarlet Vallota purpurea. (See illustration on p. 24.)

Madame Legrelle Dhanis (Reimers).—This grand variety, which was raised by M. Theodore Reimers, gardener to Madame Donner, Ottensen, Hamburgh, was well figured in the *Revue de l'Horticulture Belge*, in January, 1881. It has large heads of dark scarlet flowers, with white centres and yellow stamens.

Marie Reimers.—Flower heads often 18 in. across, flowers are large and fine, orange-scarlet with yellow centre.

Schroderii.—This grand variety received a first class certificate at the Royal Horticultural Society, on March 10th, 1885, when Mr. Ballantine brought it from Baron Schroder's garden. It has very large heads of pure scarlet flowers of fine form and substance.

General Gordon.—Flowers bright dark orange-scarlet; centre white, flower heads large.

Lindenii.—A grand variety with broad handsome foliage and stout flat spikes, bearing immense heads of large orange-scarlet flowers.

Ambroise Verschaffelt.—Size and colour of the flowers of the best quality, but not so numerously produced as some others.

Madame Van Houtte.—Flowers large, bright dark orange, with white star in centre.

Aurantiacum.—Yellow, tinged with light orange; very distinct.

Cruentum compactum.—Habit very dwarf and free flowering. Flowers comparatively small, but of a decidedly scarlet tinted orange approaching deep red.

The Drooping Flowered Section.

We must not pass from the subject without noticing the drooping flowered section, which have been great favourites in their day, and yet are worthy of being extensively cultivated as they are pretty, and are frequently in flower when the miniatums are without bloom.

I. Aitoni (Clivia nobilis) was the first of the genus imported over sixty years ago. It is smaller in all its parts than I. miniatum, and has broad, rather upright, dark green leaves, and stout scapes bearing from thirty to fifty yellow flowers tinged with orange and tipped with green; the flowers are drooping and curved inwards.

I. Cyrtanthiflorum is an improvement, supposed to have been effected by crossing Aitoni with I. miniatum, which latter it resembles somewhat in growth, but the flowers, although larger, partake of all the characteristics of I. Aitoni.

I. Gardneri is still an improvement on the one last named, and may be said to be the finest of the drooping flowerers. Its leaves are often 3 ft. in length, narrow, arching, and pointed; the scapes are 2 ft. to 3 ft. in height; the flowers like those of I. cyrtanthiflorum, but more loosely arranged. It is a very fine plant.

THE RHODODENDRON.

As a hardy evergreen and free-flowering shrub, nothing is to be compared with the Rhododendron. Performing so important part, as it does, in all ornamental planting, and alike welcome in town and country, no apology is needed for bringing it under the notice of the readers of The Gardening World. Rhododendrons are possibly more tenacious of life than any other shrub; they may be removed at almost any season of the year, except when making their new growths, and this makes them particularly useful subjects for filling up, when making needful alterations at a time of the year when it is too late to plant the ordinary kinds of shrubs. This quality in the Rhododendron is attributable to the sound ball of earth which their roots carry, as a result, not of chance, but of their having been often transplanted while in a young state, and the roots carefully cut or "ball'd," to use a nursery phrase. This is very essential to the well-being of Rhododendrons of any size, ranging from dwarf bushes to fine specimens several feet in height. They may be had also in the form of standards, suitable for planting as single specimens on the lawn, or in beds, or borders, grouped up with the dwarf plants, and this is by far the most satisfactory way to plant them, taking away, as it does, the naturally lumpy appearance produced by a bed composed entirely of bush plants.

For richness and variety of colours too, Rhododendrons have no equal, except in the Rose, varying as they do from rich crimson and scarlet, to delicate pink, and pure white; indeed it is almost impossible to describe the beauty and diversity of shades and markings to be found in some of the later introductions. Great and marked has been the improvement in the Rhododendron during the last few years. The aim has been not only to secure increased hardiness, with the quality of not flowering until the late spring frosts are past, but to secure compact growth, and fine, broad smooth foliage, with large conical trusses of smooth well-formed flowers, compact, and surrounded by a guard of flat well-formed leaves. The earlier flowering varieties of the Rhododendron are very attractive, but they are also very disappointing, for it is very rare that the spring in this country (except in a few favoured spots), is favourable to these early flowers. Still they are so easily procured, that it would be a pity altogether to discard them from the Rhododendron borders or American gardens. They have one quality, however, to favourably recommend them, viz.: they are useful as pot plants for forcing, and make a grand display in the conservatory.

The soil most suitable for the Rhododendron, the one in which it is more often found and in which it thrives the best, is a good rich fibrous peat, but the absence of this need not deter intending planters, as a soil in which Rhododendrons may be grown most satisfactorily can be prepared at little trouble or cost. They will grow in good sandy loam almost, if not as well, as they do in peat, and any loamy soil mixed with leaf-mould or other decayed vegetable matter, with a mixture of sand, is all that is needed to ensure success. Situation has very much to do with the successful cultivation of Rhododendrons, they prefer shelter and shade, and, therefore, a position exposed to strong currents of wind and in the glaring sunshine all day should be avoided. It may here be remarked that Rhododendrons are very often used to form screens, and the better to attain the object in view they are planted on a raised bank. The idea, no doubt, is to combine beauty with usefulness, but it will be found, with few exceptions, that both will be but short lived under such conditions. If there must be a bank, plant it with a selection of shrubs suitable for the position, these will form the necessary blind and will afford a good back-ground to a bank of Rhododendrons, which may be planted at the base if the border is extended on the flat, then the water from the bank will run down or percolate from it to the advantage of the Rhododendrons.

From this it will be gathered that moisture is necessary to their well being. It must not, however, be supposed that they like what may be termed wet ground, moist it should be, but free from anything like stagnant water at their roots; where this is likely to occur, the beds or borders should be well drained, particularly where the natural soil is retentive and likely to hold water, which, at certain seasons of the year would, in all probability, be in a state more fit for aquatics than for Rhododendrons; although pretty well-understood, it may as well be here stated, that Rhododendrons and kindred plants do not thrive in a soil containing chalk or lime. The pruning of Rhododendrons is neither so well understood nor carried on as it ought to be, with the view to prevent a straggling and over-grown appearance. This is due, in a great measure, to early neglect in the use of the knife; some kinds are more apt than others to make strong growths, which, if allowed to remain, spoil the symmetry of the plant; all such shoots should be cut back, and March or April is the best time to do it, or they may be pruned when they have done flowering, and at the same time all the seed-pods should be removed. This is very necessary to their successful cultivation.

When Rhododendrons out-grow the situation in which they are planted, it is best to take them all up and re-arrange the whole; this may be done most satisfactorily, first by taking away all the over-grown or unsightly plants, which may be cut back all over and planted in the reserve garden for future use, the others may then be planted a stage back and the deficiency made up with young plants. We must not conclude these remarks without noticing the dwarf section of Rhododendrons, as although wanting in the size and brilliancy in the flowers, their dwarf habit and neat foliage of various tints, recommends them as plants well suited to form edgings to beds of the larger growing varieties, also for beds in any arrangement of arborescent bedding; they may also be planted with advantage singly on rockwork. At another time I may return to the subject, giving lists and descriptions of some of the most desirable varieties.—*G. T.*

NOTES ON CACTUS DAHLIAS.

It is admitted by all who have seen the so-called Cactus and Semi-Cactus Dahlias in perfection, that they are certainly among the most beautiful and effective of late summer and autumn flowering plants that can be grown. In habit, they are similar to other Dahlias, but in the shape and character of their flowers they are entirely distinct. We now have a variety of forms, all of light and elegant construction, which, combined with their freedom of flowering, and chaste appearance, render them invaluable for cut flower purposes, for which they are particularly adapted. Being late flowering, they should, when possible, be secured in pot roots; for I find from experience that they bloom quite a month earlier than spring struck plants. Pot roots should be started in a warm corner of the house or frame any time in March, using small pots, and any light potting compost that may be handy, taking care not to pot them too deep. The crown of the tuber should be just about level with the surface of the soil.

When they have commenced to grow, and the shoots are about an inch long, remove them into a light airy position, so that they may not become drawn. When the roots fill the pots, they should be potted into 5-in. or 6-in. pots, in a compost of two parts of loam, and one of rotten manure, with a little sand added. In this potting, the tubers should be buried about an inch under the soil. About the middle of April stand them in a frame, where, on all mild genial days the lights can be moved right off, care being taken to put them on again at night to protect from frost and cold. Plants treated in this way, will make fine strong robust subjects by the first week in June, when they can be planted out. The ground previous to planting should be well dug and manured, and a stake driven firmly into the ground where each plant is to go. When they are planted, secure them to the stake at once, for they are easily broken, and a broken plant means a month later for bloom; after this, if the ground can be covered with manure, so much the better. During hot dry weather give an abundance of water every day; and it will be well to bear in mind, that after plants have started in the ground, they can hardly have too much water. By the above plan, I have cut bushels of flowers from a comparatively small number of plants. I give below a list of names of the best of those that I have grown. There is no doubt, that in the future, this class will become as popular as the Japanese Chrysanthemum.

Juarezii.—Rich crimson, bushy flower of striking appearance.

Mr. A. W. Tait.—White, most peculiar and pretty, very un-Dahlia like; fimbriated petals much like a fimbriated reflexed Chrysanthemum; extra good for cutting.

Cochineal.—An intermediate form between a Cactus and show variety; violet-crimson, toned with a brown shade, very free and useful; a lady's favourite.

Annie Harvey.—Crimson-maroon; one of the most striking large flowers with irregular shaped petals.

Constance.—Pure white, called the Camellia Dahlia owing to its elegant shaped flowers.

Lord Lyndhurst.—Called a scarlet Constance; lovely reddish scarlet, a wonderful bloomer, will grow in poor soil.

Germania Nova.—A very remarkable variety, being a new and beautiful shape, of a lovely mauve-rose colour.

Prince Imperial.—Purple, semi-double flowers with peculiar shaped petals.

Fire King.—Small well-formed flowers of a dazzling scarlet, remarkable free flowering.

Mrs. Hawkins.—Sulphur-yellow, toned lighter at the edge of petals; a splendid variety.—*Henry J. Jones, Hope Nursery, Lewisham.*

VITIS HETEROPHYLLA.

Among hardy plants that are adapted for pot culture this variegated Vine is one of the most distinct and useful for general decorative purposes. When grown under favourable circumstances, the variegation will be very perfect, and plants with three or more shoots grown in 48-size pots and trained to sticks about 3 ft. long, will be found very effective where a few tall plants of a light character are required. It will also be found very serviceable for cutting from, the long slender shoots being particularly adapted for epergne work.

Vitis heterophylla may be readily propagated from cuttings of the young shoots in the spring. If a few plants can be started in heat, so as to get the cuttings early, it will give a better chance of establishing good plants the same season. As soon as the cuttings are rooted they should be potted off singly, and if grown on freely in heat they will soon require potting on into 48-size pots. The plants may be stopped once or twice during the early part of their growth. They should then be allowed to make as much growth as possible, and should be stood out of doors during the autumn to ripen off, and if kept dry during the winter they will be ready for forcing the following spring; any good light compost may be used for potting. I may add that the variegation will not be so good in the young plants that are grown on freely; but if grown on without being re-potted the following year, although the first few leaves will be green the variegation will soon appear, and the leaves of the lateral shoots will be almost white the stems of a rosy pink; the extremities of the main shoots will also assume the same character.—*H.*

SELECT PLANTS FOR ROCKERY BORDER.

In order to fulfill a promise made in your issue for November 21st (p. 180), I will now give a list of good and useful subjects, all perfectly hardy, easily grown, and such as are calculated to give satisfaction provided they are liberally treated. The whole of the plants cited are true perennials and alpines. The only abbreviation which I shall use is the letter B, in which case the reader will understand that the plants are either bulbous or tuberous rooted. For the further benefit of those unacquainted with them I will divide them roughly into three groups, according to their height, but for which some allowance must be made, seeing that many plants differ considerably in the vigour of their growth on certain soils and certain seasons.

1.—*Plants not exceeding* 1 *ft. in height generally.*

Acantholinum glumaceum
Achillea umbellata
,, tomentosa
Allium moly (B)
Adonis pyrenaica
,, vernalis
Ajuga Brockbankii
,, Genevensis
Alyssum saxatile compactum
,, ,, fol. var.
,, utriculatum
,, Wiersbecki
Anagallis tenella, moisture loving
Androsace lanuginosa
,, sarmentosa
Anemone alpina
,, apennina (B)
,, blanda (B)
,, fulgens (B)
,, nemorosa fl. pl. (B)
,, narcissiflora
,, pulsatilla
,, ranunculoides (B)
,, Robinsoniana (B)
,, coronaria in var. (B)
Antennaria tomentosa
Anomatheca cruenta (B)
Aquilegia cœrulea
,, pyrenaica
Arnebia echioides
Arabis albidus fol. var.
Arenaria balearica
,, purpurascens
Armeria cephalotus
,, alpina grandiflora
Aster alpinus
,, ,, albus
Asperula odorata
Aubretias (any)
Bulbocodium vernum (B)
Calliprora lutea (B)
Calochortus & Cyclobothra (B), all lovely bulbous plants
Chionodoxa Luciliæ (B)
Campanula alpina
,, carpatica
,, ,, alba
,, Hendersoni
,, Haylodgensis
,, isophylla
,, ,, alba
,, pulla
,, pumila
,, ,, alba
,, Raineri
,, turbinata, in variety
Corydalis nobilis (B)
Crucianella stylosa coccinea
Crocus speciosus (B)
,, vernus, in variety (B)
Cheiranthus alpinus
Cypripedium acaule
Dianthus alpinus
,, cruentus
,, barbatus magnificus
,, Napoleon III
,, Mrs. Simpkins
Dielytra eximia
Dodecatheous (any)
Erigeron auranticus
Erinus alpinus
Eranthus hyemalis
Erythroniums, in var. (B)
Ficaria grandiflora
Fritillaria meleagris, in variety (B)
Galanthus (any) (B)
Genista tinctoria fl. pl.
Gentiana acaulis
,, verna
,, septemfida
,, gelida
Geranium cinereum
Geum montanum
Hyacinthus amethystinus (B)
,, ,, albus (B)
Helleborus niger
,, maximus, and any others
Hepaticas, in variety
Iris reticulata (B)
,, pumila, various
,, nudicaulis
Iberis corifolia
,, sempervirens plena
,, Gibraltarica
Leucojum vernum
Megaseas, in variety
Narcissus bulbocodium (B)
,, cernuus and var. plenus (B)
,, minor (B)
,, moschatus (B)
Onosma taurica
Œnothera macrocarpa
,, acaulis
Papaver nudicaule
Pentstemon heterophyllus
Primula acaulis (single and double)
,, Sieboldii, in var.
,, rosea
,, auricula
Phlox setacea, in many varieties (B)
,, verna
,, Listoniana rubra
Ramondia pyrenaica
Scillas or Squills, in many varieties (B)
Sternbergia lutea (B)
Saxifraga granulata pl. (B)
,, hirculus, moist loving
,, muscoides atropurpurea
,, cæspitosa
,, hypnoides
,, cuneata
,, ligulata (Megasea)
,, Wallacei
Sedum spectabile
,, asiaticum
Senecio doronicum
Silene alpestris
,, maritima fl. pl.
Sisyrinchium grandiflorum (B)
,, ,, album (B)
Thalictrum adiantifolium
Tritelia uniflora (B)
,, ,, lilacina (B)
Tiarella cordifolia
Trillium grandiflorum (B)
,, ,, præcox
,, ,, maximum
Tropæolum polyphyllum (B)
Tulipa Greigii (B)
Veronica repens
,, prostrata
,, gentianoides fol. var.
Zauschueria californica
Zephyranthes atamasco (B)
,, caudida (B).

—*J.*

(*To be continued.*)

Scottish Gardening.

Roses now require attention. Many plant Roses at this season with the view of not risking the young stock in their new quarters during the winter; deep tilth and careful mulching are two important matters with Rose growing. Where soil, manure, leaf-mould, old tan, or other protection is round the collars of dwarfs, we should not be in a great hurry to remove it. If such must be done for the sake of appearance, we would let the soil come well over the junction of stock and scion. It is there where the frost does its fatal work. Often Roses may be seen to start freely into growth, and about May or June will die off; in such cases the mischief is often done during March, or even April, by frost laying hold of the portions which have been protected and suddenly exposed; such injuries are very generally done during severe winters, while frost has had complete power over the plants, especially after warm and dry summers, succeeded by moist growing autumns. The plants being tender and in a growing state are liable to injury by frost.

The pruning of Roses is generally performed onwards from the middle of March to the end of April; the latter period I have long favoured, after taking note of a remarkably clever Rose grower's experience in a midland Scotch county; I felt convinced that his late pruning notions were sound, and attended with such success, which brought large numbers to see his display in July. Pegging down strong shoots, cutting out weakly ones, or pruning the latter to an eye or two gives a good show of large Roses. Roses may be pruned, according to their vigour. Cutting back 9 ft. shoots to one or two eyes, gives wood minus flowers. Teas, Chinas, and others, which are best when grown with stiff short growths, when possible, require thinning only. Shortening back gives wood, and to get the plants well established, such pruning does well for one season. Most growers have to lift and put under protection their Tea and Noisette Roses, frost soon disfiguring the plants, if it does not kill them outright.

The Stock of Hardy Plants, such as, Pansies, Phloxes, Wallflowers, Sweet Williams, &c., under protection, should be looked over, cleared of litter, made firm at the roots, surface stirred and adjusted, so that they may start freely into growth when planted out; but it is not wise to do so till ground is sweetened and warmed by sun. All the usual stock of plants which are not hardy—such as Dahlias, and bedding plants in general, should be got forward in strong condition. In northern and late districts this is more essential than in warm early parts where growth is more rapid, and the flowering period less distant. The preparation of the ground for flowering plants, if not already done, admits of no delay. In flower beds where shrubs, bulbs, and other plants were put in to clothe the ground during winter and spring, may cause a delay, but if the ground was prepared in autumn for the winter occupants it will be easily managed in May.—*M. T.*

Scottish Horticultural Association.—The annual meeting of this Association was held in Edinburgh on Tuesday night—Mr. W. W. Walsh, vice-president, in the chair. The Secretary read the annual report, stating that during the year nineteen members had joined the Society, making now a total membership of 400. Papers to the number of twelve had been read during the session, and about thirty collections of plants, fruits, &c., had been exhibited. These included a collection of Narcissus of seventy-two varieties, a collection of Ivies of thirty-three varieties. There had also been exhibited specimens of Crinum from Newbattle Abbey, and specimens of Monstera deliciosa from Dalgleish Palace Gardens, and Mr. Lindsay of the Botanic Gardens, showed a specimen of the Kei fruit of the Cape, which was new to Europe. The financial statement for the year showed that the income of the Society had been £34, and the expenditure £34 9*s.* 9*d.* The meeting then elected the following office bearers for the current year:—Hon. President, Dr. Paterson, Bridge of Allan; President, Mr. Alex. Milne, of Dickson & Sons, Edinburgh; Vice-Presidents, Mr. Goddall, Pinkhill Nursery, and Mr. Mackinnon, Melville Castle Gardens. Mr. Robertson Munro and Mr. Alex. Mackenzie were again elected secretary and treasurer.

THE WINTER AND PLANTS.

There is too much reason to fear that the later visitation of frost, snow, and bitter east winds has been productive of great harm to many plants, usually termed hardy. That we have had a very lengthened period of frost there can be no doubt, for it began as long since as the middle of October, and so far has continued with intervals of higher temperature down to the end of February. Though the later frosts have been only of moderate severity, yet following upon the severe check vegetation received, when the severest frost visitation with snowfall prevailed, they have been productive of great mischief, plants of all kinds suffering, the foliage withered or burnt up, and myriads of Stocks, Wallflowers, Forget-me-Nots, Golden Feathers, and similar things killed, and hardy green stuffs terribly withered. That a sharp and speedy reversion to growth and activity may be looked for the moment the weather improves there can be no doubt, for it is quite in the order of nature that severe depression should bring about very speedy reaction. Still that activity cannot bring to life dead plants, or rejuvinate withered branches and foliage.

The most hopeful aspect of the winter is seen in its comparative restfulness, and as compared with many preceding seasons' lateness, we may well hope that for once the winter's cold will exhaust itself at legitimate times, and has no reserve, which will be flung abroad upon nature just at the moment when all the warmth and sweetness the season can give is needed to bring the bloom into a state of fertility. Should the general anticipations that a severe winter and a late spring are conducive to fruitfulness be realised, then we may well hope for a bountiful season, for the trees generally wear a most promising aspect, and show that they are in a prosperous mood.

The Amateurs' Garden.

THE VEGETABLE GARDEN.

There will be plenty of work in the kitchen garden during this month, for, owing to the severe weather and lateness of the season, much has to be done to bring it into proper condition. Advantage must be taken of every interval of fine weather to dig and finally prepare the ground for the seeds of the numerous crops that must be sown as soon as possible now. If the present and succeeding months prove favourable, there will not be much occasion to regret lost time, as the sun is fast gaining power now, and as the soil gets warmer the seedlings will make rapid progress. For all the smaller seeds get as fine a surface as possible, breaking the lumps of soil and removing the largest stones; and when sowing, whether broadcast or in drills, do not be too liberal; thin sowing is not only more economical, but it is much more beneficial to the plants that are to form the crop. When sown thickly, the practice of thinning has to be resorted to, and this is often done in a very careless way, the surplus plants are pulled up roughly, disturbing and checking the others more than might be imagined.

To prove the matter, however, try a few rows that have to be thinned, and some in which the seedlings are to remain undisturbed, and the difference will soon be evident. It often happens that the thinning cannot be done just when it is required, and in the meantime the young plants are crowding each other, and becoming weakened in consequence. Another point is that seeds are often covered too deeply with soil out of doors; yet when sown in pots under glass, the greatest care is taken with them, and it is strange how often the necessity for this attention is overlooked in sowing seeds for out-door crops. A row or two of Peas for succession may be sown; also early Turnips, and Carrots with Radishes; and as the weather improves, follow these with Spinach, Parsnips, Beans, and Onions.

THE FLOWER GARDEN.

The signs of spring are yet very few, for in most districts the frost has returned with some severity, and a slight fall of snow has also occurred. Almost the only floral attractions that we have just now are a few Snowdrops and Winter Aconites, but these are doubly welcome, and might be much more largely planted in gardens than is customary. Under the shade of trees the little Eranthus succeeds admirably, producing its bright yellow flowers with a collar of green even through the snow, and very cheering they are. An early Primrose or two are showing flowers, and numerous other occupants of our borders are making slight progress which will be quickly accelerated by brighter weather. In the meantime employment will be found in renovating paths, relaying box edgings, or placing in tiles, if these are preferred.

Box forms an excellent edging to walks and borders, but it requires to be well kept or it looks much worse than the tiles; and if the time and labour necessary to do this thoroughly cannot be spared, it is better to employ the tiles, as they require no attention after once placed in a position, and they can be purchased cheaply. Box edgings must be annually and neatly trimmed to keep it in shape, and if bare spaces appear, or it becomes irregular it must be lifted and replanted, work which an amateur will not find easy to perform satisfactorily. The soil must be rendered firm, and a line stretched according to the shape of the walk, then make a clean trench with the side next to the walk nearly perpendicular, and even the box cannot be laid in regularly, it must be arranged upright and evenly, both as to height and thickness, firmly treading the roots in on the border side and filling up with the soil. If fresh gravel is going to be applied to the paths it can then be put on, otherwise, some of the old gravel should have been drawn back from the line where the trench is to be, and after planting it can be replaced evenly up to the box so that no soil is seen to discolour the walk.

If lawns have to be relaid or repaired the present month is a suitable time to undertake the work; this is preferred by some to sowing seeds and waiting until the lawn is in a fitting condition to be used, as though a good sward can soon be obtained if reliable seeds are purchased and they are sown liberally on well prepared soil, yet some time must of necessity elapse before the lawn is as firm as could be wished. On the other hand if care is exercised in selecting the turf, if it is well laid and subsequently attended to in rolling, a handsome lawn is quickly formed. The soil must be prepared and enriched with a little old manure, then trod firmly with the feet and raked as even as possible; the attention paid to this matter will give the best results later on, for nothing can look worse than depressions or irregularities in the surface of a lawn. Having ascertained that the soil is even and firm the turves must be placed closely together, and then well rolled several times. After the grass has grown and been cut once or twice, the lines where the turves join will be invisible if they have been properly arranged.—*Scolytus.*

ENGLISH OR BRITISH.

The letters which my unintentional transgression have brought out afforded me much amusement, and forcibly reminded me of an incident which occurred some years ago at an election in Scotland. A distinguished statesman (himself of Scotch descent) addressed a large audience in Edinburgh one night, and the next morning a leading paper came to hand with a long article commenting in the severest terms upon his use of the word English instead of British. If that gentleman read the article in question, he must have felt utterly crushed when he saw his delinquency exposed in its true light, but though I have not yet become fully conscious of the enormity of the offence, I have the satisfaction of knowing that I have erred in good company.

Seriously, however, I had not the remotest intention of depriving my northern brethren of their honours as raisers of Grapes; I used the term English in a general sense, and as it is very commonly employed, and I fail to see why "Imperias" should object to its use in that way, any more than he could object to it as applied to the language. The English nation is a compound like the language, and the Scotch element is at least as strong in England as it is in Scotland. I am glad to to be able to inform "Imperias" that I count some Scotchmen amongst my best friends, I admire them as a nation, and believe that the more firmly the north and south are united, the better it will be for both. If the adoption of the term British will facilitate this, I will most willingly substitute it for that which I employed, and trust that "Imperias" will then be satisfied.—*Vitis.*

THE VEGETABLE GARDEN.*

Gardening may be said to divide itself under four distinct heads, viz., Trees and Shrubs, Flowers, Fruits and Vegetables, all of primary importance, but having relative value to each other according to circumstances. As a rule, however, we are disposed to give precedence to the last as being the most important, because we find in vegetables something more tangible and useful than are luxuries; they are, indeed, absolutely essential elements of our existence, as much so as the corn which maketh the staff of life. If the least attractive and ornamental, certainly the vegetable department of any garden is one of its most interesting features, and probably the most profitable. Hence we find gardeners of all descriptions valuing their kitchen gardens, taking special pride in their products, and devoting to them all possible care, skill, and attention. There are, therefore, few gardeners who will not hail with satisfaction the appearance of the Messrs. Vilmorin's remarkably complete and admirable exposition of garden vegetables, which, having been most efficiently translated, has been offered to British readers under the comprehensive designation of *The Vegetable Garden.*

Mr. William Robinson, who has written a special introduction to the book, gives prominent emphasis to the value of the contents, as making us more fully acquainted with vegetables fit for food than we have been in the past. Without doubt our insularity as a nation has told against our mental development in that respect, and a certain dogged obstinacy in regarding continental products as trifles, has led to the exclusion from our gardens of many vegetables which the versatile French people have long utilized and we have scorned. If Messrs. Vilmorin's splendid compendium should help to arouse some greater interest in continental vegetables, and possibly of some other diverse form of cooking, then great good to British gardening will have been accomplished. Mr. Robinson, who has never failed to express his sympathy with vegetarianism, also looks for some good results to that interesting development of food reform in the country by the increased knowledge of vegetables, and aroused interest in them that must inevitably flow from a perusal of *The Vegetable Garden.*

Of the contents it is well to say at once, that whilst literally teeming with practical information, the book is presented in admirable type, and is superbly and most numerously illustrated. But these illustrations are not merely printed as pictures—they are so admirably defined and so truthful to character that they tell their own tale at once, and might be said almost to render descriptive matter superfluous. There is one element in these scores of illustrations which marks them so distinctly from many others we are familiar with in seed lists, &c. They are all drawn true to nature, and depict no fancy or ideal forms. Probably, there is not a root, plant, or fruit depicted but which was drawn from the life, hence we get no idealities. Then the contents, comprising as they do a thousand and one diverse kinds of vegetables, are alphabetically arranged, so that the reader may instinctively turn to the subject of inquiry without much seeking.

The general character of the text may be described as a combination of the historical, cultural, and descriptive; hence we find any special plant or family of plants described with the utmost fullness, and the culture amply detailed. Further than that, the reader is treated to short essays upon methods of cooking and serving-up, so that the cook as well as the gardener of the household may derive from the perusal no small amount of information.

Of course, some references are open to question where certain families are concerned that are peculiarly prolific of kinds and diversities of character. Thus we find no less than 172 kinds of Peas described, and very many of these figured; but it is obvious that already two-thirds of these are now hardly met with in gardens on this side of the Channel, and it is obvious that every year will see a material change in the name and nature of the kinds in general cultivation: hence, were a new edition of this book issued in some few years time, a tremendous excision of sorts would be needful to bring it up to date.

Potatos, again, are found in exceeding abundance, French, English, American, and other kinds being fully described and many of them figured. Of these we find scores that have here dropped out of cultivation already, whilst many of the best new sorts find no mention. Some five years hence nine-tenths of the Potatos mentioned in the book will have been forgotten. The illustrations of many kinds—and of French sorts specially—exhibit in a marked degree the diversity in form found in continental Potatos, as also of the national taste both in appreciating form and beauty and of methods of cooking. Let us say that with all our appreciation for French cookery, and too common habit of deprecating our own *cuisine*, that no style of serving up the *Pommes de terre* of our French neighbours can, in our estimation, for one moment outweigh the nutty-flavoured, floury, and cleanly-served Potato of English cookery.

If we stop at the Kidney Beans, we find the highly fancied Butter Beans not only admirably illustrated, but lucidly described. Few things more strongly mark the divergent tastes of English and French people than do the varied popularity of certain kinds of Kidney Beans. Whilst the Butter Beans and the Haricots are so popular abroad, we evince little taste for any of the family except our favourite scarlet or white Runner, and the ordinary prolific dwarf form, and in each case only eaten green with the pod. Somehow the fatty Butter Beans have made little headway here, but whether that comparative indifference to these products be due to tastes that are peculiar and permanent, or to our want of appreciating many diverse forms of vegetable diet remains to be seen. Very certain it is that the inhabitants of the British Isles, and of England especially, are great eaters of animal flesh, and it is a moot point whether a strong passion for flesh diet is not inimical to the adoption of vegeterianism.

All the Brassica family are very fully treated upon, as may be assumed from the fact that some forty-five Cabbages are figured whilst there are Broccolis, Cauliflowers, Kale, &c., in exceeding abundance. Those who may wish to enter into a study of the Cabbage tribe, will find in this book a fund of information. Possibly they may think that the work of testing, and comparison has been so well done by the authors that hardly more remains to be done, although this sort of work will always bear doing over again, because of the personal interest which is created when trials of this kind are conducted in our own gardens; therefore, we commend to gardeners of all sections, and specially to that large body of young student gardeners, a close perusal of this remarkable work, and they will find that their capacity to conduct vegetable garden departments immensely increased.

It is undoubtedly well to understand the common rules of kitchen garden culture, but it is better to have a broad and intelligent appreciation of all that relates to vegetables, whether personal or cultural, and to have such conception of all that relates to vegetable culture, as this book presents, is to be a far wiser and nobler cultivator, and more intellectual gardener. Probably, not a few estimable and usually well informed men will rise from a perusal of this book with the belief, that after all their previous knowledge of the subject, left much to be desired.

The difficulty found in drawing a clear line between vegetables and fruits is evidenced by the fact that Strawberries are described and figured fully for the reason that these are commonly grown in vegetable quarters and under the same methods of culture. But then Melons are included also, and for the simple reason that these are so closely allied to Gourds, Marrows, and Cucumbers, all esteemed vegetables, and therefore could not be with consistency omitted. Melons specially wear a changeful face, and the sorts of this year will be forgotten after a few more seasons have passed away, hence minute descriptions of fugitive kinds have only a temporary interest, whilst the cultural details may be said to hold good for generations. Even greater is the divergence found between vegetables and funguses than between the former and fruits, and yet it is not possible to omit Mushrooms, or very interesting illustrations of some small moveable beds, which, if correctly represented, certainly indicate remarkably productive powers.

*The Vegetable Garden. Illustrations, Descriptions, and Culture of The Garden Vegetables of cold and temperate climates, by M. M. Vilmorin-Andrieux, of Paris. English edition, published under the direction of W. Robinson.—London: John Murray.

Imantophyllum miniatum var. B. S. Williams (see p. 411).

However, we have said enough to indicate that *The Vegetable Garden* is a book that is worthy the attention of all our readers. Not only has it had the benefit of Mr. Robinson's supervision ere presented to the British public, but all the proofs were read not only by the superintendent of the Royal Horticultural Society's Gardens, Chiswick, Mr. A. F. Barron, but also by Mr. Henri Vilmorin, one of the most capable and studious of continental horticulturists, and thus the matter comes specially emphasised.

It has hardly entered into the minds of many of those who conduct exhibitions of vegetables to substitute for money prizes some diverse forms of awards, but should any be disposed to renew their practice in that direction, and endeavour to reward successful exhibitors with some useful objects, certainly they can hardly do better than associate with such prizes copies of *The Vegetable Garden.*

IMANTOPHYLLUM MINIATUM VAR. (see p. 411).

PLUMBAGO ROSEA.

ALTHOUGH the species of Plumbago are not numerous, they are very useful decorative plants, and the above is exceptionally serviceable, and deserving of more general cultivation than it receives, blossoming as it does during the winter season when flowering plants are most scarce and consequently greatly appreciated. The effects of one of the prettiest arrangements of easily cultivated store plants that I have seen for many a day was considerably enhanced by specimens of this plant, and so gay was the appearance of the arrangement at mid-winter, that I may be excused for digressing from my subject to describe it. A miscellaneous collection of foliage plants, grown chiefly for table decoration, comprising Dracænas, Pandanas, Palms, Curculigos, Crotons, and other similar kinds, was placed in the form of a bank. Specimens of Cocos Weddelliana, Geonomia gracilis, and other feathery subjects being raised more or less above the rest in order to break the otherwise somewhat formal surface. These, however, were not the only plants so elevated, as in the background were dispersed plants of Poinsettia, having their massive brilliant heads raised so as to show them to the best advantage. Then came groups of Plumbago rosea with their slender growths laden with gracefully drooping racemes of bright rose flowers, and in the front ground were groups of Calanthes Veitchii, vestita, and its companion, lutea, while Ferns and Cypripedium insigne formed the finishing border, the whole making a charming group.

With regard to the cultivation of this Plumbago it is not difficult to manage. The best time to propagate it being during the month of March, when cuttings will readily root if the pots containing them are plunged in gentle heat, and they are confined under handlights or some other such-like covering. When well rooted they should be potted singly into 3-in. pots, the soil used being turfy loam, mixed with a little peat and a dash of silver sand. A shift into 6-in. or 8-in. pots should be afforded as soon as the plants have fairly filled their pots with roots, and they should be stopped occasionally during summer to induce a branching habit of growth. A situation near the glass should be found for them where they can have ordinary stove temperature, and be slightly shaded from bright sunshine during their season of growth; exposure to the full power of the sun causes the foliage to become browned, and greatly mars its appearance. They enjoy to be freely syringed overhead with tepid water when the structure in which they are placed is closed for the day, and a good supply of water at the roots when they are growing freely. They are subject to the attacks of the thrip, which should be watched for and removed before injury is done.

Well-cultivated plants of this Plumbago make useful subjects for dinner table decoration, we have used them with very pleasing effect, and their slender spikes of blossoms are likewise very desirable for the same purpose. When these are removed for use as cut flowers, their latent buds will burst and produce a succession of racemes, and thus considerably prolong the blossoming season. Plants, if cut back after flowering, will soon break into growth if kept for a time rather dry at the root, and yield a good supply of cuttings, and, if required, they may be grown on for future use; but their foliage is not so good as that possessed by well-grown young plants. I am inclined to think this variety would make a valuable pillar plant for a warm conservatory, and intend to give it a trial. If adapted for such use, it will be a pretty companion for Euphorbia jacquiniæflora.—*C.*

SCIENCE IN HORTICULTURE.

AT a recent monthly meeting of the Aberdeen Horticultural Association, an interesting discussion took place between Mr. A. Robson, Market Street, and Mr. J. Henderson, Wellwood, the subject being, "Should science or practice obtain most prominence in discussions on horticultural subjects?" Mr. Robson took the affirmative side, and delivered an able address, in which the following were the main points, and we regret that our limited space will not permit us to give it *in extenso*:—

Horticulture is a pursuit so complicated in details, and practised under such varying conditions of soil, situation, climate, and season, that it cannot be successfully carried on, far less explained, without the aid of science. To ensure uniformity of success there must of necessity be some bond of unity, some guiding principles of general application that only science can furnish, for gardening is not a mechanical art that can be followed simply on empirical rules. There is, perhaps, no employment to which men are called upon to bring to bear on their work such a large share of general knowledge as gardening, none in which advancement depends so much upon intelligence and observation. Gardening was once conducted according to arbitrary rules, but thanks to Lindley, Loudon, Knight, and others, it has been raised from this low level to the rank of a science.

It is seldom, however, that gardeners possess sufficient scientific knowledge to explain their practice, though this may be founded upon the soundest principles; but it must be remembered that the knowledge possessed by our most successful gardeners has not been acquired by rule of thumb alone. He must study natural laws, and a knowledge of these enables him to meet unexpected difficulties with much better prospect of good results.

Science in its true sense is knowledge, and is distinguished from art, or what we usually term practice. Theory and speculation must not be confounded with true science, for they are open to doubt and may be right or wrong, but science, in its proper signification, does not admit of question. No gardener should dispute the importance of the science of horticulture, nor contend that its methods of explaining operations should be subordinated to mere isolated details of experience. If he does, he only detracts from the dignity of his own profession. Undoubtedly there is too little science in our discussions generally; there should be more of it in the lessons taught by head gardeners to the apprentices under their charge, and especially there should be more in horticultural literature. There is no difficulty in mastering the principles of horticulture, and if this knowledge was made a condition to obtaining a good situation, almost every member of the craft would be found to possess it.

The works of Lindley and Loudon will serve to acquaint him with the leading principles, and enable him to account for his successes and failures in a rational and intelligible way, instead of referring, as he generally does, to his own or others practice in support of his opinions. The substantial progress is made by the iteration of rules and methods that are wanting either in uniformity or proof. It is now generally admitted by the leading public men of the day, that we are deficient in technical and scientific knowledge as compared with our continental neighbours, and this applies equally to horticulture as to other professions or occupations. Practice and science must ever go hand in hand to ensure the best results.

In support of the importance of practice, Mr. J. Henderson made an amusing speech, and after some further discussion it was found that the advocates of science were in the minority.

SOME RELIABLE VEGETABLES.

WITH CULTURAL NOTES.

AT the present time, when gardeners and amateurs are making out their seed lists, THE GARDENING WORLD which finds its way into the hands of both, in every part of Great Britain and Ireland, cannot do its readers a greater service than in publishing the experience of its correspondents under this heading. I cannot do more than briefly allude to the subject, giving my own experience and that of many practical gardeners.

CAULIFLOWERS.—Hitherto I have, either in a cold frame or a bed against a south wall, sown some seed in the late autumn for transplanting at this time. The year past I allowed the weak plants of Dwarf Mammoth to remain in the seed bed, with the view of lifting with balls of earth in March, and transplanting into richly-manured drills. They are now in fine condition, but the state of the weather is against moving anything at present. The earliest and quickest Cauliflower in maturing, and, so far as I know, the most tender and delicate flavoured, is Carter's Extra Early Defiance. Walcheren is later, very certain, and should always be grown where Cauliflowers are required in succession. The difficulty is to get it true. If further variety is necessary, say dwarf and large-growing, there is nothing better than Reading Favourite and Autumn Giant.

ONIONS.—As soon as the present spell of bad weather has gone, the ground will be got ready for the spring crop. We prefer sowing them in beds 3 ft. wide, in lines; this facilitates thinning and weeding. A very delicate flavoured variety is Golden Queen, sent out by Messrs. Carter, that I had last year for the first time, and that should be sown at once. We grow largely Strasburgh and Deptford, but one is often sold for the other. For autumn sowing the best exhibition Tripoli would probably be Golden Globe.

CABBAGES.—Various correspondents to whom I recommended Early Heartwell, in my garden rambles some years since, assure me that still they can get nothing superior in arriving early at maturity, tenderness of flavour, or size of head in proportion to outside leaves. In this locality the market gardeners give a preference to an excellent strain of Early York called Wellington, that they maintain the purity of by keeping their own seed. It resembles Mammoth Beefheart or Improved Early York, but is distinct.

BROCCOLI.—Being much hardier than Cauliflower, and succeeding with rougher treatment, Broccoli must ever be an important crop. Walcheren and Carter's Mammoth Spring White may be got in now, as soon as a warm seed-bed can be got ready, one to succeed the other. I am never without Snow's Winter White, but many complain they cannot get it true. If a late kind is desired to come in a year or so hence, try Champion or Cattell's Eclipse. The white or purple sprouting varieties take up much space, but some desire them.

PARSNIPS.—When the Potato failed in this country, benevolent doctrinaires recommended parsnips as a substitute; but, notwithstanding analysis and their vaunted suitability, they will never be very largely grown. I am afraid the best table varieties are not always got; and I am not surprised, with imperfect cooking, the Hollow Crown, and other field varieties, become objectionable. The flavour of the Early Maltese is quite a different thing, or Improved Jersey.

GARDEN TURNIPS.—I must confess I like best the golden or yellow-fleshed varieties. They are firmer and sweeter, and of more delicious flavour—for instance, Carter's Golden Rose; but if a fairly solid white-fleshed variety is preferred, I know nothing better than Jersey Lily. Chirk Castle is still the best of the coloured kinds, and Orange Jelly comes in late.

PEAS AND POTATOS.—I merely mention those two most important garden vegetables, to refer your readers to notes of mine, a few weeks since, in connection with starting them into growth, preliminary to transplanting, published in your columns, and to which varieties I have nothing now to add. I received several private communications, generally agreeing with the selections named, and the method of treatment indicated; and I believe you got more than the pressure on your space permitted you publish.

FRENCH BEANS AND SCARLET RUNNERS.—Though very different in habit, these are of a class. The former is generally started in pots, under glass, any time from Christmas, and in the open border towards the end of April. Canadian Wonder, though prolific, has not yet succeeded in displacing Carter's White Advancer. As to the latter, Carter's Champion Scarlet, and Sutton's Giant White, for exhibition or private use, will answer every purpose. Neither being hardy, they cannot safely come through the ground until danger from frost is past. I should, perhaps, not have parted from Beans, without recommending the Broad Bean for general culture. Few garden vegetables are richer in nitrogenous and flesh-forming constituents, and when used with savoury gravy are delicious. Green Windsor is my favourite; but those exhibiting will give a preference to the monster-growing Leviathan Longpod.

CELERY.—Do all your readers know that Celery is the best antidote to acute rheumatism? If you published this in some corner of THE GARDENING WORLD in every issue, you would make some of your readers your debtors for life. Many cannot use Celery raw, but stewed. I am not an authority, but I am afraid, for the purposes stated, much of the anti-rheumatic properties is thus eliminated. Would some of your readers give their opinions or experience? It must be understood that Celery is a preventative, and will not, of course, all at once remove rheumatism from the muscles, once it has unfortunately taken possession of them. I am at present using Henderson's White Plume. It must have a little straw or hay thrown over it, as a protection against frost. Ivery's Solid White is hardier, while Incomparable Crimson Red is quite hardy.—*W. J. Murphy, Clonmel.*

PARSLEY AND ONIONS.

A GOOD deal of interest appears to have been excited by Mr. Ward's note (p. 358) relative to these crops, and I must corroborate what he there says as to the use of soot as a fertiliser as well as an insecticide in the kitchen garden. I always endeavour to secure as much of it as I possibly can, and find it to be very beneficial for nearly all crops. Our Onion ground in particular has always a good dressing before sowing, as well as one or two top-dressings during their growth, applied on damp mornings; were it not for this I am certain we could not secure half a supply from the space available for them. Potato ground has always a sprinkling applied in the drills when planting, and no crop derives more advantage from it than this, the tubers turning out perfectly clean and spotless. Cabbages and all plants of the Brassica tribe are well puddled in a mixture of soot and earth previous to planting, and we find this saves us a very great amount of time and labour in beating up plantations.

In a note of mine, at p. 299, vol. i., I mentioned our difficulties in regard to Carrots and Parsley, the remedies I had tried without success, and stating that I intended to try another method with the latter. I will now give your readers the benefit of the results, and would advise those finding the same difficulty with their supply of Parsley, to give the plan a trial. There are more benefits than one I have got from it, and one is that not a fourth of the ground will be necessary in future, as quite three-fourths of our sowing has this season never been gathered from at all. At sowing time I had holes made with a large-sized Potato dibber, about 14 ins. apart each way, and filled them up level with wood-ashes, sowing a few seeds on the top of the ashes, and covering with the same. The result has been very much beyond expectations, a grand crop of strong and healthy Parsley, such as I have not had the pleasure of seeing since I undertook charge of the place. Although requiring a little more trouble when sowing, it has turned out so satisfactory that I have fully made up my mind never to do otherwise in the future. I have yet to find a remedy for the Carrot grub; but by trenching and mixing with a good supply of roadside scrapings, that crop has not been so poor as usual this season.

I think I noticed some time ago an enquiry as to the use of sawdust as a remedy, and its subsequent effects on the soil. I have seen this applied in goodly quantity for a season or two—the sawdust being procured from the mill on the estate where all kinds of timber was cut—but I must say it was not an effectual remedy, and its use was, therefore, discontinued. What it might have been had the sawdust been from trees of the Fir tribe alone, I cannot say; but from the limited trial, I saw no ill effects on the soil. Perhaps, followed out year after year for some time, it might be different. Speaking of sawdust, I am reminded of a circumstance that occurred when I first came here that fully bears out what has been advocated by Mr. Thomson, of Drumlanrig. That gentleman, while editor of *The Gardener*, some years ago, conducted some experiments with sawdust, and strongly advocated the use of it from hard-wooded deciduous trees as being a first-class rooting medium for different plants, and also as a restorative means for others not in a healthy condition by planting them in it for a time in place of soil. When I took charge here, I found an old plantation which had lately been cut down, and I determined on planting up a part of it for the purpose of sheltering the garden, and used for that purpose a number of strong Spruce trees from another plantation which had been planted for about eight or nine years. In the old plantation the wood had been cut up on the spot by a traction sawmill, and a large heap of sawdust was left; in this I thought I would try a few trees before proceeding to remove it. I accordingly did so, planting in the pure sawdust, and those trees that season throughout were the freshest of the lot, at once taking the lead of the others, which lead they have kept since, so much so, that there appears to be a difference in size of several years between them and the others in the ordinary soil.—*R. Stevens, Paston, Northumberland.*

BULWELL HALL, NOTTINGHAM.

THIS delightful residence, now in the occupation of the owner, Percy Cooper, Esq., J.P., is situated in the western division of the recently extended borough of Nottingham, and is distant about four miles from the heart of the great lace manufacturing town. It was for many years well known to many members of the horticultural fraternity (when in the possession of the late Rev. Mr. Padley) for its extensive and choice collection of British Ferns, many of which occupied most prominent positions at some of the shows of the Royal Horticultural Society. Mr. Nisbett, the enthusiastic gardener here, has for many years made a special study of the Chinese Primula, and is now in possession of a remarkably fine strain of these useful and beautiful plants. A delightful sight it is to gaze upon two or three hundred well-grown plants in twenty or thirty varieties judiciously arranged upon the side stages of an old-fashioned conservatory. Many of the individual flowers measure considerably over 2 ins. across, and are borne upon stout stems carrying two and three rows of flowers, forming large pyramidal bunches of the most exquisitely coloured blossoms. Mr. Nisbett is to be congratulated upon his success as a hybridiser and cultivator, and all who have had the pleasure of seeing his productions will unite with me in saying "Continue in thy good work." In addition to his own hybrids a goodly number of named doubles are grown, Marquis of Exeter and Snowflake being very good.

The centre of the conservatory above-mentioned is occupied by large Palms and tree Ferns, amongst them being good examples of Latania borbonica, Seaforthia elegans, Dicksonia antartica, &c. Another large house is devoted to Camellias, which are evidently in the best of health. They are planted out, and many of them are literally covered with bloom; such varieties as Alba-plena, Bealii rosea, Donckelaarii, Fimbriata alba, Jubilee, Reine des Fleurs, &c., being excellent. A large Marechal Niel Rose, showing quantities of flower, occupies the roof on one side of the house, whilst at one end of the same house there is a remarkable plant of Lapageria alba planted upon a raised embankment, and which is putting out large quantities of air roots, whilst Lapageria rosea, planted in the same bed, is quite devoid of anything of the kind. This is owing, I have no doubt, to the extreme dampness of the wall which it has to traverse before reaching the roof. Many thriving young plants have been taken off, and many more remain to supply future needs.

The stoves contain a fair representative collection of plants, but unfortunately are much darkened by the overhanging of large trees, which are considered of too much importance to be molested. However, with the assistance of several small forcing-pits a good stock of table plants is kept up, and much taste shown in their arrangement. Adiantum cuneatum, A. gracilimum, Pandanus Veitchii, Cocos Weddeliana, Croton Warenni, C. Lord Wolseley, Dracæna nigro-rubro, D. Ernestii, and many others are grown. Asparagus plumosus nanus is well grown, and is much sought after for cutting purposes. There are numerous other glass structures and a quantity of frames devoted to Violets, from which large quantities are daily gathered. Several

varieties are grown, but the old Neapolitan appears to be the most reliable kind. There is also a wide expanse of well-kept lawn, and about two acres of kitchen garden; the whole standing in the midst of a spacious park containing many fine examples of noble trees and shrubs.—*J. H. Walker, Hardwicke House, Nottingham.*

FRUITS, FLOWERS & VEGETABLES.

Old Double White Primula.—We have at the present time some dozens of this superb old plant in cold houses, in which they have been all the winter without heat, except the little they have derived from the sun; they are quite green, in the best of health, and full of bloom. I was not before aware that they are so hardy, but that fact makes them more valuable still. Some years ago, "R. D." told us in one of the gardening papers that for real usefulness they beat all the new doubles. At that time I was sceptical, but I have lived long enough to prove that he was right.—*R. Gilbert, Burghley.*

Vines Bleeding.—On p. 379 I observed Mr. Fry's notes on Vines bleeding. His remarks are evidently based upon practical experience, and ought not to be overlooked, for we hear of, and see so many cases of Vines bleeding, that I feel convinced the cause is not generally understood, and, as in many other cases, the evil is not thought of till it shows itself, then the remedies are more numerous than the cures. The Potato, or styptic, or something else is then applied with the idea that all will be right again, and the remedy inherits an instantaneous recommendation. Probably there are many others who, like myself, entertain grave doubts as to the magic of these highly commended remedies. In my opinion the cause of Vines bleeding may in some instances be attributed to mismanagement, but not always so. The practice of exposing the Vines to the hands of nature is, I fear, not so generally adopted as in former days. At the present day gardening is more or loss carried on under the banner of £ s. d., and it is difficult to draw the line between the gentleman's garden and the market garden. £ s. d. is the motto in many gardens with which I am acquainted, and while this is carried on, one cannot wonder the practice of bygone days is not now in vogue. Many gardeners have now to keep two objects in view—that of supplying the house to the best of his ability and convenience with all that is requisite, and, secondly, to get produce into the market when the demand is great. Now, I do not wish to infer that all cases of Vine bleeding can be attributed to the "market mania;" but I contend that in gardens where the object is money-making, some things must fall short of some essentialities which otherwise would have received due attention. The cause of Vines bleeding does in some instances occur through mismanagement, in others through "robbing Peter to pay Paul."—*C. G.*

Trichomanes radicans: the Killarney Fern.—A gentleman who has devoted much time and attention to the culture of plants in cities and their suburbs, writes as follows: "If I could have but one plant for city culture, and could select that one, it would be Trichomanes radicans, commonly known as the Killarney Fern. This was one of the first plants that was grown in complete confinement in a close case. It is said that the first experiment was in a wide-mouthed bottle, covered with oiled silk, where it lived for about four years, without water being given afresh to it. At the close of this time, outgrowing its room, it was placed under a bell-glass, in a Fern-house, where it soon produced fronds 15 ins. high. In a Wardian case it does well. One thing it will not bear—the rays of 'heaven's glorious sun,' and it seems to enjoy a subdued light. But few years have passed since the culture of this beautiful Fern baffled the skill of experienced gardeners. Loddiges often tried to grow it, and always failed; and Baron Fischer, Superintendent of the Czar of Russia's botanical establishments, seeing it with the late Dr. Ward, flourishing in one of his Wardian cases, took off his hat, and made to the plant a low bow, saying, 'You have been my master all the days of my life.'"

Propagating Violets.—Violets are valued everywhere, and it is seldom that gardeners have as many as they need, also, it is not always convenient to buy fresh plants when it is wished to increase the stock, and the only method of doing so is to resort to propagation. Wherever a few frames of early Violets are grown this can be readily effected, as an abundant supply of young shoots or runners can be procured from them, and these are soon converted into useful plants if rightly managed. Prepare a firm bed of leaves and a little old dry manure, upon this place a frame of any kind or size that is at command, so long as it is furnished with moveable lights, cover the bed with a layer of light sifted rather sandy soil, about 6 in. deep, and in this place the young runners; dibble them out in rows 4 in. apart and the same between the plantlets, until the frame is filled, when they must be well watered with a fine rose-can and the frame closed. If the weather is bright, slight shade will be needed for a week or two in the middle of the day, but the frames should be kept closed until it can be seen that the young Violets are established, when ventilation must be gradually increased until the lights can be entirely removed. In the meantime the soil must be kept uniformly moist by watering and syringing daily, and when once the plants have formed roots their progress will be rapid, useful "stools" for the following season being thus obtained.—*G.*

Improving Fruit Trees.—A garden has recently come under my charge which has been somewhat neglected for several years, and, in consequence, the fruit trees are not quite so satisfactory as might be desired. There is not a bad show of fruit buds on standard and pyramidal Apples and Pears, but I am told that the fruits for the past two or three seasons have been undersized, though fairly abundant. I have elsewhere seen examples of the good results obtainable from the application of rich top-dressings of manure to such partially exhausted trees, and I am trying the effect of similar treatment upon these. Fortunately we have a good supply of stable-manure at command, and I have had the larger portion shaken out from a large heap; the other part we are now applying as a good layer round the stems, and to a distance of 6 ft. to 9 ft. or more from their trunks, according to the size of the trees. It is slightly pointed in with a fork, and then levelled with a rough rake, leaving a thickness of about 3 ins. on the surface of the soil. I am hopeful that this may effect an improvement this year; but, at all events, we may expect to see a difference another season. We want to encourage some young roots near the surface, where they will be more immediately under our control; and it is only then that fruit trees can be satisfactorily managed. For young trees such treatment would not be desirable, as a too vigorous growth invariably results in sterility. The trees I am referring to seem, however, so deficient in vitality, that the first step towards their recovery is infusing a little fresh vigour into them.—*B.*

Cyclamen Culture.—"Ah! the best lot of Cyclamens I have seen this season." Such was the remark made to me early in January in the greenhouse here, by a nurseryman's traveller, and it helped to strengthen an idea I had myself entertained, viz., that Cyclamen persicum was not generally so well grown as it might be, and as I have been tolerably successful I will give you a brief summary of our *modus operandi.* Before proceeding farther, I would say that we treat them as annuals, throwing the corms away as soon as they have done blooming. We generally sow the seed in August in a mixture of equal parts of leaf soil, peat, and sand, covering the seed pans with a piece of slate, and place them in a Cucumber pit; the seedlings will begin to appear in about two months, when the pans should be placed close to the glass. When they have attained two leaves prick off into other pans using the same mixture as for seed sowing, and again return the pans to the shelf in the Cucumber pit or stove. The plants ought to be ready to pot into small pots early in March, use the soil as rough as possible, and do not press it down more than is necessary for holding the plant upright. I am very particular about this matter, I know that most soft-wooded plants require hard potting, but Cyclamens are certainly an exception to this rule, you cannot pot them too light; after potting place them in a warm frame, and grow on as fast as possible, they will be ready for their flowering pots by the middle of July, and 5-in. or 6-in. pots are large enough for them. After they are potted place them in a cold frame facing the north, in which they may remain until the end of September, after which time they should be removed to a greenhouse shelf, where they will soon make a grand show and continue in bloom until March or April.—*J. W. L.*

Keeping Grapes in Bottles of Water.—In November last we bottled a large quantity of both Lady Downes Seedling and Black Alicante Grapes. We keep these in our fruit-room in which no heat is used, except when a fire is made occasionally in the seed-room, which adjoins the fruit-room. They have generally kept well to the end of March—in fact, until they are finished. Lady Downes keeps better and more plump than Alicantes, which shrivel and become rather dry. Showing a friend from the north, a great Chrysanthemum-grower, round one day, he observed, "I always keep my Grapes in the cellar, and find they keep much fresher." Well, I thought, if my friend's kept better in the cellar mine would. Therefore, one bunch of Alicantes was put in the cellar in a bottle of water. This day (March 1st) they were brought up from the cellar, compared with the same variety kept in the fruit-room, judged by myself and my foreman, and we came to the conclusion that they were much fresher, and the flavour better preserved, than were those kept in the fruit-room.—*R. Gilbert, Burghley.*

A Failure with Lobelias.—I believe there is equally as much good done by chronicling failures as by recording successes. Thoughtful men who have failures should always look for a remedy; but in this instance time will not admit, or, perhaps I should say, answer my purpose. I am free to admit that my great failure this season is with the Blue Lobelia. It may be said "Sow seed" at once; but unless the seed is special it again becomes a failure. Therefore, if this should meet the eye of any of my friends who may be overstocked they will know what to do.—*R. Gilbert, Burghley Gardens, Stamford.*

Specimen Fuchsias.—It would materially help young growers of Fuchsias if Mr. Lye, or some other able grower of specimen Fuchsias, would supplement what information "R. D." has so far given respecting Mr. Lye's procedure in the process of creating big specimen plants. That the Fuchsia is essentially of pyramidal habit of growth all know; but the handsomest young plants can never be induced to come out themselves into giant pyramids of good form, unless some considerable training be bestowed upon them. It is the detail of that training, which is so desirable, and which we want to know more about. Very many are the growers of specimen Fuchsias who fail in producing fine handsome ones, simply because they do not understand the nature of the initial training required. The first year's growth is that which must be clearly understood, and what follows in future years will be but the corollary of that, as no one, be he ever so clever, can hope to create a giant pyramid in one year, barely, perhaps, in two years. If we take a fine young plant early in the spring, no matter of what kind, keep it in gentle warmth, and by constant shifting keep it growing on, it is certain that, whilst it will form a natural pyramid, no power beyond that of pinching off the blooms, or pinching the blooming shoots, can prevent the plant from blooming as the summer advances. What does Mr. Lye do in such cases? Does he pinch off the blooms only, or does he stop the shoots and cause them to break again, or does he let the plant bloom as it likes, and then cut it back in the winter to break afresh and build up another tier of branches and growth the following summer, and thus gradually construct his skeleton framework for the production of the grand show plant a year or two later? Any information in detail upon these points would be very acceptable to many a *Fuchsia grower.*

Begonia manicata.—Small plants of this old Begonia are extremely useful at this season of the year for indoor and conservatory decoration, it being so well adapted for mixing with more showy plants, in order to produce a light and graceful surface; for, however imposing a number of richly-coloured plants may look when massed together, they certainly lack taste in their arrangement unless they have a few of more graceful habit—if less imposing appearance—interspersed among them. In order to have good plants of the Begonia in question for next season's use, young tops with two or three leaves attached should be inserted in 60-sized pots, and placed in a warm propagating house, where they can be kept close for a time; and as soon as they are rooted, grown on in an intermediate temperature till the beginning of June, when they can be transferred to a pit or frame, which is a capital position for them during the summer months. While there, they should be shaded from bright

sunshine, and be well syringed and shut up between four and five in the afternoon, as they delight in a moist atmosphere; and under such conditions will make rapid progress. When they have filled the cutting pots with roots, shift into 48-sized ones, using a compost of equal parts peat and loam and a little sharp sand and charcoal added. We find pots of this size quite large enough for the first year, and much more useful than larger ones. As soon as they have rooted freely into the new soil they will be greatly benefitted by manure-water two or three times a week, and an occasional dose of soot-water to give them that deep green tint in the foliage which indicates good cultivation. Sometime during September remove them to an intermediate or greenhouse, and in autumn they will well repay any attention that has been bestowed upon then.—*H. Dunkin.*

Balsams.—The impression given expression to at p. 376, that Balsam flowers become double according to age, is one of those old world notions that should ere now have been exploded. We never had finer double strains of Balsams than we now have, and these are almost invariably raised from seed of the preceding year's saving, indeed, high class Balsam seed is far too valuable, and I may say scarce, to permit of its being hoarded over several years. I remember some years since, calling upon Messrs. Smith & Son, of Dulwich, to see their once famous (probably still) strain of Balsams, and I saw thousands of plants in pots of the grandest quality; when I invited an opinion as to the merits, or otherwise, of old seed, my conductor smiled as though much amused at a notion so absurd. I have grown from yearling seed for many years in large quantities, and the chief defect incidental, has been, that owing to the propensity of the strain to produce double flowers, it has been difficult to get seed, as those very double blooms do not produce seed; so long as the strain is correct, it matters not how semi-double may be the seed producing blooms in the side shoots. Balsams are very beautiful in the open ground if planted out in fairly good soil, but that should not be too rich, as in that case gross leafage may be promoted at the expense of bloom. I have found also that plants turned out from pots and thus well established, to grow with much more density than will plants taken from the seed pans, and dibbled out with little trouble, the latter thus giving far more bloom; in either case it is well to remove some of the later side shoots, and to pinch the tops of the leading ones. It is unfortunate for the out-door culture of Balsams that our summers are so short, as early autumn frosts often do irreparable injury; on the other hand a bed of Balsams may be obtained very cheaply.—*A. D.*

Pruning the Gooseberry.—Generally, directions for pruning the Gooseberry are pretty much of the same character, and writers who refer only to the garden culture of the fruit appear to forget that in many parts of the country Gooseberries are grown also for exhibition purposes. Now, there is a material difference to be observed in the pruning of those trees upon which it is intended to grow large fruits for exhibition and those from which fruits for the dessert or culinary purposes only are required. Not nearly so much wood should be left upon the former as upon the latter. Indeed, where large fruits are desired, no *weak* shoots whatever must be allowed to remain upon the plant, and the strongest should be shortened to within 5 ins. or 6 ins. of the wood of the previous year's growth. The superabundant shoots should be taken off in such a manner as that the strong ones shall be left at regular distances from each other, and if of these many are suffered to remain, the plant will become overcrowded with foliage and new wood, and the fruit will therefore be deprived of the needful light and air. Show Gooseberry-trees are generally pruned and trained horizontally, and this form is advantageous, inasmuch as the fruit hangs clear of the branches, and is consequently not liable to be bruised, which would be the case if it were grown upon upright branches. Trees for ordinary purposes merely require thinning, and to be trimmed into a suitable shape, say hemispherical. The operator must never forget that air and light are primary agents in the production of fine fruit, and that unless the branches be kept at such distances from each other as will allow, when the foliage is fully formed, of the complete exposure of the berries to these influences, the crop will be inferior in quality and insignificant in quantity. While thinning, in all cases prune to an *outside* bud, and do not cut all the shoots clean off, but leave about an ½ in. of the bottom of some to form what is called "fruiting-spurs," by which means considerably more fruit will be gained. As a matter of course Lancashire show Gooseberries, as they are termed, are grown for their weight for exhibition purposes.—*E. W.*

ON PROPAGATING DOUBLE CHINESE PRIMULAS.

When bleak November comes and flowers are scarce and very expensive, then it is that our little friend, Primula chinensis, delights us with its profusion of beautiful large red, purple, and white flowers, and the variety flore pleno, with an immense quantity of large white and double flowers. Much has been said and written about the double Chinese Primula, but its propagation has been, and is still, not generally very successfully practised, and both gardeners and amateurs in turn complain of the difficulties they experience in increasing their stock, while it is certainly true that we cannot have too many of this most useful plant. It is a well known truism that there are many ways to Rome, and the same may be said with regard to the

Cutting of Double Chinese Primula.

propagation of the double Primula, there are many ways of doing it, and, if done properly, they will all lead to its successful increase. It is not an uncommon thing to see them propagated in a very expensive way, somewhat as follows. When the plants have done flowering they are repotted, or if not a top dressing of well decayed leaf mould is given, and with a sharp knife a cut is made from each shoot down the root. This done, and the leaf mould (if necessary mixed with a little sand) is put on so as to cover that part where the artificial mode of propagation has been employed. If it has been done with carefulness each shoot will generally form some roots, and after the lapse of two months the young plants may be cut off from the old and useless plant. This plan is generally adopted and no one will object to it if only a few plants are required, but being such a charming subject for the winter season, and unquestionably one of the best plants for providing cut flowers for the market all possible, means should be employed to increase it. I, therefore, think it desirable to give you an idea of the new method of propagating it now generally adopted in Germany, in the hope that some of the readers of The Gardening World may profit by it. In the beginning of February the plants will have ceased to produce any more flowers, and cuttings ought then to be taken, but they must not be inserted in the old way or more than half of the cuttings will rot—a disastrous ending to a fair commencement. The great point is to cut the cuttings properly. They need not be more than 1½ ins. long, but looking at the transverse cut in the sketch sent herewith you will easily observe two different tissues, one surrounding the other. The inner one is the root producing tissue, and the outer portion that which is liable to rot, and thus cause the few roots which, perhaps, have been formed, to rot also. The thing is obvious, the outer layer must be cut away, and this is done as the illustration will show clearly where two or three lines are removed. The cuttings may then be inserted, and treated like other cuttings grown in a little heat, but the supply of water must be given with great caution. Meanwhile the old plants will grow on, and in the course of a couple of months will yield another crop of young shoots ready for similar treatment.—*V. A.*

ANEMONES.

In order to have a good display of these handsome spring flowers, it is necessary to treat them as annuals, as vigorous young plants produce much finer flowers, and in greater quantity than either old beds or transplanted tubers. To grow them to perfection they require good culture. A heavy coating of well-rotted farm yard manure deeply dug in suits them to perfection, and an open situation where they can have plenty of sun is the means of bringing them into bloom early. As soon as the ground is in working order, sow the seeds (the sooner sown the better), then the plants get plenty of strength, and generally begin blooming in August or September, and if mild, will continue flowering through the winter and until the following May.

The seeds may either be sown broadcast or in drills 10 ins. or 1 ft. apart, and it is an excellent plan to cover the seeds over with burnt refuse. It is some little time before the seedlings appear, generally before they are seen the beds will be covered with weeds, which must be removed by hand, and after weeding it is a good plan to make the surface of the bed firm, and always keep the plants well supplied with water through the summer. I have never seen Anemones doing so well as in some gardens in Ireland, many flowers being 6 ins. across, and these are from young seedlings. If it should be thought necessary to keep the same beds going another season, give them a thorough good soaking of liquid manure (if possible, on a rainy day) any time during the month of June, then put on a mulching about 2 in. thick of well-rotted farm-yard manure, then they soon commence growth again, and generally flower in autumn; but the blooms are neither so large nor so numerous as those from the first year's seedlings.

Their cultivation is so simple that everyone, gardener and amateur, who wish for plenty of bloom for cutting at a time when flowers are not over plentiful should give them a fair trial, and if their blooms are particularly wanted in frosty weather, it is an easy matter to put a few lights over part of them, and protect with mats. At no time should the plants be crowded, to have them good they should be at least 6 ins. apart.—*W. J. Ireland, Headfort Gardens, Kells.*

The Gardeners' Calendar.

THE PLANT HOUSES.

If by force of circumstances the bedding stuff is not yet potted, lose no time in getting it in hand, that it may be removed from the houses into the pits before it becomes in the way of more important occupants. One word of advice, and that is be sure the stock pots or boxes are thoroughly soaked a day or two previous to turning out, or the loss of the greater part of the foliage will be sure to follow, and what was probably a good lot of stuff previous to potting, will look for some time after anything but promising

Begonias of most sorts are now struck, consequently they are removed from the propagating boxes to shelves which are shaded the greater part of the day from direct sun, to harden them preparatory to potting off, and so make room for other subjects which are waiting. Take care to have a good supply of Eupatorium Weinmannianum, cuttings of which may now be had in abundance, and which strike very quickly and readily.

Prick off seedlings of all spring sown seeds as they become large enough, and do not let them become crowded. See that the stock of Caladiums is all right, and it will be as well to introduce them to the light. Shake out the bulbs, and place them in boxes or pans to the depth of the bulbs in leaf-mould, and let them start before potting, by this means any variety which may need increasing can be more readily got at than if potted off at once.

See that the stock of Pelargoniums and herbaceous Calceolarias does not become overcrowded, or they will soon draw out and spoil. Fumigate upon the first appearance of green fly, and upon all favourable occasions ventilate freely to encourage a sturdy growth. The earliest flowering batch of Pelargoniums will be benefited by an occasional dose of manure water, or "Clay's" Fertilizer, which we find in every way a good article for indoor plants.

FORCING HOUSES.

With the lengthening of the days Vines make a more rapid and satisfactory growth, and will consequently require more attention. Keep the laterals looped from the glass, or the foliage will become damaged, which should be avoided, as so much depends on good foliage being preserved. Succession houses will now be coming on apace; keep them syringed frequently (four or five times a day in bright weather), and as probably the house may be filled with other plants do not neglect ventilation. It is now time that the Muscat house should be started, that they may not be hurried in the earlier stages; of course the border has been surfaced, and also it should have received a thorough soaking of water. Syringe the rods frequently, even at night in the case of extra firing being needed, for as a rule they do not break over freely. When the bunches begin to show stop syringing the rods, but still keep an abundance of moisture in the house, as this Grape will not bear trifling with and must grow throughout to ensure success. We still have some Muscats left in very creditable condition.

Peaches will need to be heeled-in as growth proceeds. Let this operation be performed when the shoots are not more than 2 ins. in length. There is then little fear of breakage; if left longer they become somewhat stubborn. We have applied heat to the second house, as the weather has been so very dull and cold easterly winds prevail. The flowers appear to appreciate this little attention, and are bursting into bloom. A little nursing now is of the greatest help to the setting of the crop and lessens anxiety, as in many instances the second house is of more consequence than the early one.

Cucumbers will now need daily attention in the way of stopping and tying; let an hour or so be devoted each morning, and all can be easily kept straight. We are to-day making up a hot-bed for the third house, which we hope to plant towards the end of the week; the pots will also be prepared and placed upon piers in the fermenting material ready for early Melons. We have sown the next batch, and if not wanted they will be thrown away. Where it is desirable, cuttings may be put in, and strike readily, of any particular kind of Cucumber that may be growing, instead of raising seedlings; some even prefer cuttings to seedlings, thinking they fruit more freely. Let batches of Strawberries be placed in heat to follow on; but be careful not to maintain too high a temperature. Keep all as clean as possible and free from insect pests.

THE KITCHEN GARDEN.

Wintry indeed is the outlook, the ground being covered with about 6 ins. of snow, completely putting a stop to all ground work. However, we can proceed with the sharpening of Pea and Bean-sticks, stakes, and so on, so that no time may be lost when these are required. Hot-beds may now also be attended to; in fact, a stoppage of this kind is frequently of the greatest good in allowing such work to be done. Also prepare a heap of fermenting material, which will be needed for making good to Melons, and which cannot be introduced unless previously sweetened.

Had the weather been fair, we quite intended sowing Parsnips and Horn Carrots outside to-day, having given the beds a surfacing of burnt refuse in readiness. We have also served our Onion square in the same way, thinking it may very probably help to keep the crop free from mildew, with which we are sometimes bothered. We managed to get in a good breadth of Peas and Broad Beans, and as soon as these appear through the soil we shall put in another big lot in preference to smaller sowings, of course regulating the sorts as they should follow each other for supply. Let the Gooseberry and Currant cuttings be made and heeled-in again, so that when open weather comes they may be planted as digging proceeds; in short, let all such work be done that there may be no delay whatever when ground work can be proceeded with.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Odontoglossum crispum, New Blotched Variety.—We are apt to think unsurpassable each of the lovely spotted forms of this charming plant which appears, and in a measure that is the case, for, as no two of them are exactly alike, comparison does not extend very far. At present, with Messrs. Hugh Low & Co. at Clapton, there is, flowering for the first time, one which we should certainly think could not be beaten by anything in its way. Its flowers are white and regularly formed, the sepals having two or three heavy blotches of rich brownish crimson extending nearly across them, the petals five or six similar but smaller blotches, and the labellum one or two. The general appearance of the flower is most striking; and the plant is destined to rank with the very best of the spotted crispums.

New Orchids.—The new Cattleya Lawrenceana is now flowering with Messrs. John Laing & Co., at Forest Hill, and the fine form and lovely soft colours of the flowers, attest that its merits have been in no way exaggerated. There are two plants in flower, with half a dozen blooms, and which having opened in a better light than Dr. Duke's plant had last month, show to greater advantage. The plants have hardly been imported twelve months, so that their early blooming gives promise of great usefulness. A very striking form of Odontoglossum crispum is also now in flower with Messrs. Laing. Its sepals are pure white, each with four or five large chestnut-red blotches, running into each other; the labellum has one or two similar blotches, but the fringed petals are pure white, without any marking. Also in bloom are some good forms of Odontoglossum Cervantesii, of the large notched-tipped decorum type.

The Orchid Conference Report was issued on Wednesday, and may be obtained from the Royal Horticultural Society's office, South Kensington.

Potting Cattleyas, Lælias, &c.—After the Aërides, and other things previously recommended to be potted are finished, the varieties of Lælia anceps should be gone over in the same way, as also L. autumnalis, L. albida, and the other Mexican Lælias. Half-pots, deep pans, or baskets suit these plants best, and they should be well crocked so as to require but a moderate bulk of fibry peat or peat fibre and sphagnum moss about them. (Illustrations of six varieties of L. anceps, with cultural remarks, were given at pp. 473, 501, 533, of THE GARDENING WORLD last year). The potting of Cattleya Trianæ will follow the L. anceps. With respect to potting Cattleyas generally (and many other Orchids), I may as well now say that the plan I recommend with regard to potting them is, that each section, whether they be Trianæ, Mossiæ, Mendelii, or others, should be repotted should they require it soon after their flowering is over.

A week or two or more if necessary should be allowed to pass after the flowers are over in order to allow the plants to recover themselves from the flower-bearing, and then, in my opinion, in their seasons is the best time to pot all Cattleyas, Lælias, and other things which commence soon after to make new growths and new roots to bear the flowers next season. It will, therefore, be seen that the potting in the Cattleya house cannot be rightly gone over all at once as in the Odontoglossum house, but that need not interfere with a plant in a shaky condition or in bad stuff being potted at any season. As a matter of fact, the condition and suitability of the house in which the plants are grown, and its management, is of the first importance, and the potting of secondary consideration; although, of course, it requires every attention. What I mean to say is, that no skill in potting can ensure good healthy plants if the house is not well attended to; and in a thorougly good house, well ventilated, plants will thrive with but little material about them, and that material will keep good for a considerable time, the plants not requiring repotting for years. Where things thrive in this manner, but little peat need be used, and in filling it in it is well to work in here and there some good large open pieces of broken pots to allow of the water given having almost direct communication with the crocking of the pot in a place or two, as it ensures æration of the whole of the material and perfect drainage, which is of the highest importance with all Orchids.

When so potted plants can often be left in the same pots for years and yet have new peat given to them, as the whole of the old can be removed and replaced by new in the proper season. It will be well to impress upon the amateur the advisability of keeping clear of that mania for re-potting which affects some of them, and while advising them to give fresh material to poor and unthriving plants, even several times in the year if necessary, I would caution them against re-potting plants which are really sound and likely to continue so until the next season, and at the same time they should be warned to avoid using larger pots than is necessary. Good peat of Fern fibre is, in my opinion, the best material for all Cattleyas and Lælias, and when such can be obtained little or no sphagnum moss, or any other ingredient, need be used; but where properly prepared Oak-wood charcoal can be got a few pieces may be worked in with advantage.

In a recent number of THE GARDENING WORLD, that clever Orchid grower, Mr. Woolford, stated that he had changed his views about potting Cattleyas. I am sure it would interest your readers if he gave a brief statement of his present practice, as the gorgeous show of superb forms of C. Trianæ, now to be seen in the magnificent Cattleya house at Downside, tells that his opinion is worthy of the highest consideration. Now that we are getting gleams of sunshine, every opportunity should be taken to give extra ventilation whenever the warmth of its rays is perceptible. Let none be afraid to admit air freely, particularly at this season, as it is the safest means of getting the plants to forget our (to them) unnaturally dull winter weather.

THE TEMPERATURES for the month of March should be—

WARM or EAST INDIAN HOUSE, 65° to 70° by day, 60° at night.

CATTLEYA or INTERMEDIATE HOUSE, 60° to 65° by day, 55° at night.

COOL or ODONTOGLOSSUM HOUSE, 55° to 60° by day, 50° at night. Degrees Fahrenheit. The houses may be allowed to range somewhat higher by sun-heat.—*James O'Brien.*

FIRE IN COVENT GARDEN MARKET.—Covent Garden Market was thrown into a state of much consternation on Saturday afternoon last, owing to the outbreak of fire on the premises of Mr. G. H. Garcia, fruiterer and florist, in the centre Row. The fact of smoke proceeding from the lower part of the place occasioned the alarm in the first instance, and no time was lost in getting three steam-engines and a manual at work, and the "Row" having been cleared of promenaders, there was good scope for the firemen. The task was, however, not an easy one, the properties being so close to each other on either side, and the covered way making it difficult owing to the dense smoke. The official report records the damage done as follows:—G. H. Garcia, fruiterer and florist, front shop and basement and contents nearly burnt out; first floor and contents seriously damaged by fire and heat, and roof slightly by fire and cutting away; the Bedford Estate, about 85 ft. by 20 ft. of roof damaged by fire and cutting away; Messrs. Hooper & Co., seed merchants, front severely scorched, contents damaged by heat, smoke, and water; J. W. Draper & Son, fruiterers, office on ground floor and contents damaged by fire and heat, rest of building and contents slightly by smoke, water, and removal; R. Green, florist, conservatory and contents damaged by heat, smoke, and water, and about 150 fancy birds suffocated; J. Slaymaker, fruiterer, front scorched and contents slightly damaged by water and removal; S. Solomon, fruiterer, and J. Bennett, florist, contents slightly damaged by water and removal; J. Rains, fruiterer and florist, front severely scorched, rest of building damaged by smoke, water, and removal; H. Deaton & Son, fruiterers, front slightly scorched and contents damaged by smoke, water, and removal; W. Hieatt & Son, fruiterers, front scorched, rest of building and contents damaged by smoke, water, and removal. C. Martin, fruiterer, contents damaged by removal. The whole of the buildings affected form part of the Bedford Estate, and are insured in the Sun Office.

FLORICULTURE.

Auriculas under King Frost.—At this corresponding period last year, my plants of Auriculas were quite active, and pushing up their spring growth with vigour and rapidity. This year, on the 1st of March, it is difficult to observe the slightest advance in growth; and, indeed, for a considerable portion of the time since Christmas, they have been frost-bound. If this cold, dull, heavy weather continues through March, I can scarcely expect to have an Auricula in flower until early in May, unless the weather should soon break up and genial spring come with a tremendous rush. It is a great advantage to be able to have one's Auriculas in a house that is open to the south, and is heated artificially. This season, Mr. Turner has all his Auriculas in a long span-roofed house heated with hot water, and they are not allowed to become frosted; under such circumstances the plants must flower not only earlier, but much finer than plants not so favoured. Mine are in a north house, in a cold situation, and if a gleam or two of sunshine breaks forth, it scarcely reaches the house and the plants do not get the benefit of it. All that I can do is to withhold water so long as frost lasts, to keep it close at the same time, and when the weather is at all mild, to water those plants that really require it. I have top-dressed a few—but only a few. My north house is very damp during the winter, and let the drainage be ever so good, the surface soil and the pots become covered with green. It is therefore necessary as soon as the plants show signs of activity, to top-dress; and I find it a good plan also to change the pots by turning the ball out of an old one and replacing it in a new. The act of doing this enables one to examine the drainage and remedy any defects.

Seedlings (also frozen hard) are having a rough time of it, and especially the tiny plants raised from seed sown in August last. I am compelled to withhold water to a great extent during the prevalence of frosty weather; and then is the danger of the tiny plants being dried up. I prefer to stand the pots of seedlings in pans of water, but I cannot do so while the frost lasts.

How anxiously gardeners are looking for the time to come when

"The marble sleep is broken,
And a change has passed on things":—

and expectant and impatient ones are ready to say with Ralph Waldo Emerson:—

"When Nature falters, fain would zeal
Grasp the felloes of her wheel,
And grasping give the orbs another whirl.
Turn swifter round, O tardy ball!
And sun this frozen side,
Bring hither back the robin's call,
Bring back the Tulip's pride."

—*R. D.*

HORTICULTURAL SOCIETIES.

Preston and Fulwood Floral and Horticultural.—*February 27th.*—At the conclusion of the ordinary business of the meeting, held on the above date, at the old "Legs of Man" Hotel, Fishergate, a discussion arose on the late blooming of certain varieties of Chrysanthemums. Mr. A. Waters, gardener to the Misses Farrington, Worden Hall, laid on the table a bouquet of blooms of Boule d'Or and Sœur Melanie; and in acknowledging a vote of thanks, said that last October, when his plants of Sœur Melanie had bloomed, he cut them over, and again started them into growth. The plants were kept gently moving through the winter, and are now yielding a capital lot of white blooms, which he finds very useful for cutting.

The following resolution was also passed:—"That the announcement of the intention of the Royal Horticultural Society to hold a show at Liverpool during the coming summer has been received by the members with great satisfaction, and they trust that in every respect the exhibition may prove a thorough success."

QUESTIONS AND ANSWERS.

Rose Stem Barked.—I have under my charge a Gloire de Dijou Rose, which covers the west end of a very lofty mansion. It is worked on a briar 3 ft. or 4 ft. above the ground level, and the stem of the stock has lost nearly all its bark. We are very anxious about its future, and I have planted two briars alongside of it with the view of trying to inarch them when spring comes. A gentleman who called here a few days ago, recommended dressing the stem with the composition—if I may call it such—that is used by wine merchants for dressing the corks over when spirits are bottled. Has any reader any experience of this, or can they tell me how to make a composition that will answer the purpose?—*T. W.*

Vines.—*P. P.:* We do not think the soil has so much to do with the death of the plants as the manner and time at which they were planted; but as one did well it is difficult to suggest the real cause of death. Is the border drained? The one cane having made a good growth, it should, if properly attended to, have ripened off well and yield fruit this season. Cut the cane back a few feet, and prune all the side shoots to a good eye near the main stem. Let the Vine start naturally a few weeks hence and all should go well.

Lilium auratum.—*E. R. F.:* Equal parts of turfy peat and loam, a little well rotted manure, and a good dash of sand is about the best mixture, although we have found no difficulty in growing the plant well in the ordinary compost used for soft-wooded plants. Newly imported bulbs will occasionally die off as yours did, if not placed in cocoa-nut fibre refuse to sweat for a few weeks before being potted.

Cattleya Trianæ.—*B. D. K.:* Though the lip is suggestive of C. Percivalliana, we cannot separate it from C. Trianæ, of which it is certainly a very pretty variety. The Odontoglossum Roezlii, over 4 ins. across, and the lip quite 3 ins. wide, is above the average both in size and shape; a very good form.

Tufa.—Can any of your readers tell me where I can get this article at wholesale price?—*H. T.*

Names of Plants.—*W. Fox:* 1, Pteris longifolia; 2, Nephrolepis tuberosa; 3, Eriostemon myoporoides.—*L. D.:* 1, Larix europæa; 2, Araucaria imbricata; 3, Abies amabilis, probably; 4, Berberris Darwinii; 5, Abies canadensis; 6, Cryptomeria japonica; 7, Taxus baccata fastigiata.

Communications Received.—W. S. (many thanks).—G. F.—J. W., Port Elizabeth,—M. A. Vitoria, Bilbao.—R. G.—M. T.—E. J.—E. Bergman (many thanks).—W. G.—M. M'L.—T. W. B.—H. T.—A. F. Sarafana, St. Paul's, Brazil.

LONDON SEED TRADE.

March 3rd, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a very small attendance on Market to-day, owing, probably, to the inclement weather, and consequently the demand for agricultural seeds generally has been limited. Red Clovers, particularly the lower grades, are still very firm with an upward tendency, which, it is anticipated, will develop into a substantial advance when the sowing season fairly commences. White and Alsike show no improvement in values, and the same may be said of Trefoil. Grasses meet with a more active demand, and maintain last quotations. Rape has advanced in value and spring Tares are also dearer. No change in values of Bird Seeds and feeding Linseed.

COVENT GARDEN MARKET.

March 4th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 6	4 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	2 6	8 0	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 6	3 0	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 4		Onions, per bushel	5 0	6 0
Cabbages ....per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 0	2 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms		
Acacia mimosa, French per bunch	1 0	1 6	Marguerites, 12 bun.	4 0	8 0
Anemone, French, 12 b.	3 0	6 0	Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	2 0	6 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 6	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea ,,	2 0	3 6
Daffodils, per bunch	0 6	2 0	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	12 0	24 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths, per doz.	6 0	9 0
Asters, per doz.			Hyacinths, Roman, per dozen		
Azalea, per dozen	24 0	42 0	Hydrangea, per dozen		
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Narciss, per dozen	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Daffodils, per dozen	9 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna terminalis, doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanum, per dozen	8 0	12 0
Ferns, in var., doz.	4 0	18 0	Spiræa, per dozen	12 0	15 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 6			
Fuchsias, per dozen					
Genista, per dozen	10 0	15 0			

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,, 2½ by 1¼, 7s. 6d. per 100 feet.
,, 2 by 1¼, 6s. per 100 feet.
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G. STEVENS, F.R.H.S., St. John's Nursery, Putney, is now sending out his new Chrysanthemums.

MAIDEN'S BLUSH.—Fine Japanese, with broad flat florets, forming a full, large, handsome bloom; fine for exhibition. First Class Certificate Royal Horticultural Society, November 10th, and National Chrysanthemum Society, November 11th, 1885. Price 2s. 6d. each, cash with order from unknown correspondents. See report in this paper November 21st.

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BROCCOLI—Sutton's Winter Mammoth. *Per packet, 2s. 6d. post free*
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Liverpool Horticultural Association.
POSTPONEMENT OF SPRING SHOW.

THE fourth grand Spring Flower Show of Hyacinths, Tulips, Narcissus, Azaleas, Rhododendrons, Roses, and forced hardy plants will be held in St. George's Hall, on Thursday, March 18th.

Schedules on application to the Secretary, EDWARD BRIDGE, 3, Cedar Terrace, Huyton.

Royal Aquarium, Westminster.

HORTICULTURAL EXHIBITIONS.—GREAT EXHIBITION of HYACINTHS, &c., MARKET PLANTS and cut DAFFODILS, on March 30th and 31st. GREAT ARTISTIC ROSE SHOW, on June 25th and 26th. GREAT STRAWBERRY EXHIBITION AND FETE, on July 2nd and 3rd. Great display of TABLE DECORATIONS, BOUQUETS, &c., on August 20th and 21st.

Liberal Prizes are offered.

Schedule of Prizes on application to Mr. Richard Dean, Superintendent of the Exhibition, Ranelagh Road, Ealing.

Wilts Horticultural Society, Salisbury.

SHOW ON JULY 29TH, 1886.—Division A Open—12 Stove and Greenhouse-flowering Plants, First Prize £15. 12 Variegated and Fine Foliage Stove and Greenhouse Plants, First Prize £13. Schedules may be had on application to the honorary secretary, W. H. WILLIAMS, The Nurseries, Salisbury.

Royal Horticultural Society.

THE REPORT OF THE ORCHID CONFERENCE is now ready, and may be had by Fellows of the Society on application to the Assistant Secretary at the Office, South Kensington, S.W.

CRYSTAL PALACE SPRING FLOWER SHOW—March 26th and 27th. Schedules of this and other Flower and Fruit Shows during 1886, to be had on application to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace.

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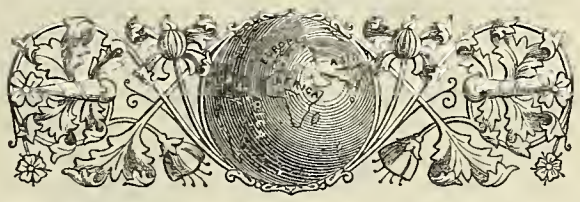

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 13, 1886.

"THE PRAISE OF GARDENS."—As good wine is said to need no bush, nor the Lily to require painting, so does it seem somewhat superfluous labour to present to the public a book in praise of gardens. Of all the enjoyments of which man is privileged to partake, certainly gardening is one of the most pleasing and acceptable. Still more to the weaker sex, and especially to the sick and the aged, gardens offer means of enjoyment so desirable and so obvious as to need no extraneous praise. A garden is, or should be, its own praise. If it carries not that form of sweet labour to our minds, it is unworthy the appellation of garden; for if any such enclosure known by that term fails to afford the purest of enjoyment, then it is not a garden. Probably, most of our readers will appreciate our opinion in this matter just as they may possess gardens, be they ever so small, or may have found in them that enjoyment of which we have written.

The book to which we refer, *The Praise of Gardens*,* is, however, not an original production, and it has the merit of being devoid of that egotism which seems to characterise so many modern critics who set themselves up to disparage or otherwise comment upon gardening as it now exists. It is true some small thoughts here and there peep out in the selections of which the book is composed, especially in those of more recent date; but upon the whole the writers of these "praises," dating from 1,300 years B.C. down to the present day, seem animated by large conceptions, some, perhaps, weird and romantic, but still praising gardening in eloquent language, and with appreciative descriptiveness. We are indebted to Mr. Albert F. Sieveking for this collection of garden thoughts, gathered from the works and writings of some 130 eminent writers; and whose thoughts, there collated, offer interesting reading to those who may desire from motives of curiosity, if from no higher motives, to ascertain what Solomon, Cicero, Bacon, Voltaire, Longfellow, and even Phil Robinson has to say about gardens.

Probably, were any real gardener to sit down and pen a paragraph in praise of gardens, he would present us with a very diverse study from that offered by the myriads of literary giants whose writings are quoted in this work. But whilst the estimate of the professional gardener would, probably, fail to appear in that eloquent clothing which the literary man aspires to present his conceptions, the estimate would be far more exact, and the more truthful, because free from romance. The gardens of the Romancists are essentially of a pure Paradisiacal order; they are rather of heaven than of earth, they exhibit no traces of labour, but seem as if prepared by gods or fairies for the delectation of man. A dash of practice, of hard matter-of-fact thoughts, flung into these delightful pictures, seem to cause many to fade and die away. There are no Gardens of Eden on this mundane earth, and those of the famous Hesperides, with their golden fruits, exist only in the imagination.

It may be not altogether agreeable to many fancifully disposed people to learn, but it is a fact, none the less, that the most enjoyable and, probably, beautiful of gardens are those in which most human labour is seen. However, we are grateful to Mr. Sieveking for his book, because it opens to us the thoughts of so many great minds upon a topic which we hold dear. An introduction by that genial writer and accomplished artist, E. V. B., attracts attention, because it is the product of one yet in the flesh, although there the fancies of the Romancist seem to colour her praise of gardens.

* THE PRAISE OF GARDENS. By Albert F. Sieveking. London: Elliot Stock.

GARDENING MISCELLANY.

The Gardeners' Royal Benevolent Institution.—In another column we record the death on February 23rd, of Mrs. Squibbs, of Godstone, at the age of seventy-eight years, and it may interest some of our readers, and, perhaps induce others to become subscribers to this admirable institution, if we state a few facts in connection with her case. Mrs. Squibbs was the widow of Mr. R. Squibbs, who for many years previous to his death in 1859, was gardener at Rook's Nest, Godstone. During his lifetime Mr. Squibbs contributed the sum of fifteen guineas to the funds of the institution, and in the year in which he died his widow was placed on the pension list. At the time of her decease Mrs. Squibbs, though not the oldest pensioner of the institution, was the second on the list as regards the length of time she had enjoyed the pension, and altogether received from the institution the sum of £300. In the face of such facts as these who will say that the institution does not deserve the support of gardeners to a much greater extent than it at present enjoys?

The Green Crops.—What are we going to do for green crops? is one of the pressing questions of the hour. Owing to the continuous frosts and drying winds there is a great scarcity of greens, and the good housewife is paying a large sum for a very small quantity. The young Cabbage plants put out in the autumn have died in large quantities, and this is

heightened by the fact that the trade is largely advertising for Cabbage plants. Happy are they who, in favoured and sheltered spots, have been able to protect their plants from harm. Nothing has grown since Christmas. Vegetables have been almost continuously locked up in the icy grip of frost, and Broccoli, Kales, Brussels Sprouts, Spinach, and such like, have dwindled in quantity rather than increased. Every odd piece of Turnips likely to give forth some sprouts when the weather changes will become of great value. Last year at this time there was a glut of green stuff, and the prices obtained were altogether unremunerative; to day it is very different, a neighbour of ours had a large piece of Brussels Sprouts which he had cleared, and had turned sheep into them to feed them off; but the great scarcity, which is becoming more apparent every day, has led him to change his plans. He has withdrawn the sheep, and now waits anxiously for the change that will bring rain, and to the advent of a growing season. He anticipates the stalks will sprout freely, and yield him at the rate of £10 to £12 per acre.

Preserved Vegetables.—At the meeting held at South Kensington on Tuesday, the visitors took much interest in a collection of vegetables preserved intact by a new process, and exhibited by Messrs. James Carter & Co., of High Holborn. The subjects so treated, included Peas, Potatos, Carrots, Onions, Tomatos, Beans, Leeks, Radishes, Capsicums, and Sea Kale, and of these the Tomatos and Potatos presented the most natural appearance. In all cases the form was well shown though slightly exaggerated in size, and in this we imagine the merits of the process are to be found, the outline being more correctly rendered than can be the case with wax models. The process will be a useful one to traders and those who have charge of economic museums, but some improvement must be made in the preparation of the colours, before it can be considered quite perfect.

Grand National Dahlia Show, 1886.—The arrangements in connection with the Grand National Show of Dahlias, to be held on September 3rd and 4th, at the Crystal Palace, have now been completed. The Prize Schedule has been printed and circulated amongst the former subscribers and exhibitors; the same well-known and trusty florists have been selected to award the prizes, and the same Executive Committee has been appointed as a substantial aid to the Honorary Secretary. In regard to its finances, the Show cannot be thoroughly successful unless liberally supported by the growers and admirers of the Dahlia, who will therefore, we trust, keep the officials busily occupied in sending out receipts for their donations. Those also who believe in the beneficial influence of flower shows may well lend a helping hand. Contributions should be sent to the Honorary Secretary and Treasurer, Mr. Thomas Moore, Botanic Garden, Chelsea, London, S.W., who will gladly acknowledge them. We may add to the foregoing, that the second of the Dahlia competitions for the possession of the Turner Memorial Prize Cup, will take place, at the Crystal Palace, on the occasion of this Show, and will greatly increase the interest with which it can be watched by those who are admirers of this noble autumn flower.

The Weather in North East Lancashire.—A correspondent writes:—"The snow in this district is several inches deep, and on the hill sides it has drifted to great depths. Vegetation is in a dormant condition at present, which is, perhaps, as well considering the severe frosts we are having. This morning (Sunday 7th March) our thermometer, at 18 ins. from the ground, and facing due north, registered 21° of frost, the most severe we have had so far this winter. The general appearance at daybreak this morning would have better suited the end of December than the end of the first week in March. We have glorious sunshine during the day. Is not this unusually severe for March?"

Everlasting Flowers.—At the last meeting of the Manchester Scientific Students' Association, Dr. Alcock read a paper on Everlasting Flowers. The lecturer had availed himself of recent studies and researches in this direction in order to draw attention to the wonderful fauna and flora of the Australian continent, from which he had drawn the numerous species and varieties of this composite family which he possessed, and of which he had brought some very fine specimens to the meeting. He gave an interesting outline of the physical geography of the Australian continent, dwelt upon its special adaptability to the growth of these plants and others of a similar character, and concluded by describing the climate as one having only two seasons, a hot dry summer, and a cold wet winter.

The Liverpool Great International Horticultural Show.—We understand that Messrs. Sutton & Sons, Reading, have offered the following valuable prizes for competition at the forthcoming great provincial show of the Royal Horticultural Society at Liverpool, June 29th to July 5th:—For a collection of vegetables, twelve distinct kinds, 1st prize, £5 5*s.*; 2nd prize, £4 4*s.*; 3rd prize, £3 3*s.*; 4th prize, £2 2*s.*; 5th prize, £1 1*s.*; 6th prize, 10*s.* 6*d.* For the best brace of Melons, either Sutton's Imperial Green-flesh, Sutton's Invincible Scarlet-flesh, or Sutton's Hero of Lockinge, each entry to consist of one variety, 1st prize, £2 2*s.*; 2nd prize, £1 1*s.*; 3rd prize, 10*s.* 6*d.* These prizes are open to noblemen's and gentlemen's gardeners only.

Messrs. Lucombe, Pince & Co.'s ninth annual Hyacinth show took place on the 5th inst. at the Exeter Nursery, and, despite the cold season, a fine lot of flowers were staged. The winners of the prizes were Mr. Daw, gardener to the Rev. T. J. Yarde, Culver House, Chudleigh, 1st.; Mr. Viney, gardener to Mrs. Norris, Pinhoe, Devon, 2nd.; and Mr. Sparks, gardener to A. Burnet, Esq., Howden Court, Tiverton, 3rd.

Ventilators.—Messrs. Foster & Pearson are introducing a useful iron ventilator, for letting into the walls of structures of all kinds, to which it is desirable to admit air at will. It is very simple and effective, the iron frame having a perforated zinc plate on one side, and a copper-hinged balancing lid on the other, which holds itself open or closed without fastenings of any kind.

The St. Peter's Hammersmith Horticultural and Cottage Garden Society at the last monthly meeting resolved to hold a summer show in July, particulars of which will be issued as soon as the arrangements are complete. During the evening Mr. Stanton read a paper on the cultivation of the Cucumber, which was followed by an animated discussion among the members present. At the next meeting in April, a paper on the Auricula will be read by Mr. Worsfold.

The Charles Turner Memorial.—The secretary to this fund writes: "This important testimony in remembrance of the most complete florist of modern times, might be quickly and honourably completed if every man who believes in it could do something. On hearing from me that we wanted a little more money, Mr. Shirley Hibberd made a collection in his own way, and has, for the result, sent me a cheque for £10, which I have passed on to the treasurer. Half-a-dozen such workers would carry any cause to triumph."

TABLE, WINDOW, AND INDOOR PLANTS.

Where suitable subjects are selected hanging plants are so easily cultivated, and so attractive, that I think more attention should be given to the subject. Generally speaking the selection of the proper plants for growing in baskets or suspending in pots, success or failure depends, let us endeavour, therefore, by naming some of the easiest to grow in that manner to render the labours of those who take up the matter for the first time easy, and, at the same time, point out to those who are battling against nature with unsuitable plants the right things to obtain, in order to render their work more pleasant and satisfactory.

Saxifraga sarmentosa, with its pretty silvery tinted leaves and profusion of little plants hanging round their pots by their thread-like runners, is one of the best of plants for suspending in a room, and one of the easiest managed. I have seen this growing in cottage windows in marvellous beauty, its delicate sprays of white flowers in their season still further adding to its charms. Tradescantia repens, T. discolor, and all the allied varieties are very suitable plants for suspending indoors as they grow well, if properly attended to, either in hot or cold rooms of any aspect.

Ivies of different sorts also lend themselves readily to the work, but they thrive best in cool rooms, and should always be suspended in shady situations in summer. The Ivies make beautiful globular baskets for suspending outside, and particularly in shady areas in town, where they do much to take off the blank appearance of that crypt-like void which is to be found in front of so many town houses. None will gainsay the statement that such places could be made beautiful both to the owners and passers by with a very small outlay, but unless someone much interested in the plants can be enlisted to look after them, it is of no use attempting much in that direction. Othoma crassifolia, and some of the fleshy-leaved drooping Mesembryanthemums, are excellent for sunny windows, the common Ice-plant and the variegated form being often grown to lovely objects in the dwelling house. These are apt to die out in time, but they are so easily propagated that there need be no trouble in getting on young plants to replace them.

Convolvulus mauritanicus, with its lovely mauve flowers, and all the varieties of Campanula fragilis, are easily-cultivated hanging plants, which, as well as giving pretty drooping plants, also put forth a lasting supply of lovely blooms. Many other subjects are good for hanging plants indoors, but of them later on. Plants for suspending may either be grown in pots and afterwards placed pot-end all in wire baskets, in which they may be filled-in round with moss, or they may be planted out direct into moss-lined baskets, the fertilising moss being spoken highly of by some for the purpose. After the baskets are lined with moss the plants should be placed in them and arranged, as in potting, with ordinary good soil. During mild or warm weather it is of great benefit to all basket or other indoor plants to make it a rule to take them into a convenient place in the open air regularly once a week, in order to clean them and thoroughly water such as require it, which latter operation may here be conducted without the fear of making a mess, a contingency which is always before one when the work is wholly carried on indoors.—*M. A., Camb.*

VIDAL'S BELL-FLOWER.

Numbers of beautiful Campanulas adorn our gardens during the summer months, and some like the old C. pyramidalis, and the dwarf C. fragilis are favourites in many a country cottage, or in the greenhouses and conservatories of the wealthy. There is, however, scarcely any of those grown under glass so distinct in habit and general appearance as that which bears the name of its discoverer, Captain Vidal; and though it has no claim to be considered as a novelty, it is one of the neglected old plants which deserve to be brought into notice. Campanula Vidalii is a native of the Azores, and though nearly hardy, it is far more satisfactory in a cool house or any structure in which it can be sheltered from frost and yet have free exposure to air when the weather is favourable. It is of shrubby habit with narrow, thick, fleshy leaves arranged closely round the upper part of the stem, and bears racemes of three to five or more white slightly pendant flowers, of an even bell-like form, contracted in the middle, and with a curiously glossy surface. The plant is easily grown if a compost is provided of two parts light sandy loam to one of leaf-soil, draining the pot well and attending to the supply of water carefully, as it soon suffers from extremes of drought or moisture about the roots. It can be increased by seeds sown in slight heat, but the plants must be at least a couple of years old before they will flower.

PRUNING ORCHARD TREES.

From hear-say evidence, reading, and personal observations, I conclude that no one who is identified with good fruit culture is opposed to the practice of pruning such fruit trees as Apples, Pears, and Plums. Even market gardeners, who once thought it economy to allow their trees to grow naturally, have in many instances become constant pruners. A few years ago I lived near large breadths of land planted with pyramidal fruit trees, with bush fruit between the trees in the rows, and vegetables and Strawberries between the rows, and during the few years I watched them, the Apples, Pears, and Plums were pruned with the same regularity as the bush fruits, and, indeed, more so, for the bird-scarer was constantly "pinching" the strongest shoots during the summer. Old fruit growers and non-pruners admitted the soundness of this new departure, because if one crop failed, say, the Apples or Pears, there was a chance that the bush fruit or the other crop would yield something, and if the fruit of the

former is not so numerous where it is produced, it is decidedly finer, and it costs just the same to pick and convey a bushel of Apples to the market that will realise 2*s.* 6*d.* as one that will sell at double that sum. Small fruit scarcely pays for picking at any time—good fruit always does.

In looking round fruit nurseries I should say that nine out of ten fruit trees, such as I have named, are dwarfs or pyramids, which leads me to conclude that they are more in demand on account of the ease and celerity with which they may be pruned, for I do not think it pays anyone to go to the expense of pruning standards. Those who plant orchards with the view of grazing, have no alternative but to use standards, so that they may be out of the reach of all cattle; but such orchards are seldom satisfactory. All the best fruit at the Pear Congress appeared to me, from the statements attached to the various dishes, to have been gathered from trees of some kind of restrictive growth. The Apples and Pears exhibited at the Liverpool Chrysanthemum Show are, I believe, without exception from pruned trees, and those exhibited by the local growers are very little inferior to one or two collections usually sent from Kent. In Mrs. Heywood's garden, at Norris Green, near the same town, I saw one autumn, in a small compass on pruned trees, enough good fruit to supply any ordinary establishment. A writer in a contemporary stated recently, that at two dual establishments where he was once the pruned trees produced such crops, that after supplying the household barrow-loads were taken weekly out of the fruit-room and thrown away.

An enthusiast in gardening matters took a piece of garden ground a few years ago, which contained three or four Apple and Pear trees covering one-half of the garden; but what with the smallness of the fruit and the wind blowing the best of them down, he found they were of little use to him, inasmuch that they were unsaleable at a price to pay him for his trouble in gathering them. He therefore resolved to grub them up and plant young trees on the piece of ground that had hitherto been devoted to vegetables, and eighteen Apple and twelve Pear trees were selected and planted early in the autumn. They bore fruit the following year, and he has at different times taken prizes in the cottagers' and amateurs' classes at shows, as well as providing himself with a supply of fruit for as many months as the large trees did weeks, obviously from the greater number of varieties having been planted. Since this new departure in fruit culture, thousands of owners of small gardens can have half a dozen to a dozen varieties instead of one or two, and the same rule applies to those gardens in charge of professionals. What gardeners want is not bushels of indifferent fruit, but a few superior samples to send to table.

In addition to some of the best fruit being blown down in stormy weather from unpruned trees, much of that which remains will be found damaged in consequence of the fruit-laden oscillating boughs violently dashing against each other; and everyone who has been actually engaged in gathering and storing fruit of Apples and Pears from such trees must have observed depressions on their surface, which, to some extent will account for much of the fruit decaying soon after entering the fruit-store. It is obvious that the wind cannot have this effect on fruit borne on sturdy branches. This alone should be a sufficient reason for judicious pruning, and one is amazed that any practical man should howl at the sight of a pruned tree.—*W. P. R.*

Campanula Vidalii.

ON FORCING STRAWBERRIES.

By way of supplementing "W. P. R.'s" practical remarks on setting Strawberries, at p. 410, a few words upon the treatment which they should receive from the time the fruits are set until they are ripe will be opportune, and, perhaps, may be of some little assistance to not a few readers of The Gardening World, by showing them how satisfactory results may be secured, even in structures not the most suitable for the production of forced Strawberries. After the fruit is set the number should be reduced where more than the necessary number to form a crop has set, to ten or fifteen on each plant of the Vicomtesse Hericart de Thury or Keen's Seedling type, and from six to ten on each plant of larger growing varieties, according to the strength of the individual plants, selecting the best and most even-sized berries for the crop, and bearing in mind that ten fruits weighing as much as three-times that number would do well, is a much more creditable production for the cultivator, and far more acceptable at his employer's table than the latter would be.

When the fruits are being thinned out, it will be as well to support the fruit spike of large-growing varieties by putting a small forky twig under the cluster of fruit, otherwise the increasing weight of the latter will cause the stem through which the berries receive nourishment to collapse, and cause a consequent diminution in the size of the fruit. An old birch broom will afford ample supports for a goodly number of plants. From the time the plants have set their fruit until the latter begin to colour copious supplies of tepid liquid manure should be given at the roots, using it in a weak rather than an over strong state, providing that the drainage in the pots is good as it should be; there need be no apprehension of over-watering the plants at this date and stage of growth—swelling their fruit and developing young leaves. Indeed such plants should have a good watering at the roots every morning or afternoon, and later on with an increase of light and sunshine twice a day until the crop has been taken. The water should not be applied indiscriminately over the leaves, flowers, or fruits of the plant, but should be poured in at the side of the pots; in some cases it may be necessary to hold the leaves up with one hand to do so.

From the time the plants have set their fruit until the latter approaches maturity, they should be syringed overhead with tepid water mornings and afternoons, more or less heavily according to the condition of the weather and the degree of heat at which the houses in which the plants are located are kept, the object of the syringing being as much to promote a growing atmosphere as to keep the plants free from fly and the attacks of red spider, the latter the gardener's greatest enemy during the forcing season. The nearer the plants are kept to the glass without coming in contact with it the more sturdy will they grow, and consequently better results will be secured. Any house in which the night temperature ranges from 50° to 65° or 70°, 5° higher by day and fire-heat, and 10° more by sun-heat, will (providing the necessary amount of atmospheric moisture can be distributed without interfering with the well-being of the permanent occupants of the house) be congenial to the requirements of the Strawberry plants in their various stages of growth.

Of course, the plants swelling their fruits should be located in the warmest houses, and consequently they should be syringed more heavily and frequently overhead in order to keep them clean than would be necessary to do to plants in less warm houses. Vineries and Peach-houses just being started are capital places to bring on the Strawberry plants in, Melon and Cucumber-houses and Pine-stoves, where space admits of a shelf being fixed on brackets suspended from the rafters over the pathway, being good places for them to swell their fruits in, and in order to give flavour and colour to the fruit a somewhat dry, airy, and warm atmosphere should be aimed at during their ripening period; and to secure these conditions will necessitate the plants which have just set their fruits, and those whose fruits are approaching maturity, exchanging places. Of course, in houses specially constructed for the forcing of Strawberries, this shifting of plants from one house to another will not be necessary, as the atmospheric temperature in each house can be regulated progressively and in accordance with the immediate requirements of the plants.

I make it a rule to place the baskets containing the fruits for dessert on a shelf near the glass in one of the Pine houses for half-an-hour, or thereabouts, prior to sending them to the Castle at 5 p.m. This improves both the colour and the flavour of the fruit by extracting therefrom any extra watery matter which they may happen to contain when being gathered. Especially recommendable is this practice in the case of Strawberries which have been ripened in close moist houses, a course which circumstances not unfrequently renders necessary. In conclusion I may remark that after these remarks appear in print, there will be no difficulty experienced in securing a good "set" of fruit on strong healthy plants, neither will a gentle syringing overhead to keep the plants free from fly do them any harm while in flower.

Forced plants intended for making new plantations with, should be put into a cold pit for a few days to harden off after the fruit has been taken from them. After which they should be divested of any bad leaves, the drainage be gone over, and then be planted out in well prepared ground in rows 2 ft. apart, and at about 20 ins. in the rows, while moist at the roots; making the soil firm about them, and afterwards lay on a surface-dressing of short dung to the thickness of 2 ins. between the rows and plants.—*H. W. Ward, Longford Castle.*

SELECT PLANTS FOR ROCKERY BORDER.

(Continued from p. 422.)

2.—*Plants attaining 1½ ft. to 2 ft. high or thereabouts.*

Achillea ptarmica fl. pl.
,, serrata fl. pl.
Acanthus latifolius
,, longifolius
Agrostemma Flos Jovis
,, coronaria fl. pl.
Anemone sylvestris
Anthericum liliastrum (B)
,, liliago major (B)
Amaryllis longifolia alba (B)
Armeria cephalotus rubra
,, plantaginea rosea
Aster amellus
Brodiæa coccinea (B)
Campanula glomerata dahurica
,, grandiflora and vars.
,, nobilis
,, persicifolia alba plena
,, ,, ,, coronata
,, rhomboidea
Clove Carnations
Catananche cœrulea & alba
Centaurea montana alba
,, ,, rubra
Cypripedium calceolus
,, pubescens
,, spectabile
Delphinium Cashmerianum
,, chinensis (in vars)
,, nudicaule
,, Hendersoni
,, Bella Donna
Dianthus Atkinsoni
Dielytra spectabilis
Doronicum caucasicum
Erodium manescavi
Funkias in variety
Gentiana Andrewsii
,, asclepedia
,, ,, alba
Gladioli The Bride (B)
Geranium Endressi
,, armenum
,, ibericum
Geum coccineum plenum
Gypsophila paniculata
Habenaria ciliaris (B)
,, fimbriata (B)
,, psycodes (B)
Helenium pumilum
Helleborus antiquorum majus
,, colchicus
,, lividus
,, orientalis and vars.
Hemerocallis japonica
Hesperis matronalis alba pl.
,, ,, purpurea pl.
Hypericum uralum
Iris Germanica, in variety
,, hispanica, in variety (B)
,, anglica (B)
,, stylosa
,, Susiana
Lilium longiflorum and vars. (B)
,, pyrenaicum (B)
,, ,, rubrum (B)
,, pulchellum (B)
,, concolor (B)
Lilium croceum (B)
,, elegans (taller vars.) (B)
Lobelia syphilitica
Lychnis diurna rubra pl.
,, Haageana, in variety
,, viscaria splendens pl.
Leucojum pulchellum (B)
,, æstivium (B)
Matricaria inodora fl. pl.
Megasea cordifolia purpurea
Monarda didyma
Narcissus bicolor Horsfieldi (B)
,, lorifolius maximus (B)
,, obvallaris maximus (B)
,, incomparabilis, in vars. (B)
,, poeticus, in vars. (B)
Œnothera fruticosa major
,, riparia
,, speciosa
Ononis rotundifolia
Orchis foliosa (B)
Orobus vernus purpureus
,, ,, albus
Orchis spectabile (B)
,, latifolia (B)
,, fusca (B)
,, militaris (B)
,, mascula (B)
Ornithogalum arabicum (B)
,, pyramidale (B)
Pæonia tenuifolia plena
Papaver orientale, in var.
Pyrethrums (hybrids dbl.)
Potentillas, single and double, in vars.
Pentstemon gentianoides vars.
Polemonium Richardsoni
Polygonatum multiflorum
Primula Cashmeriana
,, deuticulata
,, japonica
,, Sikkimensis
Ranunculus acris fl. pl.
,, aconitifolius pleno
Rudbeckia Newmanii
Scabiosa caucasica
Saxifraga peltata
,, pyramidale
,, nepalense
Silene virginica
Solidago Virgaurea nana
Spiræa filipendula plena
Statice latifolia
,, Limonium
Tulipa fulgens (B)
,, gesneriana (B)
Tigridias (B), (these should be lifted each autumn)
Trollius asiaticus
,, Fortunei
,, napellifolius
Verbascum phœnicum
Veronica longifolia var. subsessilis
,, spicata corymbosa
Xerophyllum asphodeloides.

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—VI.

Having referred in my previous notes to Chrysanthemums for exhibition, I now come to a mode of culture adopted by a large number of growers, viz., for decorative purposes. Many gardeners and amateurs grow their plants in this way, so that they may obtain a great display of bloom in preference to quality of individual flowers, and thereby make their houses gay during the dullest months of the year. In all houses a display of bloom can be obtained from September till January. Where a quantity of bloom is required for decorative purposes, some of the early-flowering varieties should be grown so as to come in in September, and by the middle of October the early section of the large-flowering varieties will commence to bloom, and to these I shall here confine my remarks, leaving the early-flowering varieties to be dealt with later on.

In growing Chrysanthemums for decorative purposes the cuttings may be inserted any time from January to April. Prepare the cuttings and strike them according to the directions given in a former number. As soon as they are rooted stop them, and keep them rather dry for a week. They will then throw out shoots, when they should be potted singly into 3-in. pots. They should then be placed in a frame or on a shelf in a house, but take care and let them have plenty of air on all favourable occasions so that the plants may keep sturdy and strong. When the plants are well rooted in these pots again stop them. As soon as they have made further shoots repot them into 4½-in. pots, return them to the frame and keep them close for a few days, and then if the weather is favourable they may be stood on ashes out-doors in a sheltered position.

When the plants are well established in these pots they should be gone over, and any that have not a sufficient number of breaks should be again stopped; but where plants are grown either for specimen or decorative purposes, it is best to get all stopping finished early, as late stopping is often the cause of poor blooms, and if frost sets in early the result is often no blooms at all.

Early in June the plants should be potted into their blooming pots, and the directions previously given should be here followed out. When the plants have received their final potting, a short stake should be put in the centre of the pots to which the plant should be securely fastened; a few more stakes may also be inserted to support the branches and prevent them from getting broken. Attend carefully to the watering of them, and syringing them during their growth according to former directions. From the middle of August the plants will commence to show their buds. Now a different plan must be adopted with these plants than has been previously directed for those grown for exhibition. It must be remembered that the object here is to have as great a display of bloom as possible, therefore the plants will require very little disbudding. At the same time, buds on some varieties will appear in greater profusion than on others, and I myself prefer, in those cases, to slightly disbud them. Cuttings that are struck in April should be stopped once, and that should be done as soon as they are rooted. They can be bloomed in 7-in. pots, and they make useful plants to distribute among other plants in the conservatory, or come in well for front rows.

A few good varieties for decorative purposes are—*Incurved:* Mrs. Geo. Rundle, Geo. Glenny, Golden Geo. Glenny, Prince of Wales, Lord Derby, Rifleman, Lord Wolseley, Aurea multiflora, Lady Hardinge, General Bainbrigge, Jardin des Plantes, Barbara. *Japanese:* Elaine, Lady Selborne, James Salter, L'Africaine, Mdlle. Lacroix, Peter the Great, Mignon, Venus, Gloire de Toulouse, Hiver Fleuri, Mons. Boyer, La Nymphe, To Kio, Fair Maid of Guernsey, Mons. Chas. Hubert, Roseum superbum, Dr. Macary. *Reflexed:* Cullingfordii, King of the Crimsons, Dr. Sharpe, Progne, Julie Lagravère, Christine (peach and golden), Mrs. Forsyth, Annie Salter, Heloise. In my next I will give directions for growing the early-flowering varieties.—*W. E. Boyce, Yerbury Road, Holloway.*

RED POTATOS.

Just as the Vicar of Laleham became the most popular of purple round kinds, so did the handsome Reading Russett obtain the same position amongst the red rounds. This is, perhaps, the best of all Mr. Fenn's seedlings, because it has size, beauty, quality, and productiveness; and it will be long ere, as a red round, it can be displaced. This handsome kind originated from an Anglo-American cross, the Yankee parent being, I believe, the Willard. Prizetaker Kidney came from the same parentage. Mr. Fenn originally named the Russett, Berkshire Rose, and I think it was the most pleasing name of the two; however, under whatever name it is known, it is a first-class kind, and worthily stands at the head of the red round section. It is a free seeder, hence has reproduced itself from seed liberally. I do not see very well how it can be excelled, but I have seed from a cross between that and The Dean, which may produce something interesting and good.

Prior to the introduction of Reading Russett, our best red rounds of home origin, were Grampian and Red Emperor, both handsome, but neither good. America gave us Triumph, Adirondack, and Matchless, the latter of pale hue; some other American sorts might be named also, but the above are the best. Of newer red rounds we have a good form, but flattish in shape in Rufus, and Rosebud is handsome and of first-rate quality; Lady Roseberry seems to approach to Grampian in character, and of good quality. Also red kidneys have been of late more largely added to, for some very handsome kinds are found in Cardinal, Crimson Beauty, and Ruby. The first is from Bedfont, the second is one of Mr. Hughes' seedlings, and the latter is one of Mr. Fenn's. All are handsome true kidneys, of fine quality and very prolific. Whilst Mr. Bresee still remains the finest of all red kinds, it is run very hard indeed by the new ones.

Then there is Prizetaker (of fine quality), Beauty of Hebron, Enterprise, and Lifeguard, the latter somewhat mottled or flaked in colour. I have omitted reference to such a good kind as Radstock Beauty, because it is only moderately coloured with carmine; still it is worthy of a high place in any collection of coloured Potatos, and is also of first-class quality, and very prolific.—*A. D.*

SCOTTISH GARDENING.

Planting Vegetables.—The earliest opportunity should be taken to plant the various kinds of crops which are to be serviceable during summer, and onwards. With light land of a dry nature there is little difficulty in forwarding such important work, but on tenacious clay which takes a long time to become fit for planting, much anxiety at this season may be experienced, and much patience taxed. We know what it is to have to use fresh soil next the roots of all plants while the work of planting is proceeded with, giving a triple amount of labour, but the results were worth all the extra trouble. We have since the 25th of February, taken every opportunity, to forward all such pressing work, often using old soil which has been turned out of pots. A store of such mould is of special value at this season.

Among important items claiming attention are Artichokes (Jerusalem and Globe), Borecole (from autumn sowings), Brussels Sprouts, Cabbage, Cauliflower, Lettuce, Onions, Herbs, of sorts, Potatos, Savoys, Rhubarb, Horse Radish, Sea Kale, Shallots, and Garlic. Artichokes known as the "Jerusalem" kind make huge stems when the ground in which the tubers are planted is rich and deep, they are, therefore, easily blown down by wind; if the position is exposed a rail or some other support may be necessary to keep them upright. Treated in other respects like Potatos is the chief of their cultural wants. Globe Artichokes treated much in the same way as Rhubarb answers well where they are protected (and in most places protection round the crowns is necessary). They may be cleared now, and the soil be forked between the plants, adding manure if necessary, and covering the crowns (in process of digging) with a little clean soil. If there are blanks caused by frost or damp, pieces of roots with live crowns may be taken from uninjured ones, and planted in well broken soil, mulching and finishing in an orderly manner; but it is the best system to wait for suckers and transplant them, as they generally make finer plants, and give a late supply the first season after planting.

Borecole (or curled Kale) which has wintered in good condition may be planted in rows 2 ft. apart each way; if the ground is not rich less room apart will answer. The coarse grown Kale often seen in cottagers' gardens is not to be recommended in preference to smaller and compact grown produce requiring less space between the plants. Brussels Sprouts are valued by some early in autumn, and when planted now from the reserve stock will meet such a requirement. For vigorous growth, 2 ft. to 2½ ft. is necessary for the development of these early plants. Cabbages are scarce this season—cottagers generally begin planting about the end of February; gardeners in the north need never be afraid to imitate their neighbours who have had their tuition as cultivators of certain favourites handed down from a remote ancestry. Closer planting may be practised than with other kinds of brassicas, and thinned out for use as the plants become fit.

Cauliflower requires extra care, and where a frame can be spared the plants may be potted and grown on, hardening them gradually as the period for transplanting draws nigh, which is generally from the middle of March onward. Drills are often drawn deeply as a protection, and flower pots are used, putting them on at night or when frosty. Handlights and other protectors are used to tide the crop over the trying season. Lettuce which has been in sheltered quarters or under glass protection, must be well inured to the weather before being transplanted. Plants on borders or

ridges formed for them, may be much crowded if they were to remain, and may now be carefully transplanted. A trowel should be used, and the roots nicely placed in the fresh soil, stirring the surface and levelling the soil nicely among the plants left. A good dusting of soot and fine ashes mixed, will do much to check the ravages of slugs among all such crops. Batavian Endive is a very useful adjunct at this season, and generally more manageable than Lettuce. Onions which have stood the winter may be wholly transplanted into fresh dug ground or thinned, leaving a crop 4 ins. apart in the rows. Potato Onions are valued by some for planting now, and on rich land may be placed 1 ft. apart each way.

If there is likely to be a scarcity of green Onions, and plenty of the dried Onions are still in store, they may be planted in rows a few inches apart, and useful supplies may be expected. Shallots and Garlic may be planted in the same manner, and a good dusting of soot will keep birds from pulling them up and check the work of grubs. We have always found this practice useful and very effective in checking grubs, but followed up the dustings again and again during showery weather. Last season and the year before were two of the most trying seasons with vermin we ever knew. Soot mixed with a little lime and guano was dusted, then a drenching of water given the same evening. There was a long drought during late spring and early summer, but by persevering with mulching after a heavy soaking of water, difficulties were generally overcome. Potatos may be planted in sheltered positions as soon as the land is in condition; kidney kinds planted in drills, and covered with old Mushroom manure or leaf-mould, will move kindly into growth, and by this practice the tubers are large, clean, and of general good quality.

Rhubarb requires good soil; plantations of favourite kinds may be made forthwith. Two of the best are Prince Albert and Victoria, the former being very early. After Rhubarb has been hard forced it is greatly weakened, but if carefully planted, protecting the crowns, the roots soon recover. Horse Radish always commands a high price, and well it may, as the roots require much room and deep tilth. Pieces put down 18 ins. in finely-broken soil with a large dibble, in rows 2 ft. by 1 ft. apart, will develop large useful roots free from forking. Sea Kale cut into short lengths, and let down a little under the surface soil, soon start into growth and form good crowns the same season; but seed sown and grown two years on land well manured we think best for lifting to force. Herbs may require lifting and re-planting. Seed may be sown to make up deficiencies. The stock should be carefully examined now. Chives are of much value during spring and early summer, and take the place, to some extent, of young Onions.—*M. T.*

Weather and the Crops.—February weather all through was wintry, and March began in unsurpassed severity (so old people tell us); but when reading a column of disasters, both by sea and land, from the inclemency of the weather in our daily paper, we find that from the 1st to the 3rd inst. we have passed comparatively unscathed, having less frost, and not a fourth of the snow which has fallen in some places. The midland and northern counties of England have recorded more intensity of cold than we are able to. Much of the instructions in cropping, &c., which have been given in the carefully written calendars in gardening papers cannot have been put into practice generally. The continuous frosts, sleet and snow-storms having rendered the ground totally unfit for seed sowing or planting, must have kept cultivators, to some extent, in a state of anxiety. We have long since learned to keep cool over such untoward matters, as it has often happened that after unusually long winters crops have during summer and onwards been the best. Last season we sowed some Onions on the 3rd and 14th of March, the latter were by far the best of the two lots, and though not the largest bulbs we have grown, they have been good keepers. During the seven weeks of early summer last season, in which no rain fell, maggots attacked the Onion crops, and threatened its destruction; but frequent dustings of soot mixed with a little lime and fine ashes eradicated the pests. Parsnips were sown after the second week of March, and such as we are using now would, I think, please the most fastidious. Peas and Cauliflowers were more difficult to deal with, but the late supplies were useful and plentiful. This season there will be great scarcity of early Brassica plants; in the brakes of Cabbage we notice few vacancies, and the crops promise well.—*M. T., March 8th.*

The Amateurs' Garden.

THE GREENHOUSE.

The long continued severe weather still necessitates the employment of brisk fires to maintain a suitable temperature, especially at night, for though a high degree of heat must be most carefully avoided, yet, if it falls too low the plants will be proportionately injured, particularly those that have been introduced from a forcing pit or a warm house. This is a very difficult month for ventilating, for while the sun has gained sufficient power to render a house hot on a clear day, yet the wind is often piercingly cold, and a keen draught damages the plants considerably more than a close atmosphere. Advantage must, however, be taken of bright weather, whenever the wind is not too keen or high, to ventilate the house, chiefly at the top, but where Heaths are largely grown place them in a position where they can receive more air without exposing the other inmates of the structure too much.

Heaths and hard-wooded plants suffer sooner than anything from being kept in a close warm house, and though the effects may not be apparent immediately they will be seen when it is too late to restore the plants. With close attention to the supply of water, free ventilation, and a good well drained soil, it is not difficult to keep most Heaths in satisfactory condition, but once allow them to be checked in any way or weakened by too much close heat, and they will try the skill of the best cultivators to bring them into health again. Some of the soft-wooded Heaths, like Erica gracilis and E. hyemalis do not suffer so quickly, or if they get into bad condition can soon be restored, but it is different with the hard-wooded varieties. Those of the E. hyemalis type can be cut hard back after flowering, repotted and induced to grow vigourously, assisting them with applications of weak liquid manure, and the stout shoots thus produced yield fine blooms another season; such treatment as this would, however, cause the death of scores of other Heaths.

Pimelias are now advancing for flowering, especially the beautiful P. spectabilis, which everyone should grow who admire such plants, some of the Croweas, too, particularly C. brilliantissima, are very pretty, and with the Epacrises assist in rendering the house attractive. All these should receive more water now, but do not be too liberal, exercise a little judgment in watering, never giving it indiscriminately, but keeping the eye in advance of the pot, and if there is a doubt whether a plant needs water or not, try the soil with the finger, tap the pot or lift it to test the weight, a little practice with observation will enable anyone to quickly perceive the value of these tests.

Azaleas are still furnishing abundance of flowers, but some of the earliest will be getting past their best, and a few will have lost all their flowers. Pick the remains of these off and place the plants in a little heat, 60° to 65° will be sufficient to encourage growth, syringing freely once or twice a day according to the weather. If the plants require shifting it must be attended to directly the flowers have fallen, then the plants can be started, and will make root and top growth freely at the same time. Good fibrous peat must be employed with a liberal dash of silver sand, and if some leaf soil can be procured similar to that used in Belgium, namely, that which has not been fermented, mix a good proportion with the peat, say one third. In a free soil like this the plants make splendid growth, and it is only necessary to ensure the maturation of this by a gradual exposure to air and sun with a period outside during the summer in a sheltered place to ensure the formation of plump flower-buds and the early production of flowers. The earlier the growth is made and ripened the sooner will the blooms be obtained, and the better they will force. Forcing of any kind cannot be carried on without a suitable and timely preparation of the plants, but when that is attended to one season it becomes an easy matter afterwards.

We have now a gay show of bulbs and other plants in flower, but an especial favourite is the old Tazetta or Polyanthus Narciss gloriosus, which has white sepals and petals and a gold cup, and is very fragrant; we have a quantity of this, and the bulbs having mostly two spikes and being quickly forced, it proves extremely useful for cutting. Lilies of the Valley are beautiful now, as we get them with their foliage, and they are much more useful then than when forced hard to get their flowers very early. Tulips, especially the fine scarlet Vermilion Brilliant, are excessively bright and furnish a most welcome colour in the house.—*Scolytus.*

CAMELLIAS.

During the next few weeks those who possess a good collection of Camellias will be looking forward to the finest varieties opening their blooms. It is a great mistake to suppose that the Camellia is naturally a mid-winter flowering plant, it can only be had in bloom during the early winter, by commencing to grow the plants early in the spring months, and the young grower cannot make a more fatal mistake than to attempt to force his plants into bloom. The most disastrous results will follow this attempt, the buds will drop off, the plants start prematurely into growth, and a general weakening of the whole plant will occur. Camellias are oftentimes overpotted, which is one cause of their not doing well, and opinion varies considerably as to the time when they should be potted. I have always found autumn the best time to pot any plants that may require it, by so doing you give the new roots, which are made during autumn and winter, the benefit of penetrating into the new soil, and thus becoming established before calling upon them to make their growth at an early season of the year if so required. Some may say, "But all the buds will drop off if I pot at this time of the year"; nothing of the sort, I have practiced it for some years without any evil results. If the plants are healthy they only want a shift on, and, therefore, the roots should not get injured if this work is carefully done. Plants treated in this manner make better growth, and are more vigorous than those potted in the spring. The above remarks apply chiefly to young plants that require to be grown on into specimens; larger plants do not want potting every year, because, if the roots are healthy and the plants in pots large enough, all that they want is well feeding during the growing season with weak liquid manure; this keeps them in good health and vigour.

After the plants have finished flowering they should be cleaned and placed in a growing temperature about 65° to 70° (a Vinery is a very good place to grow them in, the shade from the Vines suiting the Camellia) with a slight shade, and a continually damp atmosphere must be kept up by syringing and damping the floors to encourage growth. Weak manure water can be given the plants twice weekly during the growing time, it helps to keep the foliage sturdy, and of a good dark green colour. When the plants have finished their growth the setting of the buds commences. This is a very critical time with the plants, and great care is required to see that they do not get too much water, or instead of setting flower buds they will start away into a second growth. At this time also the heat should be gradually taken off, and more air gradually given to ripen the wood. If this operation is carefully managed, by the time the buds are set the plants will have become inured to ordinary greenhouse summer temperature. If a house cannot be spared for their culture they will now require to be taken into pits or out of doors to thoroughly harden the wood. They must not be stood out in the open sunlight, but should be placed in some position where a partial shade can be secured for them; but on no occasion stand them under trees, because in wet weather the dripping from the trees is very injurious to the Camellia. If kept in a greenhouse, which is much the best where it can be managed, air must be given continually day and night till the month of September, when they will have to come under the ordinary treatment of greenhouse plants.

The amateur grower will think that he should begin to get flowers at once as soon as the days get shorter, he will do so providing he started his plants early enough into growth, and got the buds well set on his plants by midsummer, not without. I have invariably found that some of the very finest varieties will not open their buds before their natural season (March), give them whatever treatment you may—and possibly this is not a very bad fault—for the flowers then are very much finer, the extra length of day seeming to add to the extra size and substance of the flower. If these

varieties are pushed with the notion of making them open, it is sure to end in failure. The soil that seems to suit the Camellia best is a mixture of good sound loam and peat in equal parts, adding sufficient sand to keep the soil open. Where good charcoal can be obtained, some broken pieces added is very beneficial by helping to keep the whole sweet. The drainage should be also properly seen to, or the plants will not flourish, and the potting should at all times be made very firm.

The Camellia may be grown in various ways, but the best is the bush form. Some of the loose growing varieties are useful for covering a wall, and being evergreen the foliage is always bright and the flowers useful when they open All the varieties of white Camellia are in demand, but none more so than the old varieties, alba plena and fimbriata alba, in fact, I do not think, taking quantity and quality combined, they have ever been surpassed. Several other sorts have larger and finer substance in the petals of the flower, but they are not so free, nor yet can they be made to bloom so early. For early flowering kinds the quantity should be limited to about half-a-dozen varieties, leaving the others to flower at the proper season. Below, I give a list of two dozen varieties that will suit the most fastidious, and those marked with an asterisk I should specially recommend for early flowering.

*Alba plena, pure white
Beali, deep scarlet, finely cupped
Bicolor de la Reine, rosy salmon, margined white
Bonomiana, white, spotted and banded with rosy carmine
Brozzoni, cerise, fine
Cup of Beauty, white, striped pink
Comtessa Lavinia Maggi, white, rayed crimson, very large
*Donckelaarii, red, blotched white, semi-double
Duc de Bretagne, splendid rose, fine form
*Fimbriata alba, pure white, petals fringed
*Imbricata, carmine, occasionally mottled white
Jenny Lind, white, flaked rose
Jubilee, blush-white
*Lady Hume's Blush, creamy blush
Mathotiana, bright crimson, very large
Mathiotana alba, white
Monsieur d'Offey, delicate pink
Mrs. Dombrain, soft flesh colour
Mrs. Abbey Wilder, white, striped with carmine
Napoleon III., light rosy salmon, edged pure white, beautifully veined
Princess Mary, bright reddish crimson, very fine
Queen of Beauties, delicate shaded peach
Reine des Fleurs, orange-scarlet
Thomas Moore, carmine, shaded crimson
Valtevareda, clear rose, extra fine.

There are many other varieties to select from, but the above will make a capital selection for a person commencing their cultivation. At some future time I will give the readers of THE GARDENING WORLD an article on the propagation of the Camellia.—*W. G.*

ANCIENT AND MODERN TULIPS.

YOUR correspondent "R. D." in his interesting paper at p. 376, on the almost fabulous prices given for the Tulip in the olden times, observes truly that "fashions in the matter of flowers change," a remark of the correctness of which some of us can bear ample testimony. Forty or fifty years ago professional Tulip growers—men who devoted a very considerable amount of attention to their cultivation—were not so few and far between as is the case now; even the amateur in those days made his name and fame known as a professional breeder of the brilliant and gorgeous flower almost throughout the country. All plants of a hardy character were of necessity more appreciated when glass structures scarcely had an existence; the professional florist and the professional gardener were more distinctly classified, or perhaps, I should say, that their respective avocations were more clearly defined. At the present time nearly all are gardeners and florists in a combined form.

The florists' of the old school are now all but non-existent, the two professions having, as it were, an amalgamated tendency in the general cultivation of all kinds of plants for the decoration of the garden and conservatory. The amateur and cottage gardener inclusive, are now more or less growers of miscellaneous collections of plants instead of devoting their attention solely to Pinks, Carnations, Picotees, Auriculas, Pansies, and Tulips; so many rivals of late years having been introduced, which, as "R. D." remarks, causes the fashion in the matter of flowers to change.

In bygone days the price paid for one plant would now be amply sufficient to purchase a large collection. I remember, about 1846 or 1847, visiting my old friend, Robert Plant, at the time when he was busily engaged in planting a bed of Tulips (he was editor of the *Florist's Journal* at that time), and as I approached him he, in his usually jocular way, said that I had arrived just in time to see him bury £50 in the earth, meaning that the Tulips he was then planting were commercially of that value. Your correspondent refers to the Tulips grown by Henry Groom, of Walworth, and many others, some of whom I knew; and doubtless many of your readers may have seen the grand collections of Tulips that were grown by Mr. Groom from forty to fifty years ago, and those who were not fortunate enough to see his gorgeous beds when in full beauty, may be interested to learn something of their commercial value at the time referred to, viz., 1837. The prices were then as follows for some of the best sorts:—Ariadne (Groom's), £10 10*s.*; Duchess of Sutherland (Groom's), £10 10*s.*; Emily, £10 10*s.*; Grande Rose Imperiale, £10 10*s.*; Vittoria Ottodecina, £105; Comorine, £16 10*s.*; King William IV (Groom's), £20; Louis XVI, £10 10*s.*; Pandora, £30 10*s.*; Queen Adelaide (Groom's), £10 10*s.*; Thalia, £15 15*s.*; Titania, £10 10*s.*; Edmund Kean, £5 5*s.*; Garrick, £5 5*s.*; Malibran, £10 10*s.*; Pompe Funebre, £7 7*s.*; Nourri Effendi, £100; Warsaw, £10 10*s.*; Shakespeare, £5 5*s.*; Michael Angelo, £8 8*s.*; King George IV, £6 6*s.*; Lord Stanley, £5 5*s.*

Mr. Groom's collection, as grown by him, contained between 300 and 400 named varieties, and the aggregate amount, as per priced list, for the whole collection, one bulb each, was at the time mentioned about £550. My object in thus supplementing "R. D.'s" paper is to show the estimated value of Mr. Groom's Tulips, to which reference is made.—*George Fry.*

BEET.

THOUGH it is only in comparatively recent years that Beet has become such an important agricultural crop, it has held a prominent place amongst garden vegetables for centuries, and it is now highly esteemed as a salad. An old writer, Stephen Switzer, refers to it as "the Beet herb, very easy to be raised, well deserving the care and cultivation of the laborious gardener, being, in my opinion, one of the usefulest and best sallets boil'd that we have in the spring, as not partaking of that toughness and bitterness that Cabbage, Colewort, and other boil'd sallets at that time of the year do." To Gerard and Parkinson four varieties were known, three in the gardens, and one on the sea-shore, which are named respectively, Beta alba, Beta rubra vulgare, Beta rubra romana, and Beta marina, and to these is added the Chard Beet, Beta cauda aurea, now known as a variety of Beta cicla, which is cultivated for the sake of the thick mid-ribs of the leaves. The Beta marina is now known as B. maritima; a native of Britain, and has given rise to most of the red garden Beet as well as the Mangel Wurzel. The others named are varieties of B. vulgaris, which is believed to have been in cultivation at least four centuries before the Christian era, but, though generally known to the Normans, does not seem to have made its appearance in England until the 17th century. Pliny states that the roots were eaten with wine and pepper, and the leaves were supposed to possess a property, which it is to be feared they have lost in this degenerate age, namely, the power of causing those who eat them to become more pious and devout. We are content to find the roots an agreeable addition to our salads, which may indirectly exercise some soothing influence upon us.

One estimable quality Beet possesses, and that is its adaptability to cultivation, as it can be most readily obtained in good condition with ordinary care, and its satisfactory appearance at table often depends more upon the cook than the gardener. To produce good clean roots of moderate size and rich colour, which are much preferred to the huge samples sometimes seen on the exhibition table, it is necessary to have a deep well worked soil, fertile but not enriched by any recent addition of manure, and on no account should manure be applied immediately before sowing the seeds. It is advantageous to prepare the soil some time in advance of the sowing, and as it will not be necessary to sow seed for the main crop of Beet until April, the present is a good time to get the land in order for its reception.

Dig it deeply thoroughly pulverising it, and be especially careful in removing all large stones and heavy lumps of soil that can be readily broken. An open soil is absolutely necessary if clean handsome roots are required, and soil of the opposite character with much rank manure will result in coarse ill flavoured roots, often much branched with secondary roots, that completely spoils the shape of the main root, and their removal commonly causes the colouring to escape in boiling, greatly lessening the value of the Beet for salad purposes.

Make up the soil into beds 4 ft. wide, and when preparing for sowing draw drills 1 ft. apart for any of the small growing varieties, and about 2 ins. deep. Sow the seed thinly, but the plants will need thinning out subsequently to about 6 ins. apart or more for the large exhibition varieties. I rely exclusively upon Dell's Crimson, which gives me perfect satisfaction, and to obtain an early supply I sow a row about the middle of March, but the principal supply is obtained from the sowing made a month later. As to the after treatment and preserving the roots, both very simple matters, I may have something to say on another occasion.—*R. T.*

THE "GLORY OF THE SNOW."

THERE is, perhaps, nothing more charming among the many dwarf bulbous flowering plants of very early spring than the beautiful and chaste Chionodoxa, or "Glory of the Snow," of which, happily, we possess three very distinct kinds, each equally lovely, and all adapted in the most admirable manner possible for beautifying our gardens in the earliest months of the year; and owing to the complete hardihood of the members of this small genus, together with the excellent qualities of being free and abundant seeders as well as rapidly increasing annually by off-sets of the bulbs, they are suited to a very great variety of uses. It flowers with the Snowdrop; and will, in a few years, be quite as popular as that innocent flower of winter; and what a charming companion for it, for just imagine for a moment the snowy white pendant bells of the Snowdrop with the delightful blue and white of the Chionodoxa mingling among them.

No better idea of its beauty can be given, probably, than in the words of Mr. George Maw, to whom we are indebted for its re-introduction, and who, speaking of the circumstances under which he found it, says:—"At the lower level it was out of flower, but near the summit of the mountain a mass was met with in full splendour, forming one of the most sumptuous displays of floral beauty I ever beheld—a mass of blue and white resembling Nemophila insignis in colour, but more intense and brilliant." Here, then, in brief outline, are the thoughts of Mr. Maw on beholding it in all its glory, flowering *en masse* with the melting snow; and who could help being filled with delight at such a brilliant spectacle? Nor is it impossible to imitate this in our English lowland gardens; the facilities for increasing it are great, and if put to the best advantage may soon be had in galore. Self-sown seedlings come up and cover the ground as thickly as a bed of spring onions—not in ones or twos, but by hundreds. It is charmingly adapted for naturalising on banks or grassy slopes, and by planting a few near the summit of these, and allowing them to seed *ad lib.*, the entire surface of the bank may soon be covered; and by scattering the seeds here and there in selected spots, any garden may be rendered doubly gay at this season of the year by forming patches and colonies here and there. In the rock garden it is equally at home, and likewise on an even surface. Plant about 3 ins. deep in sandy loam, and when the seed has fallen from the capsules it will be benefited by being covered with 1 in. of fine soil to give the seedlings a fair start. Such, then, is Chionodoxa Luciliæ, one of the most striking and effective of spring bulbous plants.

Happily, however, it is not alone in the world, for in C. nana and C. Sardensis we have two fitting companions for it, the former of dwarfer habit with pale blue and white flowers, and hardly so showy, and the latter a new species equally robust, and flowering at the same time as C. Luciliæ, with flowers of an intense gentian blue, displayed to advantage by a conspicuous white eye, the predominating colour being more that of Scilla siberica. Probably I have said enough of this little genus, but I am anxious to add another remark ere I close, and this time a word of caution. Many bulb catalogues in eulogistic terms speak of the adaptability of these plants for conservatory decoration, in this, however, I entirely disagree; they are very impatient of artificial heat, nor do they assume their wonted brilliancy under glass. Those therefore who would grow it to perfection and see it in its true colour should plant it outside, and by watching it day by day slowly bursting into flower, will find the amount of interest and enjoyment increased considerably.—*J.*

BEAUTY AND THE BEAST.

All gardeners will agree that whilst choice flowers are the "Beauties" of our gardens, Toadstools are the "Beasts." It, however, often happens (as shown in the accompanying illustration) that the "Beauty," as in Madame Villeneuve's fairy tale, is actually married to the "Beast." The "Beauty's" love, in the present garden instance, could never disenchant the offensive Toadstool and cause it to become a beautiful garden Cyclamen.

It is a fact—not so well known as it should be amongst gardeners—that there are many of the larger fungi or Toadstools almost or entirely peculiar to gardens. These fungi do not grow in fields, woods, and waste places, but always in garden-beds, where ("Beasts" as they are) they grow in close and intimate companionship with the gardener's prized "Beauties." A large number of offensive fungi only grow in greenhouses or stoves, and these parasites (for such many of them are) may be classed with the poor but "distinguished foreigners," of which we have not a few of another class (not vegetable) amongst us. Some of the larger fungi, like certain flowering plants or weeds, always dog the footsteps of man and grow close to his house. One of these, Coprinus comatus, was happily termed by the late Dr. Bull, of Hereford, the "Agaric of civilisation," because it is never seen far from human habitations. Happily, the latter plant may be looked upon as a "useful" friend, for it is one of the choice edible class. It makes a delicious adjunct to fried steak, and gives an enticing flavour to stews. Many fungi only grow inside our dwelling-houses.

Once, when on a visit to a famous nursery, we observed a profuse growth of some very large Agarics (Mushroom-like fungi) on tanner's bark in one of the Orchid-houses. This was Agaricus volvaceus, and is well known to commonly grow in such material, where it proves an intolerable nuisance. Another fungus which also invades bark, and covers it with a filthy yellow slime, is Æthalium vaporarium. This pest is sometimes so common in Pine pits that no fruit can be grown. A bright yellow Agaric, sometimes very common in greenhouses and gardens, is A. cepæstipes. Peziza vesiculosa is extremely common in most gardens and on heaps of tan. The fungus shown in the illustration is Coprinus deliquescens, so called because it dissolves into an inky fluid at the time of maturity. The Bird's-nest fungus, Cyathus vernicosus, is also extremely common in gardens, especially in the paths, so is Agaricus durus; but the publication of a long string of Latin names would be of little interest to the practical readers of The Gardening World. Suffice it to say that there is a very large number of the larger fungi only found in stoves, greenhouses, and open gardens; some from the latter position, of course, may at times be found straying to cultivated fields and roadsides. It will never be possible to rid ourselves of the fungi which grow in and close to our habitations, for they are in a manner part of ourselves; they cannot be destroyed whilst the human family lives. Like Nettles, they accompany man in his wanderings wherever he goes. Like man himself, several fungi are with him cosmopolitan.

There is only one effectual mode of lessening the numbers of the "Beasts" amongst the "Beauties," and that is to look after the former and give them the "happy dispatch" whenever seen. The needful preparation of the garden for flowering plants is also a preparation of the soil for certain noxious fungi. The state of things which suits the "Beauty" exactly suits the garden "Beast."

The edible Mushroom is, of course, a mere cultivated and aristocratic "Beast," which lives a pampered life on a prepared garden dunghill; it is, however, cultivated like a "Beauty." If heaps of horse-dung are noticed in the fields in autumn, it will often be observed that they are covered with groups of drooping deliquescent fungoid "Beasts." Now it is by no means uncommon to see an army of these dissolving "Beasts" on Mushroom beds, where, owing to their large numbers, they are soon able to completely oust and exterminate the rightful aristocratic fungoid "Beauties," the Mushrooms.

The fungus "Beasts" of our gardens are reproduced by spores—bodies answering the purpose of seeds—and these seeds or spores cannot effectually grow on hard and unprepared ground. Like many flower seeds, they require a certain amount of "coddling" and "nursing," and this they get in the carefully prepared garden soil, and in the occasional protection of a cold frame and a few mats, as given by the gardener.—*Worthington G. Smith, Dunstable.*

Beauty and the Beast.

From a water-colour drawing by Mr. Worthington G. Smith, F.L.S.

STOCK AND SCION.

An interesting evidence of the power of a stock of moderate dimensions may be seen here in the Rose-house. A Marechal Niel worked upon a Briar as a standard was planted, in common with some other kinds, about eleven years since. The standard form was selected to enable the Roses to be planted outside and the heads to be within. The stem of the Briar, about 4 ft. in length, is just below the bud-junction 3¾ ins. in circumference. Just above the junction the stem has swelled out to the circumference of 6½ ins., and higher up, for 6 ft. in length, ere it breaks into other branches, the stem is 5¾ ins. round. It will thus be seen that the lesser is maintaining and feeding the greater, and there are no evidences of decay in consequence, for the plant is very robust and covers a large area of the house.

It is worthy of remark that stocks similar in character, upon which such robust-growing kinds as Madame Berard and the Noisette, La Marque, are worked, have distended much more freely, and also that where—as has been the case some three years—Marechal Niel is worked on both these kinds, the distension of the stems throughout is more regular and even. It does seem as if some good strong grower, such as Madame Berard, for instance, formed the best secondary stock upon which to work the Marechal, and I anticipate for heads so produced longer life than is usually found for our premier yellow Rose. Very much has been written from time to time as to the best methods of pruning for the Marechal.

I think it needs very hard pruning to compel it to re-make robust growths, for without these annual growths fine rich-coloured blooms cannot be looked for. As the variety produces almost all its blooms at one season, it suffers nothing from severe cutting back the moment the bloom is over, and if courage be then shown in very hard pruning a fine lot of strong shoots will result. Practically, it should be the aim of the pruner to cut back growths in alternate seasons; but in all cases pruning early in the summer should be hard, to give the head ample time to reproduce plenty of strong free-blooming growths. Many a fine head, covering a large area, has been ruined just because the growers have proved too timid to use the knife freely at the proper season.—*A. D.*

ALLOTMENTS.

As the subject of allotments is now before the country, the readers of The Gardening World may be interested in hearing that some of the earliest allotments in England were little farms in Sussex. Several of our parishes recall their origin and early settlement in their names. The parish of Billinghurst, for example, derives its name from a Norseman and rover named Billing, who swooped down upon it with his tribe, settled it, divided it into allotments, and conferred upon the spot his illustrious name, for the Billings were of royal birth. This early division of the land and first appearance of allotments took place about the year A.D. 500. According to the custom of the times, the cultivated land was divided into plots, each sufficient for the support of a single family, while the rest of the parish remained in waste. As the population grew the waste was gradually absorbed, and this process has, in fact, gone on throughout the whole period of our history. Population, for various reasons, increased very slowly during many centuries. When typhoid raged unchecked by any sanitary knowledge or care, so that in one year half the population of the country was actually destroyed by what was then called the "Black Death," and when small pox, unmitigated by Dr. Jenner's discovery, cleared off the people of entire parishes in some years, the increment from century to century remained small.

The total population in John's reign is said to have been two millions. We exported corn in the last century, and it was only in the reign of George III. that these large enclosures of commons took place, which ill-informed writers declare ought never to have occurred, while in the same breath they advocate the cultivation of existing wastes, which, in point of fact, remain so only from the sterility of the soil. The existing wastes, the residuum of centuries, worthless and still untilled, are naturally connected with the subject of allotments, because the Billings, of Birmingham, would seize them and have them farmed as small farms, not like the early rovers, at their own risk and cost, but at that of the rate-payers or anybody except themselves. These plans of compulsory cultivation of land, which has gone begging from the year 500 till now, and of State-assisted small farmers, is, perhaps, the coolest scheme which has ever been propounded. One hardly knows what force there may be in a movement of this kind, owing to the exaggeration which invariably characterises such agitations. I have known associations, quite discredited and insolvent, who have gone on puffing their case and still getting themselves quoted by the press as associations of great authority, till presently, all of a sudden, the wind-bags are pricked and you hear of them no more. Let us hope it will be so with all schemes for settling poor folk on land which Billing, of Sussex, would never have touched, and with kindred schemes which would start small farming at other people's expense. And what is small farming? I have seen a great deal of it, and I once had the pleasure of inspecting a small farm or market garden in the parish of Bermondsey, not two miles from London Bridge.

The chief crops were Celery, Cauliflowers, and Asparagus, and although the farming was a very *petite culture*, it was undoubtedly profitable both to tenant, labourer, and owner. In this case the chief essentials to success were manure, and a convenient market. The crops just named require twenty times as much manure as the Cereals, and as Bermondsey supplies abundance of manure, it is evident that in such a parish corn growing cannot compete with the cultivation of vegetables. I have seen too the prosperous farming of the Channel Islands, but the conditions are exceptional, and very frequently large farming yields a larger amount of produce than Jersey or Guernsey. If one case may be set against another, the small farming of Shetland is the worst in the world, and cannot hold its own against the larger farming which some Scotch farmers have introduced in recent years.

In the long run it will be found in England, as it has been on the continent, that small farming is the method of the least intelligent of agriculturists, and of those who possess the smallest capital, and that its chances of success have been in modern times greatly diminished by the introduction of machinery, which small farmers cannot purchase, and by the alliance of modern agriculture with sciences, which the education of small farmers and their hard lives will not admit of their mastering. In spite of exceptional cases, if market gardening, town farming, milk walks, poultry runs, and the breeding of guinea pigs, or what not, small farming must always prove, as it has done hitherto as a general system, proportionately more costly and less productive than the rival system. Those persons, therefore, who maintain that the poverty of a dense population would be relieved by resorting to small farming and subsidising the labourers for the sake of restoring a class they are pleased to admire, assert, in point of fact, that a system of agriculture, which has always proved the least productive, will be found to yield the best results if it be only set on foot once more.—*H. E.*

FISH MANURES.

It was little more than forty years ago that the first importation of Peruvian guano occurred in Scotland. Those who remember that event will also remember how great was the interest it excited amongst agriculturists, how surprised and delighted farmers were to find that a cwt. of that substance was more effective than a hundred times as much farmyard manure. The price was only about £7 per ton, the quality was excellent, and the supply was considered to be almost inexhaustible. It came at a time when farmers required some encouragement, and marked the beginning of a tide of agricultural prosperity. Peruvian guano, as imported forty years ago, and for twenty years thereafter, was a very nitrogenous and somewhat soluble manure, capable of yielding from 10 to 15 per cent. of ammonia, and as much as 10 per cent. of soluble phosphate, so that when put on the land it was an immediate and powerful fertiliser. About twenty years ago the imports of Peruvian guano attained their maximum, and they have since gradually dwindled away—the rich deposits of guano are now exhausted, and there remain only poor deposits, which in great measure will not repay the cost of importing. The supplies which still come dropping in are of a different kind from those of former times—they are capable of yielding little more than 5 per cent. of ammonia, and although they are far richer in phosphates, yet these, as well as the nitrogenous matter, are of a much less soluble kind than formerly.

To find something that will take the place of a high-class Peruvian guano is, of course, a great desideratum, and it has been claimed for fish and flesh manures that they are the modern representatives of Peruvian guano, and the name "guano" has, therefore, been applied to them. Their composition, so far as total phosphates and nitrogenous matters are concerned, lends some support to that opinion, but the resemblance is only a superficial one. The composition of Peruvian guano was a very complicated one, and the constituents were of a delicately-balanced kind, capable of easy decomposition in the soil, and the effect of these upon the crop was very rapid and precise. A large proportion of the phosphates were alkaline, and, therefore, immediately soluble, while the nitrogenous matter consisted chiefly of ammonia salts or complex soluble substances which were rapidly converted into ammonia salts or nitrates, and were thus made immediately available for the nourishment of plants. "Fish guano," on the other hand, and flesh manures, such as "Frey-Bentos guano," consist of phosphates which are insoluble in water, and of nitrogenous matters of an albuminoid kind, which are only slowly decomposed in the soil. Before these constituents can be used by the plant, they must first be dissolved or decomposed, and that is a process which takes some time. The insolubility of these manures renders them unsuitable for application in circumstances where Peruvian guano exerted a powerful influence, such as in the forcing away of cereals or young grass when applied as a top-dressing.

These substances are chiefly valuable for broad-cast manuring with the view of raising the general fertility of the soil, or for application to root crops which have a prolonged period of growth. The utility of fish guano in these respects has been very clearly demonstrated at the experimental stations of the Highland and Agricultural Society. The fish guano plot has gone on steadily improving since the beginning of the experiments, and it has been noticed that the Turnip crops on that plot have looked fresh and continued their growth far on in the season. The only year in which a marked deficiency in that plot was manifest was in 1884, at the Pumpherston station, when a crop of Beans was grown. The very backward state of that plot on that occasion pointed out very clearly wherein lies the chief deficiency of fish manure. The results obtained with the Bean crop exceeded in interest any that had occurred before upon the station, and the one over-ruling constituent in a Bean manure was shown to be potash. All the plots that had potash applied to them did well, and those that had the largest dose of potash did best, while those that had no potash applied to them were a failure. The most notable failure was seen in two plots which had been manured with fish guano and fish meal.

It is characteristic of fish manures, that while they contain much phosphate and abundance of nitrogenous matter, they contain almost no potash. But it is well known that the abundance of some fertilising constituents in a manure counts for nothing in the raising of a crop if one of the essential constituents of plant food is absent, or if the one which the crop requires most is present in insufficient amount. We therefore found that the plots manured with fish manures produced a smaller crop than any other plot save one, and that was the plot to which no potash had been applied since the beginning of the experiments.

We thus see that there have been two causes at work to lower the value of fish manures in the estimation of the farmer; in the first place, he has been led to expect, from the misleading name under which it has been sold, that it would be a manure resembling in its efficacy Peruvian guano, with whose extraordinary fertilising power he had been familiar; and, secondly, the almost total want of potash, which, though not abundant in Peruvian guano, was nevertheless present in that manure to the extent of about 3 per cent.

What, then, is needed in order to make fish manures once more attractive to the farmer? They should be sold under a name that does not raise false expectations, and they should have *potash salts* added to them.—*Dr. A. P. Aitken, in The North British Agriculturist.*

NARCISSUS MONOPHYLLUS.

In the pure white satiny flowers of this plant we have one of the loveliest gems of winter; yes, truly a winter flowering Daffodil, coming with the snow. All our readers will readily admit that we have at least had a taste of the much talked of "old fashioned winters" of our forefathers, and even this has not kept it from flowering at its wonted period. It usually flowers during January and February, when ruthless biting winds and nipping frosts seem to join hand in hand to bring about its destruction, yet, with all the hardships it has to endure, it certainly ranks among the hardiest of its family, and though the innocent delicacy of its flowers are such as to require protection, this may be given in such a simple manner, that none knowing the chaste and lovely blossoms which it produces, would deny it this little protection. Indeed, without some such protection afforded it, it soon loses its beauty and grace; for combined with its general elegance and purity, its loveliness at this season of the year may be said to be unique, and not the least charming feature in connection with it, is that it emits a perfume, not overwhelming, but delicate and pleasing in the extreme. Need one word more be added to give the reader an idea of its charms, for its delicate satiny flowers with undulated margin, semi-erect, and in many instances fully erect, together with its golden anthers rendering it the more conspicuous, are sure to meet with many admirers.

It usually grows about 6 ins. high, and is one of the delights of any garden in mid-winter Its culture is simple as the following will show. Anyone having a handlight say 15 ins. square can grow this beauty to perfection, such a space being capable of containing at least a hundred large-sized bulbs; plant these not more than 2 ins. deep in very sandy light rich loam, or if the latter be heavy remove it, and fill in a depth of 1 ft. of good soil, such for example as equal parts of turfy peat, leaf-soil, and loam, making all rather sandy; it succeeds well in such a compost. At the present time we have in the open ground a great number showing flower, planted in ordinary pasture loam, which have only had the protection of a light during the recent bad weather; these are from collected roots only twelve months planted, and all appear to be producing flowers. The other varieties of these charming plants are N. bulbocodium citrinus, a fine telling flower of a pale citron-yellow, and sulphureus with straw coloured flowers; all are beautiful, and ere long I venture to predict that other equally beautiful forms will be brought to light.—*J.*

NOTES ON PEAS.

As the season is at hand when most amateurs will decide upon their arrangements for the cultivation of Peas for the coming season, a few notes supplementary to those I contributed to The Gardening World twelve months since upon "Peas for Exhibition," gathered from the experience of the past year may, perhaps, not be unacceptable to some.

I have never been a special admirer of or advocate for the cultivation of dwarf Peas requiring no sticks, considering that where others can be grown they are far more profitable, but there are many whose gardens are limited, and where the situation is too exposed, or sticks are unattainable, where dwarf Peas can alone be grown. During the last few years considerable improvements have been made in these, and as far as cropping and quality is concerned, coupled with the fact that four rows can be grown upon the same space of ground as two of the ordinary rows, I have of late considerably modified my opinion as to the profitableness of this section for amateurs and small growers. Last spring I determined to have a good trial and test half-a-dozen of the best sorts by sowing them side by side at the same time, and treating them exactly similar, and the following is the result. All the six rows were sown at the latter end of February, and the weights appended refer to the yield of green pods fit for the table when gathered; each row was 24 ft. long.

McLean's Little Gem.—This has long been a general favourite, and is a true type of what a dwarf Pea should be—never growing too strong to require supporting. It is also very early, and one of the best in quality; yield, 14 lbs.

American Wonder.—A modern introduction of the Little Gem type, and growing side by side with that variety I could detect very little distinction, both coming in at the same time, and of the two I am inclined to prefer the old favourite; yield, 12½ lbs.

Minimum (Laxton's)—The dwarfest of all Peas with me, not reaching 1 ft. A white wrinkled producing a complete mass of well-filled small pods of fine quality, coming in the earliest of all; a curiosity in its way, and might be sown in rows 1 ft. apart; yield, 8½ lbs.

Advancer.—Although recommended as a dwarf requiring no sticks, this is a mistake, with me it grew the most robust of all, quite 2½ ft., and while those of the dwarf type fairly escaped the ravages of insects during the dry weather, this was sadly infested, which no doubt accounted for the small yield, 7¾ lbs.

Multum in Parvo.—This, although set down in catalogues at 1 ft., was with me as strong growing as the former, and about as useless for the purpose, rods having to be placed along the sides of the rows to keep it from covering the adjoining rows of other varieties. It was likewise a long time in podding; yield, 10 lbs.

William Hurst (Laxton's).—A new pea sent out last year, and one which I think will eclipse all others. It is doubtless a very superior strain of Little Gem, of the same habit and growth, but larger pods, and is far more prolific. It was admired by all who saw it, large fine shaped pods being produced at the axles of nearly every leaf, mostly in pairs. From the one row 17½ lbs. of pods were produced. Doubtless, this variety requires only to be better known and cheaper in price to supersede all the preceding. It is the only one belonging to the section that I shall grow this season, it being very early, of fine quality, and immensely productive.

Exhibition Peas.

Having during the last season again secured the majority of the new Peas introduced, and again been successful as an exhibitor, I have no reason to alter the opinion I expressed last year, that Duke of Albany (Abbott's) is the best of all the large-podded Peas for exhibition. Throughout the Midlands, in nine cases out of ten where it was exhibited it carried away the honours. It is, however, a source of regret that last year several of the large seedsmen priced this variety at 2*s.* 6*d.* per quart, when the wholesale price was 5*s.* The result is that an inferior variety has got into commerce, producing lighter coloured foliage and thinner and lighter pods, causing in this district and, no doubt, in others much annoyance.

Messrs. Harrison, of Leicester, are sending out this season an improved variety of the well-known Ne Plus Ultra, and having received from them a sample for trial last spring I am much pleased with it, the pods being finer than the original, and this is saying much. With this one single exception and that of William Hurst, referred to above, none of the new introductions of last season will find a place in my grounds against such grand varieties as the following six:—Duke of Albany, Staffordshire Marrow, Payne's Conqueror, Paragon, Stratagem, and Ne Plus Ultra Improved.—*J. Knight, Bilston.*

FRUITS, FLOWERS & VEGETABLES.

Setting the Fruits of Strawberries.—Your correspondent "W. P. R." in his extremely interesting and instructive communication on setting the fruits of Strawberries, omitted to state whether he sets them artificially or simply trusts to the maintenance of a dry atmosphere of which he writes. I have always found that during March and onwards, that there is no need to "set" the flowers, at least, when the weather is at all favourable, but before that time a judicious use of the camel's-hair brush is indispensable. Will "W. P. R." kindly state his experience on this point?—*Dartfordian.*

Wintering Strawberry Plants in Pots.—I noticed in your columns "R. D." telling your readers how Mr. Roberts winters his Strawberry plants. Now I am not going to find the slightest fault with the talented gardener at Gunnersbury, because I well know he does not only winter them well, but he also grows and fruits them well, and the latter I look upon as the main object in view. But it must be remembered we are not all gardeners to millionaires, so that we cannot afford the roughest of pits to winter our Strawberries in; and I am not at all certain, even yet, whether the old plan is not the best. I will just mention how my Strawberries are behaving at the present time. The first week in December we put our first lot inside, 400, plunging them in good oak-leaves, using little or no fire-heat until they began to grow and show their flower-spikes. We then shifted them on to stages about 2 ft. from the glass, keeping the temperature from 45° to 50° with fire-heat, and raising it from 55° to 60° when well in bloom. Here they set their fruit in a manner that I have never seen early Strawberries set before. They are at this moment in the last stage of swelling, and occupy shelves round the Cucumber and Melon houses. Only yesterday I saw six pots of these Strawberries blind, and on making inquiries of my foreman how many blind ones there were in the first batch, he said "those six are the lot, sir." Now, as the proof of the pudding is in the eating, I feel sure "R. D." will at least say, "well done."—*R. Gilbert, March 6th.*

Preserving Grapes and Peaches.—My attention has been called to the report in *The Times* of March 1st on the horticultural display in connection with the "Paris Fat Stock Show." Mention is thus made that "it is a horticultural show as well, for in the galleries used for the pictures in the months of May and June there is such a collection of fruits, flowers, and vegetables as would lead one to imagine that we were in autumn instead of being at the end—if it be the end—of a long and cold winter. The fruits, one would think, must at all events have been forced, especially the Grapes and Peaches, which have as much bloom upon them as they might have in September; but they were grown in the open air at Thomery, near Fontainebleau, though it is only right to add that they were gathered in the autumn, and kept fresh by a process which enables the famous Grape known as Chasselas to be enjoyed in May as well as in autumn." I should be glad to be informed by what process the two mentioned fruits were preserved so as to be shown in such great perfection, especially the Peaches. I did not think the Chasselas varieties of Grapes were good for keeping, as I imagined them to be early ripening. I suppose the Grapes were kept in water, but what about the Peaches that looked like forced ones?—*Strebon.*

Two Useful Old Begonias.—B. manicata and B. fuchsioides were grown extensively for room decorations over thirty years ago where I was employed as a journeyman, and they are both still favourites of mine for the same purpose. The latter one I cut freely from for vases, and good-sized plants will throw out a lot of bloom. We have to cut the flowers with 6 ins. or 8 ins. of stem, and thus the plants get closely cut in; but we do not keep the plants longer than two years. We propagate every spring, and the plants make nice little furnishing stuff for autumn, and are then grown into good specimens the second year for cutting from.—*T. W.*

Primula floribunda.—It may perhaps appear superfluous to make any comment on this lovely Himalayan Primrose, seeing that it was so beautifully illustrated in a late issue. I can, however, only endorse the remarks there made upon it, and add that it is one of those continuous and free flowering subjects that all those who are seeking for beautiful and interesting winter flowering plants, and especially such as are so easily grown, should be possessed of. As therein stated it is easily and readily reproduced from seeds, which is an advantage to all, the seedlings generally possessing a vigour we do not see at all times in older plants. In the greenhouse or cool conservatory it is so widely distinct from all else, that its presence is welcomed as a departure from the usual inhabitants of the greenhouse at this period of the year.—*J.*

The Onion Fly.—Much has been written recently in these pages, and also in the pages of your contemporaries, in reference to the destruction of this pest, which appears to abound in great numbers in those localities where the soil is loose and sandy. In such places (and I'm sorry to say this is one of them) it is impossible to procure anything approaching to what may be called an Onion crop. I was made acquainted with this fact, soon after my arrival here, by a neighbouring gardener, who said, "I have given over growing Onions; I have tried and tried till I got tired. The maggot destroys them all." This warning, however, did not prevent me from trying for myself; on the contrary, I determined to try all the more. I accordingly looked up all the Onion "lore" procurable, with the result that soot, salt, lime, wood-ashes, &c., were wheeled on to the ground, where it was intended to grow the Onions, and from which Celery had been removed, and dug in, leaving the surface rough till dry, when it was levelled with a wooden rake, trodden down firmly, raked again, and more soot applied.

Then the drills were drawn, and the seed sown, which in due time came up healthy, vigorous, and strong. To make assurance doubly sure, I applied weekly dressings of soot and salt; I even watered with weak solution of paraffin; and a better or more healthy crop could not well be imagined. But, first one by one, then in greater numbers, the maggot made its appearance; and by the end of August there were just twelve sound Onions left, where there might easily have been twice the number of bushels. Well, after such a trial, and such a failure, we did not think of making another attempt. However, we did try again, going over the same routine, with the addition of burning a large faggot stack, and spreading the ashes and charred wood over the ground while red-hot; but the second season the result was no better than the first. The next trial (which was last season) we were fortunate in procuring a really good sound crop; but we adopted quite a different method—soot and salt, and all such, being entirely dispensed with. Loam is rather an expensive commodity when it has to be carted from a distance; but we must have it for our fruit trees in pots, our Chrysanthemums, &c., which require an annual repotting. Now we saved every morsel of this old loamy stuff, spreading it over the ground where it was intended to grow our Onions; we dug it in, and proceeded just as though there was no such pest in existence as the Onion fly. We have served the same piece of ground in like manner this season, emptying the contents of close upon seven hundred 10-in. pots, in which we grew our Chrysanthemums, and so we mean to continue, season after season, the addition of fresh material, compensating for what is known as "rotation cropping." I feel certain that the addition of good stiff loam, if procurable, is the only way of securing a crop of Onions on loose sandy soils.—*T. W. B., Elstead.*

Soot and the Onion Maggot.—I was glad to see so many opinions expressed upon this subject in your issue for February 20th, and have waited in the hope that more of your numerous correspondents would have been tempted to write upon the subject. However, as none have done so, I will venture to say a few more words upon the subject. Mr. Ward still avers that soot will kill and prevent the appearance of the Onion maggot, and that his experience is founded upon fourteen consecutive years practice. This is a very long time, certainly long enough, one would think, to prove the good or bad effects of anything, and, perhaps, I should take it as conclusive evidence; but before doing so I would like to ask Mr. Ward if the Onion maggot was troublesome in the gardens at Longford Castle previous to the fourteen years he has used the soot with such good results, as in the answer to this question lays the value of the evidence. If the maggot was troublesome in the gardens at Longford Castle previous to the fourteen years Mr. Ward mentions, I must then give in; and it may be that the soot which I have used has not been so good, or that my mode of applying it has been at fault. If not, the maggot was not present, then it goes to substantiate what I said in my last letter on this subject, that where the pest is present, no matter in what state of existence it may be, soot will not stop or prevent its ravages to any perceptible extent. Gardeners have several times said to me "dress your ground with soot, and you will not be troubled with the maggot." A well-known gardener visited me last summer, and when I showed him my Onions he said, "Why don't you dress your ground with soot or wood-ashes? I always do, and am never troubled with the maggot." And why was he not troubled with the maggot? Because his garden, comparatively speaking, was a new one. The pest was not present on the place; therefore, he was not troubled with it. When I told him what soot and wood-ashes I had applied to mine, he was quite surprised. As your correspondent, "B. L," observes, it is in old worn-out soil that the maggot is most prevalent. Mr. Ward observed that I dressed my Onion ground with closet-manure, but did not say whether he considered it was good for Onions or not. I may say that I have great faith in it for most crops, but had never applied it to Onions before last year, and from judging those which escaped the maggot, it is as good for Onions as anything else. I used to sow my Onions in drills 10 ins. apart, and in ground which is free from the maggot. I prefer this style to any other; but where the maggot is troublesome, I find sowing them broadcast in beds, and not thinning them very much, the chances of getting a better crop from a given space is far greater than sowing them in drills and thinning out to 2 ins. or 3 ins. apart. Of course, I admit that the bulbs do not get so large; but half a loaf is better than no bread, and small Onions will keep better, as a rule, than large ones. As I should have stated in my last, I always have the ground well trodden before the Onions are sown, but not afterwards.—*W. C.*

THE DOG'S-TOOTH VIOLET.

Owing to the severe weather this season, it is somewhat too early for these plants to flower out of doors; but in pots they are now in very attractive condition where they have been grown in a greenhouse temperature and thus hastened into bloom. Few seem to be aware of the usefulness of Erythroniums for pot culture early in the year, yet they can be most easily grown in this way; and when outdoor vegetation is so retarded, it is pleasant to have some of our favourites indoors, where we can enjoy their attractions. The Dog's-tooth Violets are favourites with most people, for in addition to their freely-produced purple, white, and yellowish flowers, their leaves are beautifully mottled with brown, giving them an extremely distinct appearance. The best known is Erythronium Dens-Canis (see illustration), of which there are several varieties, chiefly tints of purple and white, differing also in the size of the flowers. This is an old plant, and is described by most of the herbalists and writers in the 16th century. It was then, too, that its popular and specific names originated, translations of which

Erythronium Dens-Canis.

form its designation in most European countries at the present time. Like the others, it is a bulbous plant of dwarf habit, thriving in a light loamy or peaty soil in almost any position. E. Americanum has large yellowish flowers, and E. giganteum, the largest of all, has handsome white flowers.

ON POTTING FERNS.

When Ferns are commencing growth in spring is the best time for potting all that need this attention, but some judgment must be exercised in choosing the right period for the operation. If potted too early the plants do not make such free progress afterwards, and when done late the young tender fronds and roots are liable to be injured, and they are also more likely to suffer from the greater sun-heat experienced. March and early April are suitable months for the majority of indoor Ferns, varying with the seasons and, to some extent, with the locality, for districts affect plants under glass as well as out of doors. It can be readily seen when the young fronds are unfurling and rising in the crown of the plant, and as root-growth takes place about the same time or soon after in the case of established plants, they can then be safely re-potted. Some Ferns will, however, make considerable frond-growth before any roots of the usual character are produced, and this is especially seen in large imported stems of tree Ferns, but these derive much support from moisture absorbed through the stem quite apart from the ordinary root channels.

At one time it was quite common for peat to be employed exclusively for Ferns of all kinds, but though this is necessary for some of the more delicate species, it has been much less in demand of recent years, and loam is more freely employed. There is no doubt that most strong-growing Ferns, including those usually grown in gardens for decorative purposes, are greatly improved by using a good proportion of loam in the compost they are grown in, the only difficulty being to secure soil of the right character. Heavy clayey loam must be avoided, also any with a suspicion of iron, or with an excessive proportion of sand. Old turfy loam, rather light and mellow from having been stacked for some months previous to use, is valuable, and this may be mixed with peat in about equal parts, adding a small proportion of leaf-soil and sand to lighten the whole, increasing the quantity if the loam is at all inclined to be heavy. It should be in an intermediate state of moisture, but must on no account be too wet, indeed, it would be preferable to err in the other direction; it should be, however, in such a condition that it does not clog, and yet is not dust-like or parched. For tropical Ferns the compost should be placed in the house or a warm potting-shed some hours before potting has to be commenced, as it must never be employed in a cold state.

Whether pots, pans, or baskets are to be occupied by the plants, the first step in preparation is drainage, which is as essential for Ferns as for Orchids or hard-wooded plants. It is equally important that the crocks be thoroughly clean, and they must, if necessary, be well washed prior to use. Pots should have about one-third their depth of drainage for the stronger growing Ferns, placing the larger pieces at the bottom concave side downwards, filling up with smaller pieces and covering these with a layer of moss before the soil is placed in. Press the soil round the plants firmly but not too hard, and do not let the neck of the plant be low in the pot while allowing sufficient space for water. This applies to Adiantums, Pterises, Aspleniums, Gymnogrammas, Nephrodiums, Neprolepis, and most of the kinds grown in pots. There are, however, some with creeping rhizomes like numbers of the Polypodiums and Davallias which can be grown in wide shallow pans, raising a mound of light peaty soil in the centre upon which the Ferns are pegged. Some Davallias like D. dissecta can be grown on old tree-fern stems, only requiring frequent syringing to keep them fresh and healthy, and if placed in suitable positions they have a very elegant appearance in a house.

After potting, it is a good practice to give a light syringing, keeping the plants close and shaded for a few days; but it is advisable not to give any water to the roots until the plants are giving indications of recovery from the effects, even then water must be supplied carefully for a week or more, as if the soil becomes soddened before the roots get possession of it, they will not make satisfactory progress when they do start, and the effects will become evident later on in stunted and ill developed fronds. Free unrestricted growth is what Ferns need to ensure proper development, and few plants are so impatient of checks as these. When in really luxuriant health, Ferns of all kinds are most beautiful objects, whether they be the strong growing Athyriums, Nephrodiums, Struthiopteris, or Osmundas, of out-door gardens, or the imposing Cyatheas and Dicksonias, or graceful Adiantums and Aspleniums of glass houses, and all alike amply deserve the little care requisite to obtain them in perfection.—*Filix.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The early batch of Cinerarias will now be going over, and are at this stage very apt to become infested with greenfly. To prevent its spreading to the other occupants of the greenhouse or conservatory, let the plants be removed to a cold pit or other structure where what remains fit for cutting purposes can easily be taken, and room be made for the numerous subjects now available for decoration. Look to the stock of plants of the different kinds which may have been forced, they must not be turned out-of-doors, or they will be completely ruined during such inclement weather as we are now experiencing.

Where room cannot be found for them inside, the hardier kinds such as Lilacs, Roses, and Forsythia viridissima, may be placed in some sheltered spot, and a framework be placed over them, and covered with mats; let them be duly attended to in the way of watering, and they will not suffer much. Azalea mollis

and Deutzias must not, however, be thus treated, but room in some temperate house *must* be found for them if the plants are required for next season's forcing. Spiræas and Dielytras should be placed in the pits as they go over, and hardened off preparatory to their being put outside. Hyacinths, Tulips, and such like are better planted out in soil when they have done flowering, for if left in the pots they are invariably neglected in the way of watering, and becoming prematurely ripened are spoiled for next season.

Where Primulas are required to flower early in the autumn, a sowing may be made at any time, and also one of Cinerarias for the same purpose, only be careful that the plants are not in any way coddled. Celosias for early work may be sown at once, as they are extremely useful for staging, and last a long time when properly treated. While growing, and until the plumes are forming they require generous treatment, and will not bear neglect in any way, or they become attacked by red spider and lose their foliage. Alocasias, machoriza variegata and purpurea may now be started, so that the most suitable of the former (of which I hope to speak later on) may be selected and grown on. While the easterly winds prevail, be extremely cautious in the way of ventilating, or injury to the young growth will soon be perceived.

FORCING HOUSES.

Let the disbudding and heeling in of the Peach trees be carried on at regular intervals of three or four days as growth may warrant, always being careful not to rob the trees of too much of their young growth at one time, or a check will be given to the roots, which should now have become active; if a good set, let the fruits which are on the underside of the branches be removed, and those better placed be allowed to remain. If the trees are in a healthy condition, no anxiety need be entertained as to the stoning period, as if the trees are furnished with plenty of good foliage all will go on well; if any doubt exists, give the borders a good soaking with tepid water

The same remark applies to the Vine borders, only that water of a much higher temperature should be given, say 90°. Look well to the looping down of the laterals, disbud, and stop as growth proceeds, in fact, work in the Vineries increases almost hourly. In case of the Grapes being set, commence thinning as soon as large enough to discern which should remain, or they will become troublesome before the operation is completed. The Figs which were started last month should now have made a good start, syringe freely, and be sure the border is thoroughly soaked, or the young fruits will be certain to fall off; when the trees have made sufficient growth, stop, say at the third or fourth leaf to help in producing a second crop, which often comes in extremely useful for dessert about August; two of the best varieties for this purpose are Violet Red and Blanche du Saissons.

The standard Roses which we put in some time since are now just showing colour, and on one of the Jules Margottin I counted to-day forty-three buds, this, in my opinion giving a far better return than a dwarf plant would do. Marechal Niel is likewise flowering very freely; Devoniensis always does well, and is one of the sweetest-scented and prettiest for button-hole work. The Persian Lilac in pots may now be staged in the greenhouse without forcing, they will open so rapidly that it would be a waste of time. We have to-day planted out our first batch of Melons, and the third house of Cucumbers; the second house has just commenced fruiting, the older ones giving us some nice useful fruit, but, of course, havingbeen so long on hand we cannot expect them to do much, so we have got up another set ready to take their place as soon as they can be spared. Be very careful in ventilating, ply the syringe freely, damp down frequently, and shut up early so as to prevent all the firing possible

THE KITCHEN GARDEN.

Still no progress can be made, and with the thermometer registering 15° of frost it can hardly be expected. Where, as with us, the forestry for estate planting has to be looked to, something may here be done, such as the lifting of any that may require transplanting; and if they have been thickly on the ground the frost will not have taken sufficient hold to prevent the ground being re-planted. As we were rather behind-hand with the burning of the refuse, the frosty mornings have given us a rare opportunity, which we gladly availed ourselves of, to wheel it on to the squares which will be devoted to Potato-growing.

Should the weather continue as at present, it will be necessary to sow inside Cauliflower, Couve Tronchuda, Savoys, and Lettuce, or it will be late before they can come into use. Let the autumn-sown Cauliflowers remain in the cold frames, or they will be nipped unless protected with hand-lights; ours are in pots, as they do not suffer in planting out so much as if lifted. Where any digging remains to be done lose no time, and let all squares which have been occupied with green stuff, and which are over, be cleared without delay, and according as the cropping of each has been determined upon so let it be treated, by manuring according to the wants of the crop, double digging, and so on. Where the Roses are sheltered, pruning may now be done so as to get work as forward as possible; but if very much exposed, leave them alone until warmer weather prevails.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 9th.*—Considering the severity of the weather the display of spring flowering plants on Tuesday was of a singularly bright and enjoyable character. The honours of the day were divided between Daffodils and Cyclamens, both of which were represented by large collections of unexceptional quality. With the former Messrs. Barr & Son, took the lead as regards numbers, staging an extensive and most interesting group. Then came Mr. T. S. Ware, and Messrs. Collins Brothers & Gabriel, with collections of great merit, in which were many species of great interest to enthusiasts. Some brilliantly coloured Anemones also came from Messrs. Barr, while Mr. Ware's group was heightened in interest by the addition of numbers of other choice plants, including a pretty set of hardy Cyclamens. Banksian medals were awarded to all. The main groups of Cyclamen persicum came from Messrs. H. Page & Sons, Teddington, the St. George's Nursery Co., and Mr. B. S. Williams, the former having besides a beautiful lot of coloured varieties—a fine batch of single whites, robust, free flowering plants in 48's, only seventeen months old. Mr. B. S. Williams' strain requires no comment, for there are few better, but we must add a word of praise on behalf of a collection of Chinese Primulas which he staged with the Cyclamens, of which the whites in particular were also exceedingly good. Bronze Banksian medals were awarded to these. A collection of some dozen varieties of Primulas was also staged by Messrs. James Carter & Co., and which were principally named in accordance with their colours. Thus there were Holborn Blue, rose, purple, mauve, carmine, magenta, white, and vermilion, with the Fern-leaved white; another good white in Elaine, represented by plain and Fern-leaved varieties; and Holborn Rose, Fern-leaved, and of a very pretty shade of colour.

The New Plants certificated were Cyrtopodium Saintlegerianum, the fine Central Paraguay form of C. punctatum, and which was represented by a strong plant with two large spikes, staged by Mr. Cummings, gardener to A. H. Smee, Esq.; Begonia gigantea rosea, a robust-growing variety of the Semperflorens section, with large heads of bright rose-coloured flowers, shown by Messrs. H. Cannell & Sons; and the very fine form of Narcissus bulbocodium, called citrinus, from Mr. T. S. Ware. Other interesting subjects staged were the Donnianum form of Odontoglossum maculatum, from Mr. Smee's garden; the new Cattleya Laurenciana, from Messrs. John Laing & Co.; Cattleya Trianæ Ingramii, a fine form with broad white petals and a large richly-coloured lip, from C. L. N. Ingram, Esq., Elstead, Godalming; Cœlogyne cristata maxima, a massive-looking variety, from Messrs. F. Sander & Co.; the hybrid Dendrobium Leechianum, which caused several to alter their opinions as to its distinctness, from Messrs. W. Thomson & Sons, Clovenfords; the superb Dendrobium nobile nobilius, a spike of seventeen flowers, and a white form of D. crassinode, from Mr. Salter, gardener to J. Southgate, Esq.; a fine specimen of Lælia lilacina, a supposed natural hybrid between Cattleya crispa and Lælia Perrinii, with pale lilac or mauve-coloured flowers and a purple blotch on the lip, from Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C.

The chairman, Mr. G. F. Wilson, exhibited a fine pot-full of Galanthus Imperati, to compare with G. Elwesii, certificated at the last meeting, and which certainly lost nothing by the comparison. When strongly grown, as were Mr. Wilson's plants, G. Imperati is quite the equal of G. Elwesii, and many considered that its longer petals gave it a more pleasing contour. Mr. William Bull showed half-a-dozen well-bloomed specimens of the Easter Lily of Bermuda, Lilium longiflorum floribundum; and Mr. J. James Woodside, Farnham Royal, sent some cut blooms of his unrivalled strain of Cinerarias.

Manchester Horticultural Improvement.—*March 4th.*—The last meeting for the present session was held on the above date, Mr. Bruce Findlay, the president, in the chair. Mr. Richard Astley exhibited to the members under the microscope a few botanical specimens. The chairman said there is what is termed the external structure of the plant and the internal structure or anatomy of the plant. The former included such parts and peculiarities as are discoverable by means of outward inspection, and the latter such portions or organs as are discoverable only by means of dissection; their attention was about to be called to the second part. If a plant is surveyed externally it may be perceived even by the most inattentive observer to be composed of the following distinct parts:—The root, the trunk, the branch, the leaf or frond, the flower, the fruit, and the seed. These are called the conservative organs, inasmuch as they are absolutely necessary to the growth and preservation of the plants, but these organs are themselves reducible to component organs which are again resolvable into constituent and primary organs. It is a lamentable fact that many gardeners do not give this subject a moment's consideration. They go about their work in a mechanical sort of way, and often deal with their plants as if they were inanimate and destitute of feeling or life; hence it is that one so frequently meets with plants in an unhealthy and sickly state. Water is poured into them daily without a moment's thought as to their requirements or organisation. How often one meets with plants suffering from chronic indigestion, which is mainly brought about by over-potting and over-watering. The roots cannot imbibe the elements by which they are surrounded, and the result is a sickly appearance, and if the supplies are not stopped the poor plant dies. We know very well what the wise doctor prescribes to his dyspeptic patient—a plain diet, and a diet that his patient can digest. Sometimes a plant is greatly benefitted by a climatic change; one thing is certain, that if a plant is doing badly under a certain treatment, it is high time that a change of treatment was made; but is this always done? Not a bit of it—and why? Just because gardeners forget the important fact that they are dealing with the precious thing called life, which unless properly tended will die. It is to be hoped that their meetings during the past session would have the effect of making the members feel their responsibility in connection with the beautiful and perishable subjects with which they have to do, and that they should feel more than ever that their calling as professional Sons of Adam is both ancient, honourable, and dignified.

A short paper treating of the internal structure of plants was then read by Mr. J. S. Butterworth. The paper included the following passages. Plants exhibit, he said, great diversity in their length of existence. Some of them live only one year, some two, and some a few years. The Elm lives 300 years, the Ivy 400, the Maple 500, the Larch 600, the Olive 800, the Lime 1,100, the Oak 1,500, the Cedar 2,000, the Yew 3,200. These figures were given by Mr. Leo H. Grindon. All plants are simply composed of cells, and the development of these cells varied in the different sections of the vegetable kingdom. The cells in the varieties of plants expand and develop in their own special manner, and performed the manifold duties they were called into life to execute.

Birmingham and Midland Counties Gardeners' Mutual Improvement Association.—The first lecture in connection with this association was delivered on Wednesday evening, March 3rd, at the society's rooms, Albert Chambers, Paradise Street, Birmingham, by A. W. Wills, Esq., F.C.S., one of the vice-presidents. The chair was occupied by Mr. W. B. Latham, Curator, Botanical Gardens, Edgbaston, and about 120 members were present. The lecturer, who is an enthusiastic admirer of nature and a close observer of the process of reproduction, spoke of the great honour conferred upon him in being asked to deliver the first address or lecture to the members of the association, and expressed his entire sympathy with the establishment of the association, which he hoped would have a bright and prosperous career. After pointing out that the principal object of the Gardeners' Mutual Improvement Society should be to stimulate its members, by intercourse and study, to acquire a better knowledge of the wonders of creation into contact with which they are brought by their daily work. Mr. Wills proceeded to explain the chief subjects comprised in the study of botany, and pointed out that this may be made one of the most uninviting or one of the most fascinating of pursuits, according to the manner in which it is approached; and as an illustration of one of its aspects which lifts it into the region of poetry and romance, he chose the topic of "The Mutual Relations of Flowers and Insects." His object in selecting this subject was to prove how and why it is that but for the co-existence of insects and their services in the fertilisation of flowers, the glory and the grace of the plant world would vanish from the face of the earth, and all the myriad forms of beauty which adorn the forests of the tropics, and the moorlands, woods, and meadows of temperate regions, would disappear, so that only a few tribes of plants, all bearing sombre and inconspicuous flowers, would survive, whilst all colours, scent, and variety of form would cease to exist. In tracing this subject, Mr.

Wills dealt first with the structure of a typical and perfect flower, and the functions of the parts concerned in reproduction, and then, after showing how the visits of insects are the chief agency for ensuring fertilisation, proceeded to show how nature encourages cross-fertilisation and discourages self-fertilisation by a variety of general arrangements as well as by special contrivances, these latter reaching their climax in the structure of Orchids. The address was concluded with a brief reference to the connection of this subject with that of natural selection. It was illustrated by a large number of illuminated transparencies, mostly drawn from nature by the lecturer.

Mr. Latham, in moving a hearty vote of thanks to Mr. Wills for his able and interesting address, said he thought that he had dealt with a subject of the greatest importance to the gardening profession, more particularly to its younger members, whom he advised to try and acquire a thorough knowledge of the parts and functions of flowers. The resolution was carried unanimously, after which the chairman drew the attention of those present to the subject of the next lecture, to be delivered by Professor Hillhouse, on Wednesday evening, March 17th, namely, "The scientific value of gardeners' experience," which he had no doubt would be very interesting, and he hoped to see as good an attendance of members as on the present occasion.

Obituary.

We regret to record the death of Mr. R. P. Ker, head of the firm of Messrs. R. P. Ker & Sons, of Basuett Street, and the Aigburth Nursery, Liverpool, which took place at his residence, Canning Street, on the 4th inst. Mr. Robert Preston Ker was born at Dickson's Nursery, Hassendean Burn, near Hawick, on July 18th, 1816. His father, Mr. Andrew Ker, managed these nurseries, then the most extensive in Scotland, for 25 years; his grandfather, Mr. John Ker, held the same position for 40 years; and his uncle, Mr. William Ker, was sent from Kew to China, and afterwards to Ceylon, where he died in 1814. Kerria japonica was named after this gentleman. Mr. R. P. Ker left Hassendean Burn, at the age of fourteen, for Edinburgh, being apprenticed to Messrs. Dickson & Co., of Waterloo Place; and after the usual seven years' term, went to Mr. Skirving, at Liverpool, whose business was then beginning to expand, both locally, and in Ireland and the Midland Counties. In 1840, Mr. Ker was placed by Mr. Skirving in charge of the seed department, which under his care prospered very much. For eighteen years, including the famine period, he travelled through the whole of Ireland, and also from the commencement of the Smithfield Club Cattle Show, first held in the Carriage Bazaar, Baker Street, he represented Mr. Skirving at all the exhibitions until 1860; when Mr. Skirving, having refused to give him any share or interest in the business, which his efforts had very materially aided in building up, Mr. Ker commenced business on his own account in Liverpool, with quiet energy and determination to succeed. In 1870, finding that the addition of a nursery would tend to consolidate his business, the Aigburth Nursery was commenced, and now contains one of the best collections of trees, shrubs, and plants, both hardy and tender, in the trade. Those who have seen the very fine groups of plants exhibited at the National Exhibitions held in Manchester from the Aigburth Nursery, have seen the examples of the high culture which is there carried out. Mr. Ker took a deep interest in gardeners, was always willing to be of service to them, and sympathise with their cares and struggles. To the Gardeners' Benevolent Institution he was a generous donor, and was a member of the committee of management up to his death. Local gardening and benevolent societies he was always ready to help. He was interred at the Toxteth Cemetery, on March the 8th, in the presence of very many old and attached friends. Mr. Ker has left three sons, two of whom had been his partners for some years; two daughters and nine grandsons, and two of these have made a good beginning as young members of the gardening fraternity. The senior partner is now Mr. R. Wilson Ker, formerly the secretary of the Liverpool Chrysanthemum Society.

The death is also recorded of Mrs. Squibbs, widow of Mr. R. Squibbs, who for many years previous to his death, in 1859, was gardener at Rook's Nest, Godstone. Mrs. Squibbs died on February 23rd, aged 78.

TRADE CATALOGUES RECEIVED.

John Forbes, Hawick, N.B.—Florists' Flowers, Stove and Greenhouse Plants, Ferns, &c.

Wm. Cutbush & Son (Limited), Highgate Nurseries, N.—Trade Specialities.

H. Bennett, Shepperton, Middlesex.—Pedigree Seedling Roses.

QUESTIONS AND ANSWERS.

Flies.—I am told that there is a plant well adapted for window culture that will keep flies away, as they will not enter a room where it is. Can any reader tell me what it is?—*Curio.*

African Violet.—*R. H. D.:* Try Messrs. James Veitch & Sons, King's Road, Chelsea, S.W.

Correction.—In the report, at p. 430, of the meeting of the Preston and Fulwood Horticultural Society, for Mr. Waters, "gardener, Worden Hall," read "gardener to J. Eccles, Esq., Farington House."

Tufa.—*H. T.:* Write to Mr. John Fisher, Ashover, near Chesterfield.

Names of Plants.—*J. J. D.:* 1, Acacia dealbata; 2, Acacia Drummondi; 3, Cytissus racemosus; 4, Echeveria retusa; 5, Agave Americana variegata; 6, Yucca quadricolor.

Communications Received.—J. B. (a week too late).—T. M.—J. C.—B. S. W.—W. S.—H. J. C.—B. L.—G. F.—J. H. F.—W. P. R.—R. D.—J. L. (many thanks).—C. L. P. (thanks, next week).—A. M.—W. E. G.

LONDON SEED TRADE.

March 10th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a better trade for Clover Seeds, although the recent snowstorm causes some buyers to defer operating. Red Clover of medium quality is decidedly dearer, the exports to America having almost exhausted stocks. White Clover and Alsike are firm and in good request at present low prices. Trefoil unchanged. Italian and Perennial Rye Grasses sell slowly at unchanged rates. Bird Seeds sell slowly at rates current last week.

COVENT GARDEN MARKET.

March 11th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, Eng., lb.	1 0	
Grapes, per lb.	2 6	8 0	Pine-apples, St. Michaels, each	2 6	8 0
Kent Cobs, per 100 lbs.	30 0		Plums		
Melons, each			Canadian Apples, brl.	10 0	14 0
Peaches, per doz.					

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 6	3 0	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 4		Onions, per bushel	5 0	6 0
Cabbages ....per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 0	3 0
Cucumbers, each	1 0		Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms		
Acacia mimosa, French per bunch	1 0	1 6	Marguerites, 12 bun.	4 0	8 0
Anemone, French, 12 b.	3 0	6 0	Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	4 0	8 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	6 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 6	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea ,,	2 0	3 6
Daffodils, per bunch	0 6	1 6	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	6 0	18 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths, per doz.	6 0	9 0
Asters, per doz.			Hyacinths, Roman, per dozen		
Azalea, per dozen	24 0	42 0	Hydrangea, per dozen		
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Narciss, per dozen	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Daffodils, per dozen	9 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanum, per dozen	8 0	12 0
Ferns, in var., doz.	4 0	18 0	Spiræa, per dozen	12 0	15 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 6			
Fuchsias, per dozen					
Genista, per dozen	10 0	15 0			

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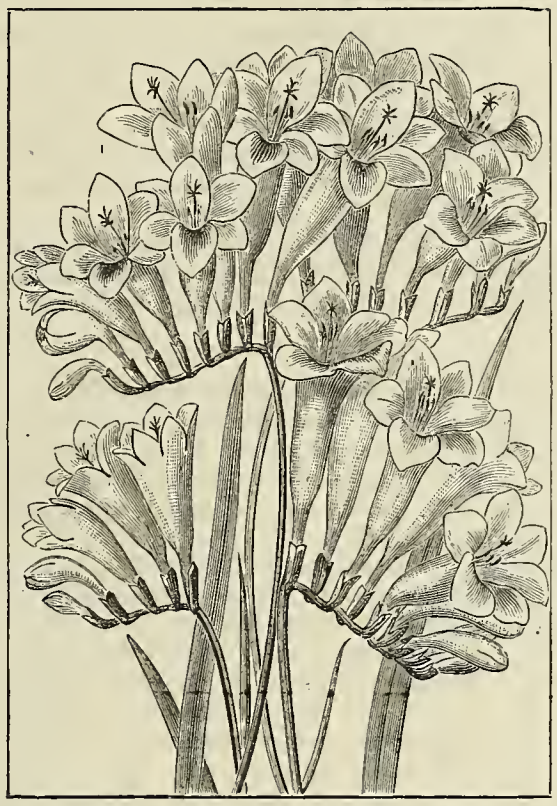

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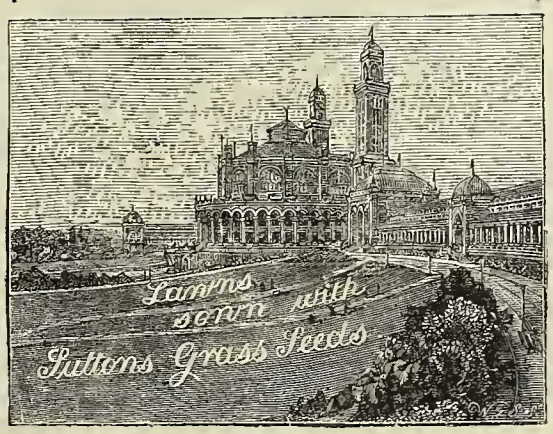

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HORTICULTURAL EXHIBITIONS.—GREAT EXHIBITION of HYACINTHS, &c., MARKET PLANTS and cut DAFFODILS, on March 30th and 31st. GREAT ARTISTIC ROSE SHOW, on June 25th and 26th. GREAT STRAWBERRY EXHIBITION AND FETE, on July 2nd and 3rd. Great display of TABLE DECORATIONS, BOUQUETS, &c., on August 20th and 21st.
Liberal Prizes are offered.
Schedule of Prizes on application to Mr. Richard Dean, Superintendent of the Exhibition, Ranelagh Road, Ealing.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, MARCH 23rd.
SECOND PROMENADE and BAND from Half-past Three o'clock p.m. Admission, 2s. 6d.
N.B.—Entrance for Fellows and the Public, N.E. Orchard House, Exhibition Road; and Exhibitor's Entrance, East side of Royal Albert Hall.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
The Schedule of arrangements for the Shows and Meetings to be held in the Conservatory at South Kensington, during the current year, is now ready, as also that of the Provincial Show to be held at Liverpool, from June 29th to July 5th, inclusive.
Applications for the same should be made to the Secretary, Royal Horticultural Society, South Kensington, S.W., or to the Superintendent, Royal Horticultural Gardens, Chiswick.

CLAY CROSS HORTICULTURAL SOCIETY.
TWENTY-NINTH ANNUAL EXHIBITION, AUGUST 10th. Amount offered in Prizes, TWO HUNDRED and NINETY POUNDS. Schedules now ready.
Clay Cross, Chesterfield. J. STOLLARD, Secretary.

Orchid Show.
BIRMINGHAM BOTANICAL AND HORTICULTURAL SOCIETY. £150 in prizes. For schedules apply to W. B. LATHAM, Curator, at the gardens, Edgbaston.

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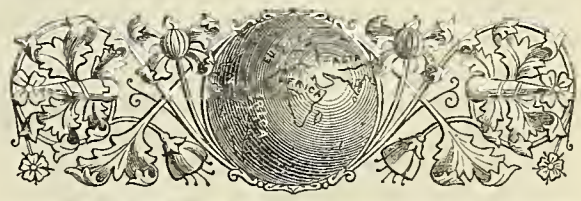


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, MARCH 20, 1886.

FLOWER SHOWS.—The new ventures in the form of floral exhibitions just instituted at the Royal Aquarium, Westminster, the expansion of the shows of the National Chrysanthemum Society at the same place, and the expectant grand exhibition of the Royal Horticultural Society at Liverpool of the coming summer, combined with other evidences, amply prove that the public taste for flower shows is in no degree waning, and that on the other hand a love for flowers still dominates the human heart. How passionate is the appreciation for all that relates to gardens may be seen in the interest shown by those teeming myriads who flock into our public parks and gardens all the world over, but nowhere with greater zest than in the metropolis, the home of over four millions of people. Then it may not be overlooked that the millions of visitors who have paid court, during the past few summers, to the technical exhibitions at South Kensington, have expressed enthusiastically their admiration for the displays of garden products arranged for their enjoyment in the large conservatory

Indeed, there can be little doubt but that those special shows have proved of more than ordinary worth, because the best of our garden products have there been seen by visitors from all parts of the kingdom, and these have thus been enabled to carry back with them into their distant localities much higher estimates of what is good in flowers, fruits, and vegetables than they previously entertained.

Specially for that reason, and because also the Colonial Exhibition of the coming summer is certain to attract vast numbers of people from all parts of the world, we learn with regret that the promoters of these South Kensington exhibitions of garden produce have somewhat reduced their prize list for this year. Most certainly we should have desired that the very best of its kind was sent up to Kensington for show, but interest of that kind is usually produced just as the prizes are valuable. In any case so good and so interesting to all sections of the community have these special shows been, that horticulturists will learn of their suspension with much regret. Though the prize funds have been provided by the exhibition authorities, yet these shows have added materially to the reputation and popularity of the Royal Horticultural Society, under whose management they have nominally been held. Let critics pooh-pooh the exhibition elements of this society as they may, it is certain that their complete disappearance would prove but the prelude to the collapse of the society also. That the council are alive to that fact seems evident in the spirited action they have taken in regard to the coming Liverpool show. This exhibition will naturally possess attractions for the gardening world, far in excess of what are found in ordinary exhibitions; it will prove the special reunion of gardeners of all sections, and thus to them, apart from its attractive aspects, it will be a welcome gathering.

But, after all, the success of such an enterprise is chiefly dependent upon the population of Liverpool and the surrounding districts. It is a centre of wealth and commerce; it is still more the centre of a vast mass of people, animated by a love for flowers, or, indeed, for all that relates to gardening. We may hope to see the popular favour shown to this exhibition in no grudging spirit, and if the society be thus encouraged to reinstitute its former series of provincial shows, it will not merely add to its own usefulness and importance, but will relatively promote the spread of floral tastes in the community. Coming close home again, we hail with exceeding pleasure the new departure of the management of the Royal Aquarium Society. High-class horticultural displays, such as are in promotion during the coming season, must have a refining and moralising effect. It would be difficult for the management to originate any form of attraction less open to objection, whilst it would be equally difficult to provide any so likely to produce beneficial results. Judging by the schedule which lies before us, it would seem as if these exhibitions were also to display some evidence of originality in arrangement, and in that respect alone they merit support.

Perhaps the weakest element in existing flower shows is found in the sameness of arrangement and character of exhibits. It needs a genius to break away from fossilised styles, and place before the public something new—that is, whilst novel also eminently attractive. Of course, it will be pleaded that in most provincial districts the same plants are grown for ordinary decoration, and to refrain from inviting those plants to the annual local shows would be but to provoke failure. Certainly, there is need in the carrying out of any thorough re-organisation of shows, and a re-modelling of styles and methods of showing, of the active and unanimous help of the local exhibitors. Perhaps, with too many of these the financial element is the most operative one, hence they look upon new departures which may detract from their annual gains with distrust. Any real change for the better can only be found where gardeners and horticulturists generally exhibit souls above such grovelling considerations, and regard flower shows less as a means to obtain cash than as a beautiful and truly artistic display of garden products. However, it is easy to suggest and even to indicate directions in which change for the better is desirable; but only heroes can be expected to carry them out, and those are rare amongst flower show managers.

Independent bodies, such as the Royal Horticultural or Royal Aquarium Societies, are at least at liberty to organise shows on more original lines, and such efforts may, in our large towns, be met with complete success. Where a radical change in schedule arrangements and classification is not possible, it is at least worthy the attention of the committees of these shows that they should devise some slight changes and novel attractions from year to year. It would be a grave misfortune in any locality if a feeling of satiety, arising from the sameness seen in the periodical flower shows, were to grow up. On the other hand, anything which tends to promote special interest in flower shows must add to their usefulness in practical and common-place ways.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* Royal Horticultural Society—Fruit and Floral Committees at 11 a.m. *Wednesday:* Royal Botanic Society's First Spring Show. *Friday and Saturday:* Crystal Palace Spring Flower Show.

Paris International Exhibition.—In deference to the wishes of a number of the exhibitors, the exhibition which the Societé National d'Horticulture of France announced to run from the 4th to the 9th of May next, it has been decided to alter the dates to the 11th to the 16th of May, all the arrangements respecting entries, tickets, &c., being changed to suit the later dates of opening now decided upon.

Prizes for Young Gardeners—We are glad to note that the Liverpool Horticultural Association again offers prizes for essays to be competed for by under gardeners who are members of the association. The subjects selected for the essays are "The Cultivation of Herbaceous Plants" and "The Culture of Roses under Glass," and it is stipulated that those sent in must be original, and not take longer than thirty minutes to read. The rewards will consist of the Association's First Class Certificate and money prizes, and we trust that a greater number than heretofore will take part in the competition, which can be recommended as one of the best of exercises for those who in due time will be called upon to bear their share of gardening responsibilities.

The late Mr. James Cutbush.—The Editor of this Journal will be greatly obliged to any of its readers who may have votes for the Masonic Girls' School, if they will kindly send them to him, for use on behalf of the youngest daughter of the late Mr. James Cutbush, of Highgate, No. 25 on the list. The election takes place on the 10th of April, and as this is the candidate's last chance, it is hoped that the provincial friends of the family will send in their votes as early as possible.

The Lambeth Amateur Chrysanthemum Society's Twelfth Exhibition will be held on November 8th, 9th and 10th, 1886, at the Bridge House Hotel, London Bridge, S.E.

The Royal Horticultural Society's arrangements for the present year, as regards the displays to be held at South Kensington, are as follows:—Promenade Shows, March 23rd and April 13th; National Auricula Society's Show and Primula Conference, April 20th and 21st; Promenade Shows, April 27th and May 11th; Show of Pot Roses, Azaleas, &c., May 25th; Show of Orchids, June 8th; Show of Pelargoniums, &c., June 22nd; National Rose Society's Show, July 6th; Show of Flowers and Fruit, July 13th; National Carnation and Picotee Society's Show July 27th; Show of Plants and Flowers, August 10th; Cottagers' Show, August 24th; Show of Grapes, Dahlias, &c., September 7th and 8th; Show of Hardy Fruits, October 12th and 13th; Show of Chrysanthemums and Vegetables, October 26th and 27th. From the schedule of prizes which has just been issued, we learn that at the meeting to be held on May 11th the Veitch Memorial trustees offer for competition a Memorial medal and a prize of £5 for the best collection of forced salad plants, consisting of not fewer than ten kinds.

The Clay Cross Floral and Horticultural Society's twenty-ninth annual exhibition will be held on Tuesday, August 10th.

The Provincial Show at Liverpool.—For this important exhibition, which is to be held in the Botanic Garden and Wavertree Park, Liverpool, from June 29th to July 5th inclusive, the Royal Horticultural Society has just issued a schedule of prizes, amounting to £1,200. There are sixty-one classes for plants; twenty for cut flowers; twelve for table decorations, bouquets, &c.; twenty-three for fruits; twelve for vegetables; exclusive of three classes for peas, for which special prizes are given by Messrs. Carter & Co., Messrs. Sutton & Sons, and Messrs. Webb & Sons; and twenty for cottagers' productions. The principal prizes offered include £20, £15 and £10 for twelve stove and greenhouse plants, flowering and fine-foliaged; £10, £7 and £5 for nine stove and greenhouse plants in bloom, for six stove and greenhouse plants in bloom; and for nine fine-foliaged plants; £20, £15 and £10 for a group of twenty-five Orchids, arranged with Palms and Ferns, &c.; £15, £10 and £7 for twelve exotic Orchids, amateurs and nurserymen; a cup, value 25 guineas, and 10 guineas in cash, given by the Liverpool Horticultural Company, for twelve Orchids in flower; £12, £8 and £6 for a group of miscellaneous plants, arranged for effect; £8, £5 and £3 for the best dinner-table laid out for eight persons; £8, £5 and £3 for the best collection of fruit, eight distinct kinds; £6, £4 and £3 for the best collection of vegetables, eight distinct kinds; and £5, £3 and £2 for the best collection of garden produce, comprising plants, cut flowers, fruits and vegetables, effectively arranged, to occupy not more than 100 square feet of tabling. A class for the best exhibition of examples, illustrative of the culture of plants, vegetables, &c., on board ship, is a novelty, but a very appropriate one, all things considered; and another new feature, which should prove of unusual interest, will be the exhibition of a great variety of subjects included under the heading of horticultural and botanical literature, science and art, such as illustrations of British and Colonial periodical horticultural literature; educational books, suitable for the instruction of young gardeners in the various branches of garden science; standard works, suitable for advanced pupils, and as reference works; books illustrative of the history of gardening and botany from the earliest times to the end of the eighteenth century; foreign garden literature; models, diagrams, apparatus, suitable for the instruction of gardeners in the elements of chemistry, physics, or vegetable physiology; series of specimens illustrative of methods of grafting and budding; plans of small villa gardens, from 1 to 3 acres; public parks, 100 or more acres; kitchen gardens; arboretums, &c., &c.; plans and elevations of garden structures; elevations of ornamental conservatories, corresponding in style with the mansions; drawings of flowers or fruits, adequate for botanical purposes; floral design, conventionally treated, for a panel, not less than 3 ft. by 1 ft.; photographs of flowers, fruits, trees, garden landscapes; chromo-lithographs of flowers, fruits, trees, garden landscapes; drawings in water or oil of flowers, fruits, trees, garden landscapes; flower painting on china or terra cotta vases, tiles, plates, &c. Gold, silver and bronze medals are also offered for a great variety of implements, garden structures, tools and appliances.

Gardening Appointments.—Mr. Frank Wilson, lately foreman at Langlee, Galashiels, has been engaged as gardener to J. H. Robertson, Esq., Beechlee, Lasswade; and Mr. Andrew Bogie, at present gardener at Adderley House, Monifeith, Forfarshire, as gardener to Mrs. Reid, of Kenwolde Court, Virginia Water.

Mr. J. Udale, who for the last eleven years has been gardener at Shirecliffe Hall, Sheffield, has been engaged as gardener to H. F. Paget, Esq., Elford Hall, Tamworth.

Ealing, Acton, and Hanwell Horticultural Society.—The annual meeting of this society was recently held, when the balance sheet showed an income for the year amounting to £627 12*s.* 8*d.*; annual

subscriptions amounting to £240 17*s.* 6*d.*; special prizes, £106 18*s.*; and takings at the gates on the occasion of the two days show in Gunnersbury Park in July last, £184 19*s.* 8*d.*; these items with a few others made up the amount of income. In addition, the tradesmen of Ealing annually give special prizes in goods of various kinds, amounting to some £20. The summer show in the present year is fixed for July 7th, in the grounds of Hanger Hill House, Ealing, the residence of E. M. Nelson, Esq., J.P., and the usual autumn show on Tuesday, November 2nd, and Wednesday, November 3rd, in the Lyric Hall, Broadway, Ealing. Mr. Richard Dean was re-elected the hon. sec. for the eleventh year.

INDIAN PINKS.

There are few plants which possess so many qualities to recommend them to general attention as the Indian Pinks, for not only are they most easily grown, thriving in almost any kind of soil, but they are very profuse flowerers, and their blooms are distinguished by bright and varied shades of crimson and rose. They should be grown in every garden, and wherever they are once tried they become established favourites for an annual display, either as clumps in borders of herbaceous and old fashioned flowers, or in small beds appropiated to the Pinks alone. The latter is, perhaps, the most suitable, and a charming effect a few such have in a garden, yielding flowers in abundance throughout the summer months and until late in the autumn.

Plants can be raised from seed in autumn or spring, and the present time is a good one to sow the seed to yield plants for flowering in summer this year, but no time must now be lost, as the earlier the plants are obtained the stronger they will be for placing out, and the more successful they will be during the season. The seed should be sown in sandy soil in pans or pots, and placed in moderate heat in a frame over a dung bed in which the heat is mild and decreasing, will suit admirably. Sow the seed thinly, and scatter a little of the soil over them, watering gently with a fine rose can to settle the surface. Germination will soon take place, and when the young plants are well above the surface with several leaves developing they can be dibbled out into larger pans, giving the plants more space to develop and keep them in a light position, not too warm, a shelf in the greenhouse or conservatory, or a frame which can be heated sufficiently to keep frost out will be good places for them. It will be scarcely necessary to shift them again, but sometimes we have potted them singly, and thus formed larger plants for the beds, but if they are allowed good space in the pans or boxes, say 2 ins. or 3 ins. apart, they can, after being properly hardened, be transferred from them direct to the beds.

About the middle of April will be found a good time for planting, but this must be determined by the weather, as it is far better to wait a week and place them out in a warm moist soil than to be too eager, and, perhaps, give the plants a check that it will take them a long time to recover from. When the weather is really favourable they make rapid progress, soon forming strong bushy plants. Good ordinary garden soil is the best for them, and it should preferably contain a fair proportion of sand, with but little manure and none of a rank crude character, as that induces a strong growth but does not encourage flowering, and sometimes the plants get into an unsatisfactory condition without any apparent cause. It is better to have the soil rather poor than too rich, and if the plants are not likely to make such a vigorous growth, they should be placed closer in the beds, so that these become well filled by the time of flowering. By removing the old flowers, the plants may be kept to another season; but it is preferable to raise a fresh stock every year from seed.

Several types of Indian Pinks are referred to D. sinensis, of which Heddewigii is one of the best known. Then there is a section with deeply cut petals, termed laciniatus, and a third group comprise the double varieties, such as Diadematus. Of the first-named there are several superb forms, large, rich crimson, or soft rose and nearly white, two named varieties, Eastern Queen and Crimson Belle, being comparatively recent acquisitions. D. Heddewigii is of rosy crimson hue, bright and effective, and the beautiful double Diadematus is symmetrical in form, full, and barred or spotted with crimson on a light ground. All are charming, and useful either as border flowers or for cutting in substantial bunches.—*D. P.*

Dianthus sinensis varieties.

Dianthus Heddewigii.

Dickson's Matchless White Celery.—In Mr. Ireland's note on this variety of Celery published in our issue for Feb. 27th, the credit of sending it out was inadvertently given to Messrs. Dicksons & Co., of Edinburgh, instead of to Messrs. James Dickson & Sons, 32, Hanover Street, Edinburgh.

THE CINERARIA.*

Whether it flowers in autumn, winter, or early spring, the Cineraria is always a gay and beautiful plant. There are two methods by which the Cineraria can be raised, one from seeds, and the other by means of offsets, and each mode of increase has its advantages according to the purpose for which the plants are required. When wanted simply for the decoration of the conservatory plants raised from seeds are in some respects preferable, as they grow more freely and make larger specimens, and they can be raised in large numbers with little trouble. Alluding first to the raising of seedlings, I may say that the time for sowing must be regulated by the season at which they are wanted in bloom. For flowering during the autumn and the early part of the winter, seeds should be sown in the second week of April, so as to give the plants sufficient time to acquire the necessary degree of strength; but to obtain a stock of plants for flowering in February, and onwards through the spring months, I find it best to sow in the second or third week in May.

The compost for sowing the seeds in, should consist of two parts of good light fresh loam, and one of thoroughly decomposed leaf-soil, with a good sprinkling of silver sand or sharp road grit; and I prefer pans to pots because of the greater surface they afford for the distribution of the seeds in proportion to the space they occupy. Prepare the drainage carefully by placing over the crocks a layer of some rough material, and then fill up nearly to the rim with fine soil, and level the surface. Sow the seeds thinly, and give a sprinkling of fine soil and sand mixed; then place a piece of glass over the pan or pot, and put it in a cool frame or greenhouse according to convenience. The seeds will soon germinate, and the young plants must be pricked off as soon as they are large enough to handle, as it does them no good to leave them too long in the seed pans. Some amateurs and, indeed, some gardeners too, prick out only the strongest seedlings, and throw away those that are longer in germinating, and appear small and weak through the other seedlings having got ahead of them, but those which germinate first and grow the strongest, are, as a rule, self-coloured varieties, and of the commonest type, while those which

*A paper read by Mr. James Simmonds, gardener to G. Fisher, Esq., The Ferns, Endcliffe Vale Road, at a meeting of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society, held on March 10th.

germinate later, are, as a rule, the most disimilar in colour, and of the best quality. I prick out some of the freest growing sorts, as well as a portion of the weakest ones, and so obtain a greater variety.

When the plants have formed three or four leaves I pot them off into small pots using the same kind of compost as before, and place them in a cold frame. They are shaded for a few hours in the middle of the day, but according to my experience the Cineraria does not require so much shade as it often gets. In about three weeks they will be ready for another shift into 5-in. pots, and for this and the succeeding shifts, there should be added to the soil about one-fourth of well decayed cow-manure. The Cineraria is a quick rooting plant, and will soon require another shift, that is to say, as soon as the roots have reached the sides of the pot and through the drainage. The plants should not be allowed to become pot-bound until they are in their flowering pots, or their growth will be considerably checked. To get good healthy plants they should be kept growing; 6-in. or 7-in. pots will be large enough for some purposes, but to get good specimen plants 8-in. or 10-in. pots are the most suitable, as plants in this size do not get dry at the roots so quickly as they do in smaller pots, and if a plant is once allowed to get dry at the roots, and to flag for want of water, it will soon be covered with green-fly, and will not make nearly so fine specimens as those that are regularly attended to. At each watering sufficient should be given to wet the soil thoroughly. The Cineraria requires plenty of air at all times except in frosty weather, and the cooler the temperature in which the plants are grown, the dwarfer and more robust will they be. In fine weather during July and August the plants do well with the lights off altogether with a little shade for a few hours during the heat of the day, but if the plants have been grown cool from the first they will stand a little sun, and be all the stronger and better for it. The plants are also all the better for the lights being taken off on fine days during September and the first part of October, at the end of which month it will be time to take them into the greenhouse. A sharp look out must be kept both in the frame and greenhouse for green-fly, for which as soon as it makes its appearance fumigate with tobacco paper. It is important that this should be done at the first appearance of the enemy, or it will soon damage the plants

The distinctly coloured varieties offered in some of the seedsmen's catalogues may, as a rule, be relied upon to produce a good selection of distinct sorts; but where the plants are raised from offsets, the first thing is to select the plants from which they are to be obtained, and this should be done while they are in full bloom, a label being put to each selected plant with the colour of the flower written upon it. The specimens obtained by this means are dwarfer, and more compact in habit than those raised from seed; they produce neater and more highly finished heads of bloom, and the cultivator has the advantage of knowing what the quality and colour of the flowers will be. It is the practice with some gardeners to grow named sorts of Cinerarias, and the following may be named as good and distinct kinds:—

Adam Bede.—Bright rose self.
Amazon.—Light ground, edged with crimson.
Blue Beard.—Deep blue.
Bridesmaid.—White, margined with purple.
Brilliant.—Bright crimson self.
Lady Seymour.—White, edged blue.
Miss Smith.—White, deep edge blue.
Perfection.—White, carmine edge.
Queen Victoria.—White, broad margin of crimson.
Snowflake.—Pure white self.
Vicar of Caunton.—White ground, with a deep edge of rosy crimson.

As the ripening of the seeds is very exhausting, the flowers should be cut off those plants intended to be kept for offsets as soon as they are past their best, and if there is any green fly on them they should be fumigated. The plants should then be moved to a cold frame in which they may remain until the offsets are large enough to take from the old plant and to be potted off; or a better way is, I think, to plant them out in a shady place where they will throw up plenty of offsets; but before planting them out, they must be thoroughly cleaned or they will not do well. When planted out early in June the plants throw up plenty of offsets, stronger and better than those old plants that have been kept in their pots. When the offsets are ready, I dig them up with a fork so as not to break the roots, and pot them; those who have not ground to plant them out should remove the lights altogether in June, or remove the plants to a shady position outside, as passing showers and heavy dews are very beneficial to them. As soon as the offsets are large enough, as they generally are by the end of July or beginning of August, the potting should not be delayed. To separate them without loss of roots, turn the plants out of the pots, shake away the greater part of the soil, divide the offsets and pot them, then put them in a cold frame. They will soon fill their pots with roots, and must be potted on as advised for seedlings. When large specimens are required, three offsets may be put into one pot, according to the size of the offsets, and these should be shifted on without being separated, and be put at the final shift into 10-in. pots.

Another way of growing the Cineraria, is to prepare some ground at the end of May in a shady place outside, and put a frame over it, then sow the seeds which will soon germinate, and as the seedlings advance in size, give an abundance of air for a time, and eventually take off the lights or remove the frame altogether. These will do in the seed bed till they are large enough for 5-in. pots, when they should be dug up with a fork carefully, and put in pots according to the size of the plants or roots, then put in a cold frame and potted on as required. They will make good plants for the decoration of the conservatory in spring.

With regard to the general management of the Cineraria, I may say that a cold frame is the best place for them till the first week in October; that a sharp look out should at all times be kept for green fly; that no more fire heat should be employed than is necessary to keep them safe from frost; and that a dry atmosphere is very injurious. The water supply must be liberal without being excessive, and as the pots in which they are to bloom become filled with roots the use of liquid manure may be commenced, rather weak at first, and applied about once a week, except in the dark dull days of November and December when they may not want it quite so often; but when the days begin to lengthen, at the end of January and in February, they will require it oftener and a little stronger.—*James Simmonds.*

THE CULTURE OF GLEICHENIAS.

The cultivation and management of Gleichenias is not generally understood by amateurs, the very opposite to the right treatment being given them. In the first place, these fine Ferns do not require so much heat as is often given to them; an abundance of air and a cool temperature, with slight shade, suits them best after the plants become well established. Neither do the plants like to be divided too much after they begin to make strong rhizomes. If quantity is preferred to quality, the plants must be kept continually on the move, so that the dividing can be done often. It is when in this smaller condition that the plants require to be kept a little closer for the sake of making the plants establish themselves. If nice specimens are required, let the grower obtain healthy young bits of the varieties he prefers. These should be potted on at once into a good rough mixture of equal parts of fibry peat, loam, and leaf-soil, adding plenty of broken crocks and sharp sand. This makes a capital mixture for the roots and rhizomes to run in, and it is only by using such a mixture that the plants seem to thrive well.

After potting, let the plants be placed in an intermediate house; but care must be taken to place them in a position where they will not get syringed, for nothing spoils the fronds of Gleichenias worse than syringing, and let them stand upon a stage which has some broken brick-rubble or rough ashes on it; this keeps the bottom of the pots from getting filled up with any fine material. Water this rough bottom occasionally; this keeps sufficient moisture about the plants. If the plants take kindly to this new potting they will be ready for another shift about the end of May, using the same kind of potting material, only make it still rougher as the plants get larger. The plants may now be placed in an ordinary greenhouse with a free ventilation, still letting them stand upon a rough rubble bottom when convenient, and watering this well every day during the hot weather; but on no occasion use the syringe. When watering, always give sufficient to go through the whole ball of soil, but never water until the plants require it; if this treatment is followed out they will have made nice plants by August.

If very large specimens are wanted the plants can have another shift any time before the end of September: they make new roots into this last shift during the winter, and in the following spring are well established to make specimen plants. Care must be taken at this time to stake the fronds nicely out, so that a free circulation of air can get about them during the winter. The fronds of Gleichenias are very useful for cutting during the winter months, their fine wiry nature seeming well suited for the atmosphere of a room. For exhibition they are superb, and those who have had the pleasure of seeing some of the fine specimens that have been exhibited at various times, are not likely to forget them. The following sorts are all good, and should be grown wherever possible:—G. dicarpa, of dwarf habit, and a free grower; G. speluncæ, of medium habit, and free growth, one of the best for cutting from; G. flabellata, medium habit and dark shining fronds, a very fine variety; G. Mendelii, a tall robust grower, and of thick texture; G. rupestris glaucescens, bold habit, the fronds being a bright glaucous-green; G. dichotoma, an old and well known variety, always serviceable. All of the above six varieties make capital exhibition Ferns.—*W. G.*

SELECT PLANTS FOR ROCKERY BORDERS.

(Concluded from p. 438.)

3.—*Plants attaining 3 feet high and upwards.*

Aconitum napellus bicolor (B)
,, ,, albus (B)
,, pyramidale (B)
,, lycoctonum (B)
Alstrœmeria aurea (B)
Anchusa italica
Anemone japonica hybrida
,, ,, alba
Anthericum liliastrum major (B)
Aquilegia californica & vrs.
,, chrysantha
,, Skinneri
,, canadensis
Asphodelus ramosus
Asters or Michaelmas Daisies
Astilbe rivularis
Bupthalmum salicifolium
Campanula grandis alba
,, latifolia macrantha
,, pyramidalis
,, ,, alba
,, Van Houttei
Crocosma aurea (B)
Coreopsis lanceolata
Delphiniums in great variety
Dictamnus fraxinella and alba
Echinops ruthenicus and Ritro
Erigeron speciosum superbum
Eryngium amethystinum
Gaillardia grandiflora
,, ,, maxima
Gladioli in variety (B)
Gladiolus Saundersi (B)
Helenium autumnale
Harpalium rigidum
Helianthus multiflorus majus
,, ,, maximus
Helianthus multiflorus plenus
Hemerocallis disticha fl. pl.
,, flava
,, Kwanso fl. pl.
,, ,, fl. pl. fol. var.
Hyacinthus candicans (B)
Iris siberica in variety
,, Kæmpferi ,,
,, ochroleuca
Leucanthemum maximum
Liliums in endless variety, the following include some of the best:—colchicum, auratum, Humboldtii, superbum, speciosum and varieties, tigrinum and varieties, candidum, Martagon, chalcedonicum, pardalinum, Browni, longiflorum Wilsoni
Lobelia cardinalis Queen Victoria
Lychnis chalcedonica fl. pl.
,, vespertina plena
Meconopsis nepalense
,, Wallichi
Pæonia moutan in variety
,, sinensis ,,
Pentstemon barbatus Torreyi
,, eobæa
Phlox decussata in variety
Pyrethrum uliginosum
Pityrospermum acerinum
Senecio pulcher
Spiræa aruncus
,, palmata
,, ,, elegans
,, venusta
Thalictrum acquilegifolium
Tritoma uvaria
,, ,, var. glaucescens.

In the foregoing lists I have cited none but what are thoroughly hardy, excepting Tigridias and Gladiolus, which require lifting annually; the Liliums will require about one-half peat mixed with the soil, and the same remark applies to some of the smaller bulbous plants in the first group. The border will be much benefited by an annual dressing of manure, well decayed. I have chosen for the most part the more showy, and have endeavoured to select a long continued season of bloom in the plants herein named. Though I have been compelled to omit many choice and rare plants, yet I think, in the preceding list will be found a good selection of useful and valuable plants, sufficient in fact to make a good beginning, and with plants of comparatively easy culture. Thus I hope I may have assisted some in a desire to further the cultivation of hardy plants generally, in which there is so much pleasure to be found.—*J.*

SCOTTISH GARDENING.

Raspberries.—This most useful fruit does not always have the attention which its merits deserve, having often to struggle on in poor soil, with the roots down in cold clay; but in deeply trenched ground, well manured, and the plants placed not too thickly—well mulched every season, and the suckers carefully reduced—Raspberries become a very different fruit to the miserable dry little things too often seen offered for sale, as well as sent to proprietor's private houses. In some positions it is very necessary to renew the brakes often, replanting good strong canes, cutting them down to 1 ft. or 2 ft. the first year, so that good strong suckers may be emitted—growths 9 ft. high may be attained—and very few of such left to every stool would produce Falstaff's about 1¼ ins. long. We have always had great favour for that kind for northern gardens—and think in the south, too, we have seen these of the greatest size. At a nobleman's place in Suffolk, a friend (many year's ago) grew Raspberries to immense size, and in quantities really surprising. When asked the secret of success, his reply was "plenty of muck." We noticed recently an old quarter of canes which had been heavily coated with cow manure, rooted right to the surface, and which quite changed their character for the better; another coating of material this season will, no doubt, make still greater improvements. Many are the methods of training Raspberry canes, such as wires run along in lines, and the rods tied outwards and upwards to them; stakes are sometimes placed upright 4 ft. apart, and the canes tied (three to six according to their strength) to them. The rods are often seen bent into arches, 3 ft. to 4 ft. from the ground, three to five trained each way and neatly tied together. The system recommended first; we practised for many years, but have for a number of seasons practised the latter method of arching. We find that we can do the work at least expense, save time, get the heaviest quantity of fruit by the canes breaking from near the surface, and the tops, which often bear the best, are very little reduced by the knife. We gave to nurserymen (gratis) for many years our spare rods, and they declared the kind distinct from any other, but it was no other than Falstaff, which (by the treatment our Suffolk friend accorded to his Raspberries) fruited abundantly in autumn till the frost stopped them. These had been planted by a painstaking predecessor of ours, in extra manured and deeply trenched soil.—*M. T.*

SOOT AND THE ONION MAGGOT.

In reply to "W. C.'s" question at p. 444 as to whether the Maggot was troublesome in these gardens before annual surface dressings of soot was had recourse to—my answer is, yes! I am inclined to agree—indeed, I fully agree with "W. C." when he says, "it may be that the soot which I have used has not been good, or that my mode of applying it has been at fault." However, according to his own showing, "W. C.'s" cultural treatment of the Onion crop is manifestly different from that which it receives here (see p. 394), therefore, he is not in a position to say that soot lacks any of the virtues which I attribute to it as an insecticide and fertiliser of the soil when judiciously applied, always providing that the soot is kept in the dry until required for use, otherwise, its application to the soil will be non-effective and so much labour wasted. I have for several years advocated in the pages of the horticultural press the use of soot both in a dry and liquid state, having first proved most conclusively its efficacy in practice as is my wont before recommending anything either in writing or otherwise. Your correspondent says, that several gardeners have recommended him to use soot as a remedy against the attacks of the Onion Maggot, instancing one who he describes as "a well-known gardener," who, like myself, attributed his freedom from the pest to the use of soot, a statement which "W. C." does not agree with, for he tells us that it was "because his garden was a comparatively new one," the "well-known gardener" was not troubled with the Onion Maggot. Will "W. C." give us his reason for disbelieving the statement of the "well-known gardener" other than that of his garden being a "comparatively new one"? He might also give his friend's name, so that he should have the opportunity given him of contributing his own experience of the subject to the pages of THE GARDENING WORLD. He might also state upon what grounds he arrived at the conclusion that the crop of Onions in the "comparatively new garden" would be less liable to the ravages of Maggots than they would be in older gardens, other than the assumption that the Maggots are more plentiful in the soil of the latter than they are of the former. In reference to the closet manure which "W. C." says he dresses his ground with prior to sowing therein the Onion seed, I beg to say that I consider it very unsuitable manure for an Onion bed, both on the score of its richness, and its great tendency to produce Maggots. Although I am willing to admit that the Maggot is more plentiful in new soil than in old, I cannot agree with "W. C." in saying that it is in old worn-out soil that it is most prevalent, as it is in soil the reverse of this that the Maggot is to be found, not only in greater numbers but also of greater size than it attains in poor soil. Very few Maggots are to be found in ground which is dressed annually with patent manure in comparison with the number to be met with in a like space of ground, which has been dressed with farmyard manure. In conclusion, I beg to remind your correspondent that I have no wish to make the fact of his being only able to secure a partial crop of Onions annually by reason of the ravages of the Maggot go to prove his inability to eradicate the pest, but simply to point out a single and most efficacious method of dealing with it, and, consequently, the production of good crops of Onions instead of half ones, and to say that I never make random statements, and that I am always prepared and pleased when necessary to support those which I do make. Hence my name and address. *H. W. Ward, Longford Castle.*

LACHENALIAS.

Some cut specimens of these were staged by Mr. T. S. Ware, of Tottenham, at the meeting of the Royal Horticultural Society on the 9th inst., but among them was the *true* form of L. pendula, said to be very scarce. The examples, as stated above, were in a cut state, but they had been strongly grown, and the flowers were very large, of a lovely chestnut-crimson colour, with green tips round the mouth; it seemed to put all other Lachenalias in the shade, and this true form is unquestionably a first-rate greenhouse plant. There were luteola and Nelsoni, also two yellow flowering varieties, and very pleasing, but lacking the size and massiveness of L. pendula. The Lachenalias form a beautiful family of Cape of Good Hope bulbs, of dwarf habit and early flowering. We can remember the time when Lachenalias were much greater favourites than they are now, but they have been thrust aside by so called novelties of less than half their value in some cases. Now, these Lachenalias are easily forced into bloom in winter, and to secure plants at that time the bulbs should be potted about the end of June, and grown in a cold frame until early in November, when they should be placed in a moderate heat, but not a high temperature. A compost made of good loam, a little peat, sand, and well decomposed manure, suits them well.

SCARCITY OF VEGETABLES.

We are not often troubled so much to provide a few vegetables for the table as is the case this season, and during a long experience I do not remember a greater scarcity even when the weather has been more severe for a short time. The great evil this winter has been the long continuance of frost and bad weather, for since October last we have not had a week at a time of fine weather. The consequence is that vegetables of all kinds have suffered terribly, and we have now nothing out of doors except some heads of Scotch Kale that look scarcely fit to eat. Brussels Sprouts are all gone, and I see that those in the markets are fetching extremely high prices; any growers who have been fortunate enough to keep some will be able to command a profitable sale. We have been relying chiefly upon Broccoli Sprouts, but these have been now destroyed; while Cabbages that we had been counting upon to come in quickly are suffering very much, many are absolutely killed, and the others are far from progressing favourably. Our lowest temperatures have ranged from 15° to 22° of frost; but I hear from several friends in the Midlands and northern parts of the kingdom that the temperature has fallen below zero in several districts. It is too early to tell what the effects upon shrubs and other outdoor plants will be, but I fear some bad results, for such ordinarily hardy plants as Wallflowers have been killed, except in the most exposed places, where, strangely enough, they seem to have escaped. So far, however, the prospect of the fruit crops is a good one; all our trees, Apples, Pears, &c., are well-set with stout buds that are at present quite dormant, and it takes an exceptionally severe frost to injure them in that state. If, when this weather breaks up, we get a continuance of mild temperatures without the disastrous late frosts, which frequently spoil our prospects, there is every likelihood of a favourable season and good crops to compensate for the present trials.—*R. T. W.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

Work is still greatly retarded in this department, and we have prepared for a late spring with very meagre supplies during the next few weeks. Our winter crops are nearly all gone, and the recent severe frosts have seriously damaged what little still remained in the shape of green vegetables; even the hardy Borecole has suffered, and there is now scarcely anything left but this. Some of our neighbours are even in a worse plight, their vegetable stock being entirely exhausted, and unfortunately the ground still continues so hard that we can do no sowing. The few seeds sown in a fine interval last month will fare badly, and it is questionable if we shall gain anything in point of earliness even if they are not killed. Vegetation will be rapid when the weather becomes more favourable, but the soil is so cold that seeds will germinate slowly, and the crops will all be proportionately late.

We have the bulk of our seeds to sow, such as Beans, Beet, Savoy, Carrots, Leeks, Lettuce, Peas, Spinach, Radishes, and Turnips; but at present they must wait, though we shall seize the first opportunity for placing them in the ground. The principal work just now consists in attention to some details that will save labour later on, such as clearing the ground of rubbish or the remains of winter crops, placing dressings of manure over the roots of fruit trees, especially for Gooseberries or Currants and Raspberry stools that need encouragement of some kind. Birds are very troublesome with us, and the pruning of the two former will be delayed for a short time yet, as our feathered foes are busy amongst them, and have a great partiality for the upper buds. It is a difficult matter to keep the birds away, and though we scare them as much as possible in several ways, they still do considerable mischief which we cannot prevent. On several occasions we have had the mortification of seeing early-pruned bushes stripped of their buds, and this season we shall try what late pruning will do to avoid the evil. Gooseberries we prune but little at any time, merely removing the weakest shoots, shortening those unduly long, or cutting away any that are causing the bushes to be crowded.

In some districts Pear and Apple trees are much affected with American blight, and a dressing is advisable at this time of year to cleanse the stems and kill the eggs. Nothing is better for this purpose than strong brine, which can be scrubbed well into the crevices of the bark, the addition of a small quantity of soft-soap assisting this in its action. The stems are usually washed with lime, which is excellent in its way, but disfigures the trees very much, and it is preferable to employ lime in a dry state for dusting over the trees that are much affected by moss. It can also be used on paths or lawns that are similarly affected with the best results. Walls are great harbours for insects, especially old walls which have not been repointed for some years, as the crevices in the mortar form good refuges for numberless insect pests and shelters for their eggs. The expense of having such walls properly pointed will be well repaid in the increased health of the trees trained to them. Where insects have been particularly troublesome, and in glass houses, a dressing of hot lime must be applied to the walls, thoroughly washing all wood-work and staging.

Any roots of Rhubarb out of doors may now be covered with old tubs or large pots, and long hot manure heaped over them. This will hasten their growth surprisingly, and a cutting will be obtained in a week or two's time. We are still lifting a few Jerusalem Artichokes, which prove very acceptable as a change. It is a useful vegetable, as it will grow in any corner and in almost any soil. Directly the soil is sufficiently thawed we shall divide some Globe Artichoke stools, re-planting the off-sets in rich soil, and applying a dressing of manure to the old plants.—*Scolytus.*

THE ST. JOHN'S NURSERIES, WORCESTER.

Though known the world over wherever gardening is cherished as one of the largest and best equipped plant producing establishments in this country, it is only by paying a visit to the famous nurseries at St. John's, a suburb of Worcester city, that one can gain any adequate idea of the magnitude of the operations in plant and tree raising carried on by the firm of Messrs. Richard Smith & Co. To say that the nurseries cover 190 acres of ground, or thereabouts, that a large area is covered with glass, and that there is a straight service road through the nursery a mile and a quarter in length, may help us a little in the matter, but the real facts of the case can only be obtained by a walk through the houses and tree quarters, and by observing the high pressure rate at which propagation is carried on in the former, and the splendid quality of the trees, shrubs, and other hardy plants grown outside.

Started in a modest way some eighty years ago by the father of the present head of the firm, the business has been raised to one of the first importance in the trade, and judging by the energy with which its vast operations are conducted, it bids fair to increase both in size and reputation. At St. John's there are certain specialities which form the main features of the business, but with the exception of Orchids there is no class of plants of any value that is not cultivated to a greater or less extent. The specialities in the glass departments are Clematises and Roses, and outside hardy ornamental trees and shrubs, fruit trees, Roses, and herbaceous plants, are the great features. Of Clematises, the numbers annually propagated by grafting is simply enormous, the stock raised last year being between 75,000 and 80,000, and this season the number will be increased, so great is the demand for these useful and showy climbers. The number of sorts grown is about 75, and that which is increased in the greatest number is C. Jackmanni, of which it seems impossible to grow too many.

Roses in pots stand next as regards numbers, and next to the Clematis houses there is no more busy department in the nursery at the present time, some thousands of plants being grown on in all sizes for the spring and summer trade. Some sorts are, of course, more extensively grown than others, and it is interesting to know that Niphetos and Marechal Niel still head the list, the former being first, and plants of all sizes are kept in stock. The other popular varieties are Devoniensis, Isabella Sprunt, Sunset, Perle des Jardins, Reine Marie Henriette, Gloire de Dijon, Catherine Mermet, Marie Van Houtte, W. A. Richardson, and Madame Falcot; while among the new ones special regard is being paid to the propagation of Madame de Watteville, Camoens, William Francis Bennett, Grace Darling, Etoile de Lyon, &c. Standards and dwarfs, outside, are represented by thousands, notwithstanding the strong demand that always seems to exist for them.

Among the hardy ornamented plants, next to the vast numbers of handsome specimen Conifers of all sizes, nothing at this season seems to stand out so conspicuously in the quarters as the large standard Hollies, the gold and silver variegated varieties of which attract the eye at all points, and compel one to wonder why it is that these hardy and handsome trees are not more grown for winter effect. Of Golden Queen, Waterer's, and The Milkmaid it is impossible to speak too highly, while the weeping forms of Golden Queen and Silver Queen equally claim our admiration. All the variegated and green-leaved varieties that are worth growing are to be seen here, and in plants ranging from 1 ft. to 14 ft. in height. Among Conifers few things attract the notice of visitors just now more than the fine stocks of Picea nobilis glauca, P. pinsapo glauca, P. Veitchii, P. lasiocarpa, P. grandis, Cedrus deodara, Cupressus Lawsoniana and its variety viridis, Thujopsis borealis, Thuja Lobbi, and the American Arbor vitæ, all sorts being represented by plants from 1 ft. upwards. Here, also, we noticed a few plants of the weeping Hemlock Spruce, recently obtained from America, and which promises to become a favourite when better known. Common Yews and Laurels—colchica, caucasica, and Portugal—and Austrian Pines are seen in immense quantities.

Of Deciduous trees the best variety of purple Beech, and the cut-leaved forms of Beech and Birch, seem to have special attention paid them; and trees for street planting are grown in immense numbers. Perhaps nowhere else can such a grand stock be seen of London Planes, of all sizes up to 18 ft., and fit for producing immediate effect. Other trees grown for this purpose are the Sycamore, the Norway Maple, the Huntingdon Elm, and the Red Twigged Lime. Variegated leaved trees, largely grown, include the Variegated Sycamore, Acer negundo variegata, Purple Sycamore, Acer colchicum rubrum, A. Schwedlerii, A. virginicum rubrum, the Purple Beech, Golden Oak, Purple Oak, Golden Poplar (P. canadensis aurea), and the Golden-leaved Catalpa. Weeping trees again form another section, and very handsome most of them are. Among Willows, Wolseyana, Kilmarnock, and American Weeping, hold a very prominent position; and there are few more striking objects than the Weeping Elm (Ulmus latifolia pendula), which grows in the form of an umbrella. Populus grandidentata pendula is another free growing and fine tree. The Weeping Ash requires no comment; but Carragana arborescens pendula deserves to be better known as a cemetery tree, as for this purpose it is strongly to be recommended.

The fruit tree department would require a page or two to itself to do it anything like justice, and the trees to be seen in summer, not as they are, of course, now, under bare poles. Standards, dwarfs, bushes, pyramids, espalliers, dwarf trained and cordons in galore, are here to be seen. As we walk through quarter after quarter, admiring the cleanly grown and thrifty trees of Pears on the Quince, standards on the free stock, Apples in all the leading kinds, and in any form desired, Plums, Cherries, &c., one wonders where they will all go to, and how soon they will be sent away. Trained trees in pots—Apples, Pears, Plums, Peaches, and Nectarines—also claim attention by their numbers and quality. But we must get on to the herbaceous department, noting by the way immense beds of Asparagus, one, two, and three years old, and several varieties of American Blackberries, which are growing in popular favour, if we may judge by the demand for such sorts as the Wilson Junior, Kittatinny, Lawton, Taylor's Prolific, Parsley-leaved, and Dorchester.

The herbaceous plant department occupies some four acres, and here large stocks are maintained of all the leading decorative sorts, and the number of species and varieties cultivated is between 5,000 and 6,000. Stove and greenhouse plants are also represented, and some things in great numbers. Ericas, and Epacrises, Pimelias, and New Holland plants generally for the autumn trade are well done. Lapageria rosea and alba are raised in large numbers, of seedlings alone the number is 12,000, and we noted a fine stock of L. rosea magnifica, the highest coloured variety known. Show and fancy Pelargoniums, Indian Azaleas, and Camellias, all home worked, and fine healthy stuff, and a great variety of stove plants also claim recognition, but which the limits on our space forbids for the present.

ON WINTERING LOBELIAS.

I have many times heard reports of failures similar to that made by Mr. Gilbert, and as to the difficulty of keeping a stock of plants to provide the spring supply of cuttings, I have seen in some of your contemporaries, questions asked again and again. There can be no doubt but that the cause of failure in most instances is one that is under our complete control, and if the requisite attention is given to the matter, the difficulty is at once obviated; I speak confidentally from having been in the oven once myself many years ago. I used to pot up a fine lot of plants in the autumn, and which used to go on and look well perhaps for two or three months, and then grow less beautiful day by day, until, eventually, they became unsightly objects with scarcely a healthy cutting upon them.

Having several times signally failed in wintering my Lobelias, I was led to adopt a plan which has proved most satisfactory. I had, hitherto, taken up the plants in the autumn for stock, and potted them entire, but instead of thus potting them, I subsequently adopted the plan of dividing them into small pieces, potting six of these round the edge of 5-in. pots, in which thumb pots are inserted for the purpose of drainage. After a good watering they are placed on shelves as near the glass as possible, in which position they remain until the following spring, being supplied with water as required. By the month of March the plants become good bushy stuff, and ready to be still further operated on, and in most cases when they have done well the number can be multiplied by six; three dozen plants from every 48-sized pot so wintered, are all destined to make good plants by the time that they are required for bedding out. When the plants are divided in the spring, four plants only should be placed in a 5-in. pot, or the plants can be placed in shallow boxes, and turned out from these without using pots at all. The plants should, when divided and replanted, whether in pots or boxes, be put rather deep in the new soil, which induces entirely new root growth, and renders the young plants so treated equal in every respect to those raised by propagating from cuttings. I rarely now increase by the latter mode, or by seed, unless it is with some new sort, or with the object of endeavouring to obtain a distinct variety. I herewith enclose a plant, one of six, from a 5-in. pot, as an example of the treatment herein described.—*George Fry, Lewisham.* [Nothing could be more satisfactory.—Ed.]

BLUE HYDRANGEAS.

Not long since an order was received by a nurseryman for a plant each of a blue and pink Hydrangea. The nurseryman, as a matter of course, would find some difficulty in executing such an order, because, although he might obtain a plant that in the previous year had produced blue flowers, he could not say when transplanted to another soil it would still continue to do so. My neighbour, the nurseryman, was fairly puzzled, and he appealed to me for advice. I counselled him to obtain a struck cutting from a plant that had flowered blue, but to be careful to state he could not guarantee that the flowers would be blue when the plant bloomed. He did this, and in doing so took a straightforward course.

The actual cause that produces the change of colour in the Hydrangea is yet a matter for doubt. Experiments have been made, but they have scarcely taught us more than mere conjecture. "When iron filings and a solution of alum are used, in some soils the blue colour is produced, while the same means will not produce it in others; and other soils will almost invariably produce this blue colour without any peculiar matter whatever being added. The loams at Kenwood, at Hampstead Heath, and Stanmore Heath, and the peats at Wimbledon, as well at some bogs near Edinburgh, are famous for producing this blue in the Hydrangea. When trying artificially with iron filings and alum-water, we have had different colours on the same plant. This variation is merely temporary, it cannot be propagated like a variety; a cutting from a blue plant will produce a rose one, unless the peculiar treatment be continued." Such is the testimony of one authority.

When I was travelling in Ireland in 1869, I was amazed at the blue Hydrangeas I saw there. I can instance three places in particular where they were grand about the shrubberies, viz., at Mr. Grant's, a small place near Lismore Castle, in the Valley of Blackwater; at Castle Martyr, the Earl of Shannon's seat, near Cork; and at Muckross, Killarney, Captain Herbert's charming place. At Mr. Grant's there were immense bushes of great width and age; some had been planted over forty years, and the flowers were of a beautiful blue tint, and they were growing too on a somewhat elevated spot above the level of the roadway. At Castle Martyr, and also at Muckross, the plants were smaller but finely coloured. In both cases the flowers opened pink and then changed to blue, and as they decayed they assumed the pink tint again. In all cases I was informed that the presence of the blue tint was owing to oxide of iron being in the soil. In the marshy parts of the Muckross demesne the small rivulets were tainted with the oxide, and in the moist parts it exuded from the ground as a result of the pressure of the foot upon it.

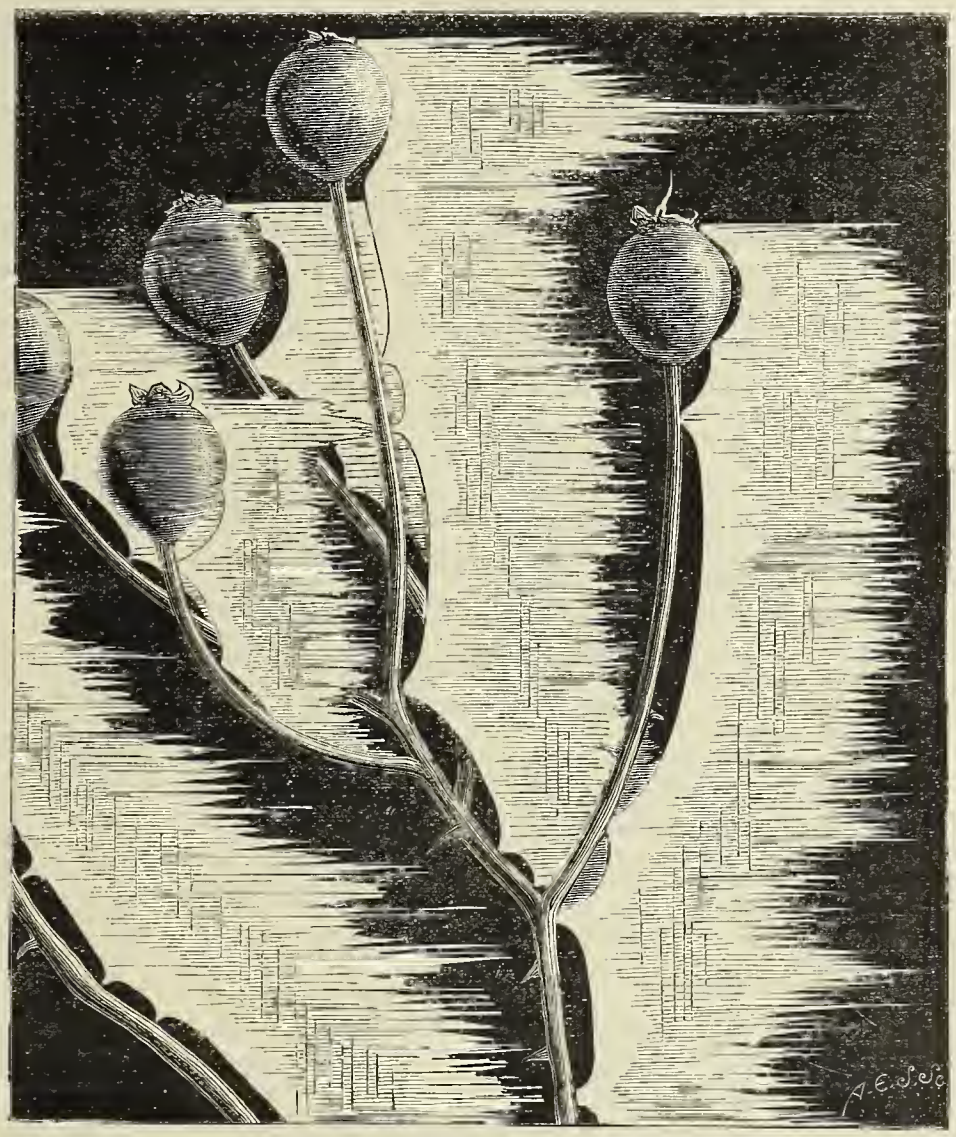
Another remarkable fact was, that cuttings taken from the blue-flowered Hydrangeas when struck and in flower, if grown in pots, bore no trace of the blue tint, thus showing to my mind that the blue colour was traceable to some property in the soil, but when planted out in the open ground in the course of four or more years, sometimes less, blue flowers would appear. I wonder if artificial means would produce such a decided blue tint as that I saw in Ireland?

We are told by chemists that an oxide is a substance formed by a combination of a portion of oxygen with some base, or a substance combined with oxygen without being in the state of an acid, and this appears

to suggest certain exact conditions scarcely to be obtained by artificial means. But I do not dogmatise as I may be wrong in my conjecture. This I know, that I shall never forget the peculiar beauty of the blue Hydrangeas at Muckross, as there was something unusual and striking in the depth of colour they displayed.—*R. D.*

FROST, FOG AND WIND.

The drawing from which the accompanying illustration, was prepared, was made on February 19th last; it represents a remarkable effect of frost, fog and wind combined. For several days, about the date just mentioned, the frost was very severe here; the hills at the same time were continuously hidden by a wet fog, which was driven gently along by a biting wind from the north-east. The effect of this on the naked branches of the trees and bushes on the top of the hills was most curious, for every branch, from top to bottom of the tallest trees, presented vertical bands of ice to the wind. The blades of ice were about 2 in. wide, to from 2 in. to 2 ft. long, and as thin as a knife blade, the edge being towards the wind. When the thin bands of ice attained a width of about 2 in., they fell from the branches to the ground, only for new blades to be again quickly formed. Any little extra wind caused a stir amongst the branches like the sound of breaking glass, and then numberless blades of glass would fall to the ground; underneath the trees the ground was thickly carpeted with pieces of ice from 2 in. to 8 in. long, 2 in. wide, and about as thick as writing paper. As it was freezing sharp all the time, these fragments, like waste pieces of window glass, remained on the ground for a long time. The illustration shows a fragment of a wild rose bush ornamented by frost, fog, and wind in this peculiar manner. It will be observed that the blades of ice are not continuously attached down the whole length of the branches, but are held on here and there at special points. This curious method of attachment seems to have been brought about by the branches being warmer than the atmosphere, and so causing the ice to partially melt away as soon as formed.



Effects of Frost, Fog and Wind.

The ground has not been free from snow here for about four months, and at the present time it is 3 ft. and 4 ft. deep where it has drifted by some hedge sides. In flat places it has nearly vanished.

During the winter, the snow by constant thawing and freezing was changed to thick coverings of ice. This ice sheet in some places completely imprisoned swarms of Moles. These animals beneath the ice came to the surface of the ground, and burrowed between the bottom of the ice sheet and the ground surface, so that when the ice was at last melted the runs of the moles were seen without the usual earthern covering. I have carefully measured and drawn some of these complicated labyrinths of the ice-bound moles.

The grass and wild plants are much more advanced in growth where the snow has lain longest, as the vegetation has not been so badly bitten by the frost. Snowdrops, the winter Aconite, Hellebores, and the Mezereon, seem but little the worse for the cold weather.

One plant growth in January greatly surprised me. Near my residence is a beautiful stretch of grass on a road-side, this was covered for a week or two with snow, when a bright day or two melted it all away; to my astonishment on visiting this spot before all the snow had really gone, I found it covered with a grand growth of Nostoc commune, the familiar gelantuous green substance (Alga) called in some place "fallen stars." The chinese eat an allied species (Nostoc edule) of this dirty green quivering jelly—they turn it into soup, and then say the resulting liquor is fit for the gods; I am hardly so far advanced in gastronomy at present.—*W. G. Smith, Dunstable.*

A HOME FOR FLOWERS.

Mr. H. Cannell is at once an original and a most capable florist, and when deviating from the beaten track in designation, he applied the term "Home for Flowers" to his very extensive, and still growing establishment at Swanley, he was doubtless desirous of attracting public attention on the one hand, whilst yet practically creating a huge floral home. But it must be admitted that to myriads of the plants reared at Swanley, the term "home" is hardly realised, as they seem to be raised in thousands to-day, to be dispersed to the four quarters, or shall I commit an Hibernianism, and say five quarters of the earth to-morrow. Certainly the Home prospers upon the migration of its progeny. Well, the Swanley Home is a remarkable place at any time, and, perhaps, most of all so when seen in the dead of winter.

I have been there in January, and was there again but the other day in the second week of March, and truth to tell, the January day of some three or four years since was a soft summerish day compared with that of March the 11 ult., when the bitter frost-laden north-easter blew up this long Kentish valley a blast as fierce as could well be experienced. All nature in the open bore a wretched, seared, blasted aspect, and the ground was locked up in frost. Within the houses—and these are almost legion—sweet, soft, balmy summer prevailed, and flowers were found in such wondrous beauty and abundance, as to beggar true and honest description. Walking through the nursery, I became aware, with peculiar emphasis, of the forethought shown by Mr. Cannell in planting here and there in rows, crossing and recrossing each other, Lombardy Poplars; for these, now some 16 ft. in height, and 2½ ft. through at the base, though leafless, yet broke up the wind with good effect, fully moderating its bitter keeness one half. It was just the day to display the advantage of shelter, and I found the benefit of it, as did all vegetation within its range. Mr. Cannell also has Beech hedges—still covered with the dry leaves, which weirdly clatter in the wind, but none the less break its force effectually. In planting future shelter rows, Beech and Poplar will be alternated.

But outside at this season there is little that is worthy of special notice, for my business is rather with the contents of the glass-houses, which have largely increased in number since I was last at Swanley. Readers who have heard of the Home, and have not yet visited it, will be interested to learn that whilst there is an acre or more covered with frames, the plant-houses number about thirty-five. Of these there are two blocks of 100 ft. houses, of which there are thirty, all standing side by side, all span-roof, each 10 ft. wide, and all without side-lights, but ventilated solely from the top and by means of the doors at either end. How admirably this style of house suits plants it is but needful to visit Swanley, or, indeed, any market plant-growing, establishment to be assured of. The other five houses are each 150 ft. in length. Thus we get an absolute length of 3,750 ft. run of house, covering a large area, and, as in the present instance filled to the utmost with plants. Here we have no less than three-quarters of a mile of houses full to repletion, and anyone anxious for a sum in arithmetic may employ themselves in ascertaining how many plants in 48-sized pots this big area of glass-houses will hold, deducting throughout the length an alley 2 ft. in width. Of these houses no less than eight are devoted solely to Pelargoniums, of which family there are many sections; but just now the most attractive are the single zonals, a section for which Mr. Cannell is always famous, and never more so than in the winter months, when his houses of these plants are in bloom, whilst all outside is misery, is one of the floral sights of the kingdom, and worth going hundreds of miles to see. When I looked in the other day the knife and propagation had beheaded many fine kinds, but there was still a glorious show of bloom, and although the plants had been flowering for five months yet many of the trusses were grand, and the flowers wonderfully fine and marvellously perfect. Better would hardly be possible. Many of the pips almost excelled the representations found in Mr. Cannell's remarkable "Floral Guide."

Of kinds then, and doubtless still, in bloom were M. Chevreul, rich magenta; Celia, rich crimson; Hermia, rosy red; Constance, rich rose; Swanley Gem, rosy salmon; Scarlet Cloth, rich scarlet; Lord Roseberry, cerise red; Plutarch, bright scarlet; Mrs. Norris, fiery scarlet; Ajax, reddish scarlet; Mrs. Johnson, rosy magenta; Commander-in-Chief, Dr. Denny's grand scarlet, and almost the only one of that raiser's in stock; Lady Reed, pure white, scarlet centre, the finest of all the oculated section; Norah, soft blush; Lady Chesterfield, deep salmon; Imogen, soft salmon; Edith George, reddish pink; J. McIntosh, crimson-scarlet; Leno, magenta, very dwarf and free; and that

beautiful white, Queen of the Belgians. A new white, expected to be the best yet in commerce, Mrs. H. Cannell, one of the veteran Windsor's seedlings, will be open in a day or two. This selection is but a few out of the many kinds in bloom. All are of the very best, and can be recommended with the utmost confidence. —*D.*

(To be continued.)

THE RHODODENDRON.

In returning to this subject (see p. 421), I may as well, before giving a list of approved varieties, refer shortly to the native habitat of the Rhododendron, and also mention the usual mode by which it is propagated. Certain species of Rhododendron are to be found in all the four quarters of the globe. Rhododendron ponticum is a native of Asia Minor, and is also said to have been introduced from Gibraltar; R. maximum, R. punctatum, and R. catawbiense, are natives of North America; R. arboreum comes from Nepal, and from the same hill country many other choice kinds have been introduced, which are known as Sikkim, and Himalayan species. Again we have Rhododendron dauricum from Siberia, and R. ferrugineum, R. hirsutum, and others are European species. The popular Rhododendron of which I wrote at p. 421, has chiefly sprung from R. ponticum, and the American kinds above mentioned, touched up with R. arboreum to give colour. According to Loudon, it is just 150 years ago since Rhododendron maximum was introduced into this country from America, and from the same authority we learn that it is but a little more than 120 years ago since the introduction of R. ponticum; and that R. catawbiense was not introduced until the year 1809. From these facts, and considering what the originals are, it will be seen that the cultivator and hybridist has not been slow in perfecting a class of plants, if one may use the term, leaving but little to be desired.

The propagation of the Rhododendron is very simple, we may say that it is limited to three operations, viz., seed sowing, grafting, and layering. The Rhododendron is propagated from seed to perpetuate the species and to obtain new varieties from the seed of carefully and skilfully fertilised flowers. The seed is best sown in January and February in pans well drained and filled with peaty soil very fine on the surface, and pressed down smooth previous to sowing the seed, which should not be covered with soil. The pans must be kept in the propagating house and carefully shaded; in about three months from the time of sowing the young plants will be strong enough for pricking out into pots or pans. None of the Rhododendrons are grown from seed in such numbers as is R. ponticum; it has a reputation as a cover plant, and is extensively used for that purpose, being game proof; it is also the kind on which existing varieties are grafted by tens of thousands yearly. Grafting is by far the most important system of propagation adopted for the Rhododendron, and the operation is usually carried out during the first three months of the year; they may also be grafted in the autumn with advantage. Layering has some advantages over the grafting system, as it is done out of of doors, whereas the grafted plants require the protection of a house or pit. Plants from layers have no objectionable suckers springing from the root, as happens sometimes from grafted plants, still, layering is not practicable in the case of seedlings and new varieties, as it absorbs the whole plant. Rhododendrons are best layered in the months of September and October.

The following is a list of select varieties. Some of them are new, but the majority consists of the most approved varieties for general cultivation:—

Alexander Dancer.—Bright rose, lighter centre, fine.
Austin Layard.—Rosy crimson with dark spots, handsome truss.
Baron Schroder.—Plum colour, yellow centre, most distinct.
Barclayanum.—Deep rosy crimson, a fine late blooming kind.
Bluebell.—Blush, light purplish margin, distinct, good habit.
Bruce Findlay.—Rose and large dark spot.
Busybody.—White, green centre, distinct.
Caractacus.—Rich purplish crimson, splendid truss, fine foliage and habit.
Chas. Bagley.—Cherry red, fine truss.
Charles Dickens.—Dark scarlet, fine habit and foliage.
Claude.—Clear white bordered with bright lake.
Countess of Normanton.—Pale, almost white, dark markings, fine truss.
Concessum.—Clear pink, lighter centre, beautiful.
Crown Prince.—Bright rose, yellow spot.
Delicatum.—Blush changing to white, with a distinct brown spot.
Duchess of Bedford.—Crimson, light centre, grand truss.
Duchess of Connaught.—White with lemon-coloured marking.
Duke of Teck.—Bright magenta, shaded rosy lilac, white blotch.
Everestianum.—Rosy lilac, spotted and fringed, an excellent free-blooming sort.
Fair Helen.—Pure white, finely marked, with a rich yellow spot.
F. D. Godman.—Crimson, fine blotch, good foliage and habit.
Frederick Waterer.—Intense fiery crimson, fine truss.
Fastuosum flore pleno.—Mauve, immense trusses of double flowers.
George Paul.—Crimson, finely spotted, showy and free blooming.
Helen Waterer.—Pure white ground, margin bright crimson, very attractive.
H. W. Sargent.—Crimson, enormous truss, a magnificent variety.
Jack Waterer.—Light centre, with band of clear scarlet.
James Macintosh.—Rosy scarlet, splendid habit.
James Nasmyth.—Rosy lilac, intensely blotched maroon, fine.
Jas. Marshall Brooks.—Rich scarlet, bronze spot, very distinct.
John Walter.—Rich crimson, fine form and habit.
John Waterer.—Dark crimson, a fine free-blooming kind.
Kate Waterer.—Clear rosy crimson, with large yellow mark; one of the most distinct.
Lady Armstrong.—Pale rose, much spotted, beautiful.
Lady Eleanor Catheart.—Clear rose with chocolate spot, much admired.
Lady Winifred Herbert.—Rosy crimson, lighter centre, finely marked with chocolate spots on the upper petal.
Lady Rolle.—White, changing to blush, upper petal brownish yellow.
Lady Clermont.—Rosy scarlet, intensely blotched, fine shape
Lady Grey Egerton.—Silvery blush, splendid truss and foliage.
Madame Carvalho.—Blush, changing to pure white.
Marchioness of Lansdowne.—Pale rose, with intense black spot; one of the most distinct and telling varieties.
Martin H. Sutton.—Scarlet, richly marked; one of the most distinct and finest of its colour.
Meteor.—Fiery crimson; fine.
Marie Stuart.—Blush maroon spot.
Michael Waterer—Bright scarlet crimson, much admired.
Minnie.—Blush white, spotted with chocolate, a distinct and useful variety.
Mrs. Frank Phillips.—Deep rose, light centre, distinct.
Mrs. Layard.—White centre, with a fine margin of bright crimson.
Mrs. John Waterer.—Bright rose, spotted.
Mrs. Shuttleworth.—Scarlet, lighter centre, much spotted, beautiful.
Mrs. S. Simpson.—White, finely spotted, large truss.
Mrs. Tom Agnew.—White, lemon blotch, very beautiful.
Mrs. John Clutton.—White, most beautiful, very hardy.
Mrs. Mendel.—Pink, each petal rayed white, yellow centre.
Mrs. William Bovill.—Rich rosy scarlet, very attractive.
Mrs. William Agnew.—Pale rose, yellow centre.
Picturatum.—Cream colour, with a chocolate blotch, distinct.
Princess Christian.—White, large blotch of orange and black spots.
Princess Mary of Cambridge.—White centre, rosy purple edge, fine.
Princess of Wales—Magenta edge, pure white centre, brownish spots.
Prince of Wales.—Bright rose, shaded with purple
Purity.—White, with a faint yellow eye, very showy.
Purpureum grandiflorum.—Very fine purple.
Ralph Sanders.—Rich purplish crimson, finely marked.
Sappho.—White, distinctly blotched with maroon, the best of its class.
Sefton.—Dark maroon, fine truss.
Salvini.—Purplish rose, shaded, well marked with chocolate spots on upper petal.
Sigismund Rucker.—Magenta, richly spotted, distinct and beautiful.
Silvio.—Rich purple, yellow centre, very distinct.
Sir Richard Wallace.—Fine clear rose, yellowish centre.
Sir William Armstrong.—Bright crimson, fine truss.
Sir Thomas Sebright.—Rich purple, with distinct bronze blotch.
Snowflake.—Pure white, fine conical truss, beautiful.
Stella.—Pale rose, intense chocolate blotch, very free bloomer.
St. Blaise.—Purplish crimson, intensely spotted, very effective.
Sylph.—Bright rose-pink, fine truss, very beautiful.
The Queen.—Blush, changing to white, fine shape.
The Warrior.—Rosy scarlet, very late.
Vandyck.—Rosy crimson, very fine.
William Austin.—Bright crimson, fine truss, free flowering.
William Ewart Gladstone.—Pink, fine truss.

Early Flowering Varieties.

The following Rhododendrons being rather early and free flowering, are recommended for potting.

Auguste van Geert.—Rosy purple.
Blandyanum.—Rosy crimson.
Bouquet de Flore.—Blush, spotted.
Brayanum.—Rosy scarlet, lighter centre.
Broughtoni.—Rosy crimson.
Cardinalis.—Rosy purple.
Caucasicum pictum.—Blush spotted.
Cleopatra.—Blush.
Cynthia.—Rosy crimson.
Everstianum.—Rosy lilac.
Fair Rosamond.—Pink.
Fastuosum fl. pl.—Mauve, double.
Grand Arab.—Crimson.
Kate Waterer.—Rose, yellow centre.
Limbatum.—White, scarlet edge.
Michael Waterer.—Crimson spotted.
Miss Owen.—Blush-red spots like Apple blossoms.
Mrs. John Walter.—Light centre, edged pink.
Purity.—White, faint yellow eye.
Prince Camille de Rohan.—Blush, dark eye.
Salmonea rosea.—Flesh colour, spotted.
Victoria.—Claret colour.
Verschaffelti.—Blush, much spotted.

Late-flowering Varieties.

The undermentioned are a few of the latest to flower, and which remain in flower a long time; they will be found useful when a late display is desired.

Barclayanum.—Rosy crimson.
Baroness Rothschild.—Crimson, deeper margin.
Distinction.—Light rosy crimson, spotted.
Delicatum.—Blush, changing to white.
Doncaster.—Brightest of scarlets
Fleur de Marie.—Rosy crimson, lighter centre.
Francis Dickson.—Scarlet.
Hannibal.—Fine rose.
Hermit.—Scarlet.
Hogarth.—Rosy scarlet.
John Spencer.—Rose, margined with deep pink.
Joseph Whitworth.—Rich dark lake.
James Nasmyth.—Rosy lilac, blotched maroon.
James Mason.—Light centre, deeper edging.
Lady Annette de Trafford.—Cream colour, chocolate blotch.
Madame Carvalho.—Blush, changing to white.
Minnie.—Blush-white, spotted.
Mrs. John Kelk.—Clear rose.
Mrs. John Clutton.—White, very beautiful.
Mrs. Harry Ingersoll.—Deep rosy lilac.
Mrs. Mendel.—Pink, yellow centre.
Roseum grandiflorum.—Deep rose.
Prince of Wales.—Bright rose.
Oculissimum.—Rose, intense dark markings.
Philotis.—Clear crimson.
Sunshine.—Fiery crimson.
Temerlane.—Dark maroon.
The Warrior.—Rosy scarlet.

—*G. T.*

TABLE, WINDOW, AND INDOOR PLANTS.

Your correspondent "Madeline," at p. 264, Dec. 27th, 1884, in one of the most pleasant and practical articles on window Fern cases which ever came under my notice, and which all who are interested should read in the original, mentions that the turning-point in her success with her window case came when she recognised the merits of Japanese Ferns for furnishing it. After candidly describing the troubles of her earlier experience, and describing her ultimate victory over her refractory Fern case, the lady gives a list of plants which, when planted in it, brought about the desired end without trouble and at but little cost. I must say that a better selection could not be made, and in her praise of Japanese Ferns for growing in the dwelling-house I entirely agree, as most of them having smooth evergreen fronds are not susceptible to be acted on by changes of temperature or other causes to which plants in the house are subject, they are specially adapted for such culture.

The following Ferns, many of which are natives of Japan, and all of which are evergreen, are of easy culture in the dwelling house:—Lygodium japonicum (the

climbing Fern), Adiantum capillus veneris (British Maiden Hair), Aspidium capense, Asplenium bulbiferum, Cyrtomium (Aspidium) falcatum, C. caryoditenm, C. Fortunei, Davallia canariense, D. Mariesii, Dictyogramma japonica, Lastrea varia, L. aristata variegata, L. erythrosora, Onychium japonicum, Pteris serrulata (the Ribbon Fern), and its crested varieties, P. cretica, P. cretica albo-lineata, P. tremula, P. longifolia, and Polystichum setosum. Most of our strong-growing native Ferns, too, grow well in the dwelling house, and are very handsome for the purpose, despite the fact that most of them necessarily become shabby for some time every year, on account of their foliage being deciduous and naturally wither. With those who hit on the right situation, Ferns grow indoors better than most things; but in the matter of position lies their chief caprice, often when they refuse to grow and appear only to dwindle in one window, they will thrive in the best manner in another. To account for this in most cases, it may be said, that, in bright sunny situations, as a rule, they do not grow well, but they like shady places, and that often when they will not thrive on the sunny side of the house, they not only grow well, but give little trouble on the shady side.

In growing Ferns indoors it is better to err in giving too much water (rain-water being always used where procurable) than too little, for, generally speaking, the first thorough drying, particularly when in active growth, is fatal to the beauty if not the life of the plant. In watering, however, it is better to give a thorough watering and then wait for the effects of it to pass off, but not for the plants to become dry before giving another rather than to be continually giving in small quantity as some do. For soil, that recommended by "Filix" at p. 444 (whose general article on potting Ferns may be read with advantage), viz., equal proportions of turfy loam and peat, with a little leaf-soil and sand is the best, as it favours the production of good fronds, and helps to retain them better than peat and sand alone.—*M. A., Camb.*

FRUITS, FLOWERS & VEGETABLES.

Phlox Drummondii.—Your notice of the demise of the widow of Mr. Squibbs, for many years gardener to — Turner, Esq., the Rook's Nest, Godstone, reminds me of a very beautiful bed of Phlox Drummondii he had when I first visited him upwards of thirty years ago; and there can be no question but that a bed of a good strain of this Phlox remains at the present time unsurpassed in the way of half-hardy annuals. Their varied and brilliant colours, and easy management, render them eminently useful both for beds and borders. The eye never tires of looking upon a group of these plants when the colours are nicely arranged. Sown at this time they can be grown on in pots or boxes and turned out in May, and will continue to bloom during the whole of the summer and autumn, in fact, no plant continues on so long or stands the weather better for such a lengthened period. I have gathered the flowers quite late in the autumn, when most of other things have been past. Sometimes I have been induced to take up and pot a few well-formed plants, and these have gone on flowering for months, producing a nice effect with their white, rose, purple, scarlet and crimson flowers; the plants so taken up have stood somewhat singly in the beds or borders, and have been potted up with a good ball of earth attached to the roots, and well watered at the time. The plants strike root readily from cuttings, and should there be any of extraordinary beauty, I have adopted this plan to perpetuate them, and also with a view of obtaining seed of the most choice and select description.—*Man of Kent.*

Fuchsia culture.—On page 427, "A Fuchsia Grower" asks for information respecting what might be termed the first stage (after striking the cuttings) in Mr. Lye's method of obtaining specimen Fuchsias. "A Fuchsia Grower" remarks, and with much force, that "very many are the growers of specimen Fuchsias who fail in producing fine handsome ones, simply because they do not understand the nature of the initial training required. The first year's growth is that which must be clearly understood, and what follows, in future years, will be but the corollary of that; as no one, be he ever so clever, can hope to create a giant pyramid in one year—barely, perhaps, in two years." I may here remark, that Mr. Lye has put on record this fact, which he stated in a communication made to me three or four years ago:—"Several of my plants, that I exhibited the past season, were rooted the previous March twelvemonth. At *eighteen months of age* they were from 7 ft. to 8 ft. high, and from 3 ft. to 4 ft. in diameter." So that in eighteen months (the Trowbridge Show generally takes place during the third week in August) plants 7 ft. to 8 ft. in height are obtained from cuttings. Now as to the initial stage of culture. In a letter just received from Mr. Lye, he wishes me to state that "the plants are potted on as they advance in growth from cuttings, and all the most vigorous shoots are pinched back as they make their growth, say to two or three joints from where they start. This practice I continue until I get the plants the height and shape required. If the centre shoot should grow too fast, and not throw out lateral growths where required, the point is pinched out. It will then throw out side branches, but another leader must be sought for, and allowed to go on, and be kept tied to a central stake." It is in this way, then, that Mr. Lye lays the foundation of the splendid specimens he shows at two, three, four and five years of age. I think it will be found, from the foregoing, that Mr. Lye does what "A Fuchsia Grower" surmises he does, in the latter part of his paragraph on p. 427.—*R. D.*

Lord Roseberry Potato.—In your last issue, p. 438, your correspondent "A D" in reviewing some of the best and newer kinds of coloured Potatos, mentions one named Lady Roseberry, and remarks that it seems to approach to the Grampion in character, and is of good quality. Is it not possible that there is a slight mistake in regard to the name "Lady" instead of "Lord Roseberry," which variety was raised by me from a seedling off the Grampion, and sent out by the firm of Messrs. William Smith & Sons, Aberdeen. It bears the resemblance noticed by "A. D.," and is of excellent quality and beautiful shape, and when the skin is damp is of a deep red colour with white blotches.—*James F. Smith, Gardener, Dunecht, N.B.*

Manure for Fuchsias.—In reference to your notice at p. 409, of my system of cultivating Fuchsias, I should like to mention for the benefit of your readers, that I have tried Jensen's Norwegian Fish and Potash Manure with great success. It not only tends greatly to the production of beautiful foliage, but adds much to the vigour of the plants. Care must be taken not to use it too freely at first, but when the plants are well rooted a surface dressing can be added. It is also an excellent plan to use about ¼ oz., to a gallon in watering. The Fish and Potash Manure I had last year gave great satisfaction; we never grew finer Potatos, and our Mangolds did well where it was used, many of our roots weighing from 20 lbs. to 30 lbs., which I consider good for the trying season of 1885. I also used it on part of our Wheat crop with good effect, and mean to apply it generally this season.—*James Lye, Clyffe Hall, Market Lavington.*

Tabernæmontana coronaria flore pleno.—This is without doubt one of the most beautiful of our white-flowered stove plants, and deserves far more extensive culture than it now receives, for not only are the flowers deliciously fragrant, they are also very serviceable in a cut state, the only objection to them for use in bouquets or buttonholes being the shortness of their stems when gathered singly. This, however, may easily be remedied by wiring them, and as many of our choicest flowers require similar support, the Tabernæmontana can scarcely be objected to for this reason alone. It grows freely in an ordinary stove temperature, and with proper treatment will flower almost continuously throughout the year; the freedom with which it produces flowers during the winter months renders it especially desirable whenever a supply of cut flowers is required at that season. It is best to grow some plants purposely for winter work, and a good plan is to root some cuttings of it in March, and keep them shifted on as they require it, pinching off all bloom buds as they appear until the end of August, by which time, if their requirements have been properly attended to, they will be nice bushy plants in from 8-in. to 10-in. pots. The cuttings should be inserted singly into small pots, using peat and sand in equal parts, place them underneath a bell-glass in the stove, where they will root in about a fortnight, and must then be gradually exposed to the general temperature of the house. The soil to be used at all subsequent pottings should consist of equal quantities of fibrous peat and good turfy loam, with the addition of a little decayed cow-manure and plenty of sand. Pot moderately firm, and water carefully until fresh growth has commenced and the roots taken good hold of the new soil, when copious supplies of water will be necessary, as exceeding dryness at the roots is very prejudicial to its well-being. Occasional waterings with liquid manure, or top-dressings with some fertiliser, such as Standen's or Clay's, will greatly assist them after the pots are well filled with roots. They are naturally of a free branching habit, and require very little pinching to form bushy plants. All that is necessary is to stop any shoots which have a tendency to grow away from the rest.—*C. L., P.*

Freesias.—Who could but admire the beautiful cut blooms of Freesias seen at South Kensington on the 9th inst. Freesias represent a lovely genus of Cape bulbs requiring similar treatment to the Ixia and Sparaxis. They grow about 9 ins. in height, and produce six or eight large flowers upon a stem. Mr. Ware had some bunches of these, charming in their chaste beauty, and of ivory whiteness. There was F. Leichlinii, ivory white or delicate primrose, shading to yellow; Leichlinii major, a gigantic form of the preceding, flowers considerably larger and very easily forced. The third, and to our mind the most charming of the trio, is refracta alba or odorata, the flowers pure white, and deliciously fragrant, with the scent of a sweet Tea Rose. The bulbs are small and white, and should be got in August if possible, and a few put into 5-in. pots in a light sandy soil, well drained, and placed in a cold frame, bringing them on into the greenhouse as required. By potting a few successionally, the flowers can be had from January until June. In growth the Freesias are very like Ixias and Sparaxis. They increase under the soil readily enough, so it is very easy to work up a stock. It would be very delightful to see these Cape bulbs in Jersey, where they are largely grown in common with other Cape bulbs. They soon ripen off their growth, and then they should be shaken from the soil and put into bags in dry sand or cocoa fibre, and kept in a cool dry place until wanted for potting.

Notes on Forcing Strawberries.—In my notes on this subject at p. 437, I should have said in reference to thinning out of the fruit after they are set, that all flower spikes or flowers that show on the plant after that operation has been performed should be removed forthwith, so as to concentrate all the energies of the individual plants to the swelling and ripening of large even-sized fruit. It is a great mistake to allow the same plants to ripen a successional crop of fruit in the forcing house, under the impression that by so doing a greater weight of fruit is secured from each plant than could be otherwise obtained. The result, however, would be the reverse of this, as the fruit of both crops would be small and of inferior quality, by reason of the plants being impaired by the simultaneous development of two crops in different stages of growth—from the opening of the flowers to the ripening of the fruits—and the ravages of red spider, which, under the circumstances, would be unusually troublesome, and be sure to spread rapidly to fresh batches of plants, as well as the permanent occupants of the house, assuming them to be Vines or Peach trees. Hence our advice in thinning the fruit to leave a certain number of the best and most even-sized berries to form the crop, so that they may all swell and ripen together, be gathered, and the plants removed forthwith before they get infested with spider, to make room for a fresh lot of plants. The foregoing remarks are specially intended for the guidance of the inexperienced in Strawberry forcing, as all practical gardeners are well posted in such matters.—*H. W. Ward.*

Setting Strawberries.—In reply to "Dartfordian," allow me to state that I go over the flowers of our first and second batches of Strawberries daily with a camel hair brush, with the satisfactory result that not one per cent. of the plants has to be thrown away through defective setting. With later batches the use of the brush is unnecessary, the trusses are simply shaken, and when the sun is shining the pollen may be seen flying in all directions, and the hand will be covered with it after a few pots are gone over. But in January and February we have to touch a great number of flowers before our brush shows any signs of having been in contact with pollen.—*W. P. R.*

Wintering Strawberry Plants in Pots.—It is with the gravest consideration of what I am undertaking that I venture to cross swords with such a

doughty and fearless champion as Mr. R. Gilbert; but the pits in which Mr. Roberts winters his Strawberries are simply formed by digging out the soil to the depth of 9 ins. or so, and placing a piece of board along the sides as an edging. Such pits as these are within the possibilities of the gardener of anyone, even be they at the opposite pole of wealth to a millionaire. I should think the cost of labour in stacking up the pots on their sides in the old-fashioned ridge, and filling up the interstices with ashes or some such material, would be no more than constructing the pit, purchasing the fibre, and filling it with pots. I do not say that Mr. Roberts' method is a better one than that followed by my old friend at Burghley; but he thinks it is better and so follows it. An unexpected ally has turned up this morning in another old friend and excellent gardener—indeed, forming a trio that it would be difficult to beat as all-round men—namely, William Wildsmith, of Heckfield, who says, "I have a nice lot of Strawberries ripe, but not wintered *a la* Gilbert and Challis, but as Mr. Roberts winters them." With this parting shot at the "G. O. G." of Burghley, I shall await with some little anxiety and no small perturbation of mind for a return shot from Stamford.—*R. D.*

Will your able correspondent, Mr. R. Gilbert, be so kind as to give your readers the name of the Strawberry he started in December last, and was so successful with; and will he also, later on, if he grows Sir Charles Napier, and stacks them like the others, tell us, through your columns, how many he had "blind," in comparison with the same number of the sort that he grows early? I find here that Sir Charles Napier will not stand the sharp frost and dry east winds they are exposed to, if stacked in ashes, according to my experiences. The cheapest and best plan is to keep them in cold frames, with the lights on, during the winter. I have found Sir Charles Napier more liable to come "blind" than most other varieties, and I grow over 2,000 plants of it in pots every year.—*G. T.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—As the Dendrobes go out of flower and commence their growth, they should be examined to see whether they require re-basketting or re-potting, which should at once be done if necessary. Baskets are best and safest for most Dendrobes (the D. densiflorum, D. thyrsiflorum, and others of the evergreen section, however, grow well in pots), and some of them are much easier to manage, and display their flowers better when grown in baskets and suspended near the glass. A great many things which we invariably see in pots would do better in baskets, and would probably be often placed in them, but that many suppose that placing them in baskets necessitates their being suspended. Such is not the case, however, as in a healthy house many plants which would be greatly benefitted by being grown in baskets would do well on the staging in the same position as they occupy when grown in pots. For such use, the terra-cotta baskets of Mr. Matthews, of Weston-Super-Mare, are excellent as they imbibe and give off moisture, do not decay, and are clean looking and ornamental.

The Phalænopsis and many of the Aërides, &c., will now be freely started into growth, and as direct sunlight is very injurious to them, the roller blinds in the house should at once be placed in readiness for use, indeed, it will be better now to see that the blinds on all the houses are in order. The Phalænopsis are particularly impatient of bright sunlight, and one of the chief points in growing them is to carefully shade them from it.

In all the houses the walls behind the piping, and all odd corners should be kept thoroughly moist, but in attending to it care should be taken not to raise steam from the hot pipes more than is absolutely unavoidable. The shell-gravel, spar, or other moist holding material on the close staging should also be carefully kept moist, and ventilation given according to the state of the weather. As a rule, free bottom ventilation may be given in any weather if the top ventilators are nearly closed, or governed so as not to cause a draught. —*James O'Brien.*

Disa grandiflora.—We learn from a Cape correspondent that public meetings have been held at Cape Town to protest against the exportation of the favourite Table Mountain Orchid, Disa grandiflora. In all probability the locality will be closed shortly to collectors, and as there is none other known, it is probable that future supplies of this Orchid will be on a very small scale.

Dendrobium Wardianum.—From Mr. E. Dumper, gardener to J. Fitzgerald Bannatyne, Esq., of Summerville, Limerick, comes a grand flower of a very highly coloured form of this, 4 ins. across. Of this, however, Mr. Dumper says "it is not so lasting as the ordinary form." In this flower, and in others of the gigantic forms, a peculiar elongation of the lip, as in D. Falconeri, is noticeable, and the markings of the lip also resemble that plant. It certainly has superior attractions as a flower, but it may be at the expense of its durability. We should be glad to hear if any of our other correspondents have noticed that some Wardianums keep longer than others. Mr. Dumper also sends a fine example of D. crassinode Barberianum, with charming bright magenta tips to the segments of the flower.

Odontoglossum pulchellum majus.—There is a fine specimen of this beautiful and extremely useful Orchid of Davenham Bank, Malvern, the seat of J. D. Perrin, Esq., under the care of Mr. Jacques, which has borne this season 105 flower spikes; such a plant both grower and owner may be justly proud of. So also may they be of a specimen Vanda cœrulea, which has been under Mr. Jacques' care for fifteen years, and grown on from a small piece. The plant is now in perfect health, being well furnished with leaves, and flowers very freely every year, fifty or more blooms was the last number recorded upon this very creditable specimen. Such successful culture as this would satisfy the demands even of Mr. Anderson, who a short time ago questioned the ability of some writers in a contemporary to keep this lovely Vanda in health for any length of time. It is very pleasing to be able to write of specimen Orchids that have had the same supervision for years, clearly showing that their cultural requirements are perfectly understood and acted upon.—*Thos. Simcoe, March 15th*, 1886.

Dendrobium pulchellum is really a charming little Orchid, and ought to be grown by every Orchid fancier. We have a small specimen growing here on a bit of Elm bark suspended near the glass, which is just now smothered with its sweet pretty flowers of yellow and pink. When making its growth, we grow it with other Dendrobes in a warm Fernery, and when the bulbs are well matured we remove it to a cool Vinery to rest for three months, and then gradually bring it back to a warm house where the flowers will come quickly on, and when all the flowers are fully expanded, remove it into a temperature of 50°. It will last in perfection a long time.—*W. Driver, Longfords, Minchinghampton.*

Cattleya, bicolor varieties.—A very pretty set of these comes from Mr. W. Swan, The Gardens, Hawick House, Preston, gathered from plants imported by Mr. Wrigley. Of their beauty we have evidence before us, and Mr. Swan's remark, "the batch has been in flower for the last three months," giving a good idea of their usefulness throughout the dull season, indeed, a well-grown established C. bicolor which often bears eight or ten of its bright magenta lipped flowers on a spike is a very showy and effective thing, and two of the varieties before us are rendered still more effective by the white on the labellums. The sepals of the different varieties vary from yellow to olive-green, the labellums bright magenta-crimson, that which Professor Reichenbach named Wrigleyana, having a clear white margin, and C. Measuresiana having the lip prominently and broadly banded at the edge with pure white, which sets off the rest of the flower charmingly. Blooms of a very finely shaped pale yellow O. Alexandræ, which should grow into a fine thing, also accompany the Cattleyas.

Disa grandiflora.—This beautiful Cape species when in bloom is the admiration of all. It succeeds well in a compost of equal parts of sphagnum and good fibrous peat, with an addition of broken crocks, charcoal, and sand, mixed well together before potting; perforated pots are the best to put them in. Have the pots filled with crocks to the top row of holes, leaving them uncovered to allow any young suckers to grow out, as they often will do. Pot as firm as the spongy nature of the compost will allow, raising it nicely above the rim of the pot. Place them in a house with a temperature ranging from 45° to 50°, give plenty of air in the daytime, and leave a little on at night when the weather will permit. Syringe the plants overhead two or three times a day, and keep them well damped between the pots. Little shading will be required except on very hot days, as it is best to throw the house open on hot summer days.—*G. H., Shipley.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

In all probability some of the earliest batch of Pelargoniums—those which were not pinched—will now be showing flower. Should this be the case, and the plants are very dense, resort to tying-out, so that they may fully develope, but do not over do it, sufficient simply to allow of necessary light to the centre, and avoid making the plants appear straggling. The later batch should now be growing apace; the only thing necessary with them will be to give them plenty of air and room, with increased sunshine. All such subjects will require more frequent watering; but until the pots become well filled with roots avoid giving liquid manure.

We have potted on a good batch of zonales for greenhouse work, and put them on a stage in an early Peach-house, the temperature of which is not too high to cause them to draw. They will shortly be transferred to the cold pits, or the syringing will be apt to cause them to damp if the water lodges on the foliage. Be careful not to allow cuttings that are struck to remain too long in the pots, but let them be potted off singly before the roots become cramped, or they do not grow away with the same freedom. After they have restarted, pinch the points out to encourage a bushy habit, and shade from the direct sun. In the case of Centropogon Lucyanus do not be too hasty in the taking of cuttings, as the early growths seldom make good stuff, much rather wait until the plants have made a good free growth.

As soon as large enough, pot off singly the requisite stock of Solanums, so that they may be as large as possible before planting out; the old plants, if more than a year old, had better be thrown away, as young ones are so much preferable in every way. As the sun becomes more powerful, it will be found necessary to shade the stove, so as to prevent scorching, particularly in the case of some of the Ferns. A little wash made of lime syringed on to the roof through the jet will be sufficient for the present, and will be better than covering the whole of the roof at this early period.

THE FORCING HOUSES.

Take care that the earliest batch of Tomatos are kept growing, but encourage a good sturdy growth by using a sound compost and potting rather firm; if they are to be grown on trellises adopt a serpentine course in the training as being more fruitful than if carried straight; after having tried most kinds we have chosen "Dedham Favourite" as our principal. See that the sowings of French Beans are regularly made, and if room can possibly be spared let the sowing be extra large, for the supply of all kinds of greens will be extremely scarce, and provision must be accordingly made. We have put in another batch of Asparagus roots and are cutting a good supply, which we find most useful. Look to the stock of Chicory roots, and select the strongest for putting into the Mushroom house; it is a great help to the salad bowl.

Keep a sharp look out on the Strawberries, and see that they do not want for water, or that pest, red spider will speedily appear; where the fruit is ripening let more air be admitted or they will be deficient in flavour. Keep the succession batches constantly made good, and if any are blind let them be at once removed. Sir C. Napier may now be brought into the Peach houses. It is one of the very best late varieties, and always fruits well in pots; keep the plants well syringed except where the fruit is changing colour, when it must be discontinued. Mushrooms with us are abundant—and likely to continue so; where they are required later on, and a cellar can be used, little difficulty will be experienced in supplying, but in a house they do not succeed during the summer months; extra time must be allowed, as although of superior quality, they are of much slower growth.

Attend to the stopping and thinning of Cucumbers, or they will speedily become crowded; stopping may also be more severe than heretofore, as fruit will be needed in greater quantity, and growth is now more luxuriant. Our early Melons are already making quite a start in their new quarters; we have to-day potted off another batch, and also of Cucumbers, and early Marrows. Follow the directions given last week as to the Vineries and Peach-houses, being particularly careful that abundance of water is given to the borders

when growth has become active; where the foliage is becoming developed, a sprinkling of guano over the surface of the inside borders twice a week during the evening will be found beneficial. Let the Potato frames be well attended to, ventilate freely or they will become drawn; the soil will be better if sprinkled with water through the rose before shutting up in the afternoon.

THE KITCHEN GARDEN.

Operations in this department have been of the most limited description, the frost having taken such a sharp hold of the soil. Where the burnt refuse was applied it is workable, and we have sown Lettuce, Cauliflower, dwarf Savoys, autumn Broccoli, Leeks, Brussels Sprouts, and such like, of course, taking the necessary precaution of covering with wire netting against birds, and also we cover with mats at night, to prevent the frost injuring the seeds, more particularly the Lettuce, which are easily destroyed when germinating.

We have to day prepared the ground and drawn the drills ready for sowing the main crop of Onions, which we hope to sow to morrow, and we have also put in to-day (the 15th) a good sized square of Myatt's Kidney Potato, and the ground works well, having been dug early last autumn. We have also sown on a very warm border a good batch of Horn Carrots, making capital work. Cauliflowers and Brussels Sprouts which were sown inside, must be pricked out this week, and also a good batch of the early Celery; the latter will be nursed for some time to come. We have to-day lifted and planted in boxes in leaf-soil, a good batch of the roots of the spring sown Parsley, our supply of which has been abundant so far, but is now running short on account of prolonged frosty weather. The boxes we shall place in the Muscat Vinery at once, and water well with warm water to encourage growth. Outside Radishes have failed, so we have made another sowing in the Potato pit.—*Walter Child, Croome Court.*

FLORICULTURE.

The Carnation and Picotee Union.—This new organisation was started last year, and the first exhibition was held in Mr. Dodwell's garden in the Stanley Road, Oxford. It will be remembered, from the reports which appeared, that both as an exhibition of flowers and a social gathering of Carnation and Picotee fanciers, it was a splendid success. Corresponding secretaries have been appointed for several districts, such as Clapham, Ealing, Reading, Birmingham, Leicester, Burton-on-Trent, Derby, Chesterfield, Sneinton, Sheffield, Halifax, Eccles, Todmorden, Yeovil, Basingstoke, Luton, and Lincoln. There is, therefore, every prospect of a very successful meeting in the coming summer. The qualification for membership of the Union is a contribution of not less than five shillings.

Mr. E. S. Dodwell has put forth the following:—"Five reasons why I am a subscriber to the Carnation and Picotee Union: (1) because I thereby add strength to an organisation formed for the further development of one of the oldest flowers known to cultivation, and one of the most charming in the diadem of Flora; (2) because it is suitable alike for all classes and widely differing localities; it gives grace and beauty to the garden of the prince, and is within the reach and rejoices the heart of hundreds of hard-working artisans; (3) because I thereby have access to the "Feast of Carnations" provided in its annual meeting—*the* great display of the year—the limited space of the place of exhibition, Mr. Dodwell's garden, of necessity restricting visitors to *members and their friends*; (4) because my subscription enables me to participate to the full extent thereof in the annual distribution of Mr. Dodwell's surplus growth of new or older varieties, as I may elect; (5) because at this annual meeting I may not only see flowers in marvellous beauty and highest development, but may realise in fullest measure in the sympathy and communion of the friends then gathered together, how 'one touch of Nature makes the whole world kin.'"

Auriculas in Extremis.—This exactly describes the condition of my own collection, frost-bound as they are in a north house. During the past six weeks they do not appear to have made the slightest advance. How can they? The soil in the pots is frozen hard, and it will remain so so long as this frosty weather lasts. Here I am, within a month of the annual show, and scarcely a truss showing in the hearts of the plants. Mr. Harry Turner told me a few days ago that he hoped to show Auriculas in flower at the Crystal Palace on the 26th, but they will be forced into bloom in artificial heat. Last year at this time I had Prince of Greens, Hetty Dean (a very early sort, but without the trace of a truss on strong plants at the present time), William Linton, C. J. Perry, Mr. Campbell, Lancashire Hero, Read's Brilliant, and several others in flower in the same house in the first week in April. Now I am wondering if they will be in flower by the first week in May, unless a great change comes quickly. All I can do is to wait. Primroses and Polyanthuses in the open ground have not been so late for years.—*R. D.*

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.—*March 16th and 17th.*—The first of the two annual spring flower shows promoted by this society was held on the above dates in the large room of the Town Hall, Albert Square, and considering the severity of the weather, was a better show than could have been anticipated. The principal groups were contributed by Messrs. Wm. Cutbush & Son, Highgate, the Liverpool Horticultural Co., and Mr. John Hooley, Edgeley. In Messrs. Cutbush & Son's collection were a fine lot of Hyacinths, Cyclamens in abundance, and if possible even better, Azaleas, Daffodils, pretty little bushes of the Otaheite Orange loaded with fruit, well-selected Palms, Araucaria excelsa, and forced specimens of Staphylea colchica, a white-flowered shrub of great usefulness. The table below the organ was occupied entirely by plants from the Liverpool Horticultural Company—a splendid lot, comprising Azaleas, Genistas, and other greenhouse favourites of the season; and a striking group of Orchids, chief among which were Cattleyas of the types most generally esteemed, including C. Percivaliana, C. citrina, C. amethystoglossa, and Odontoglossum bictoniense, &c. Mr. John Hooley, of Edgeley, exhibited a fine variety of Odontoglossum gloriosum, good specimens of Cattleya Trianæ, several Cypripediums, and several nice examples of Odontoglossum crispum, together with pretty yellow Primulas, with flowers like Oxlips but leaves like those of Auriculas; Acacias, the violet-purple Hardenbergia, so valuable for cutting, &c. Mr. James Marson, Hill Cliff, Warrington, sent a very beautiful lot of seedling varieties of the Chinese Primula, including a charming novelty as to colour, a delicate pale rosy lilac. Messrs. W. G. Caldwell & Sons, Knutsford, contributed a good collection of miscellaneous plants; and Messrs. Dickson, Brown, & Tait, of Corporation Street, had a nice display of Hyacinths. The greatest botanical curiosity in the show was a cut spray, exhibited by Mr. Joseph Broome, of the flowers of Odontoglossum coronarium, and which has been produced at the end of a spike a yard away from the root.

Bristol Horticultural.—*March 17th.*—The sixteenth exhibition of this society was held in the Colston Hall, and considering the very unfavourable season, it was remarkable for the abundance of Hyacinths, Tulips, and early forced flowers produced, the large hall and the smaller one adjoining being well filled. The silver cup for the best bank of flowers arranged on a space 12 ft. by 7 ft., was awarded to Mr. F. Perry, gardener to H. Cruger Miles, Esq., for a bright and showy bank consisting of Azaleas, Deutzias, Lycaste Skinneri, Pimelias, Dendrobium nobile, and Odontoglossum crispum, which were very effective. Mr. Perry was closely followed for second honours by Mr. W. Rye, gardener to James Derham, Esq., and Cymbidium eburneum, Phajus, Azaleas, Camellias, &c., were very telling in this arrangement. For six foliage plants, Mr. W. Rye won easily with good specimens of Croton pictus, still one of the best when seen as it was exhibited here; Croton Weismanii, Latania Borbonica., and others. The three first prizes for Azaleas all went to Mr. C. Taggart, Souvenir de Prince Albert, Stella, Model, Iveryana, and Mrs. Turner, being the most notable varieties staged. The first prize in the class for six table plants was well won by Mr. R. Morse, gardener to S. Budget, Esq., whose plants were evenly matched, not too large, and very bright. For six Cinerarias, Mr. F. Edwards, gardener to J. Lysaght, Esq., easily came in first, his plants being dwarf, with fine heads of large flowers, and extra fine foliage; these were a magnificent half dozen. For six pots of Lily of the Valley, the first prize went to Mr. Mark Hookings, and the second to Mr. G. W. Shelton, gardener to Mr. W. K. Waite. For the best specimen Orchid, Mr. Nichols, gardener to Mrs. Miller, was first with a marvellous plant of Phalænopsis amabilis, with seven fine leaves and a branching spike quite 4 ft. in length, with forty open flowers. The same plant also won the first prize last November at the autumn exhibition. The second prize went to a fine plant of Cœlogyne cristata. For three pots of Violets, Mr. F. Taggart was first; the second prize going to Mr. E. C. Cole, gardener to W. Pethick, Esq. For the best stove or greenhouse plants in flower, Mr. W. Rye was first with a fine plant of Imantophyllum miniatum, well coloured.

The special prize for eighteen Hyacinths and twelve pots of Tulips, given by the treasurer, W. Derham, Esq., M.A., was well won by Mr. G. Marsh, gardener to Mr. M. Dunlop. The plants of both Hyacinths and Tulips were very good, the most noticeable of the former being King of the Blues, Haydn, Fabiola, and Pieneman. Mr. W. Linterne, gardener to W. Butler, Esq., was second, and Mr. S. Perry, gardener to H. Cruger Miles, Esq., a good third. For the best arranged vase of flowers for the dinner-table, the first prize and bronze Knightian medal of the R.H.S. was awarded to Mr. W. Pethick, for a light arrangement, Mr. E. Hill being second, and Mr. J. Stapleton, gardener to H. Mardon, Esq., third; the latter being, in the opinion of many, superior to the first prize. The highest award for twelve bunches of cut flowers was easily won by Mr. F. Perry—Cypripedium Sedenii, Saccolabium giganteum, Vanda tricolor, and a fine form of Odontoglossum crispum being the most noticeable. For the best hand bouquet, Orchids excluded (prize given by Mr. E. J. Burgess), Mr. C. Winston was awarded the first prize for a charming bouquet of Marie Louise Violets, Marechal Niel Rose, and Lily of the Valley; the second going to Mr. H. Hawkins for a beautiful bouquet very little inferior to the first prize one.

The best stand of twelve cut Roses came from Mr. E. S. Cole; Mr. G. Miller being second. Of fruit there was only a limited display. The best bunch of Lady Downes Grapes was exhibited by Mr. F. Nichol, gardener to Mrs. Miller. Of Pears, only baking sorts exhibited, but the Apples included a fine dish of Ribston Pippin. Mr. J. H. Vallance, gardener to J. C. Wall, Esq., was first for a fine brace of Cucumbers. For the best eight varieties of vegetables, arranged in a basket not exceeding 3 ft., Mr. H. W. Bannister, gardener to H. Ames, Esq., was first, his Leeks, Mushrooms, and Snow's Winter White Broccoli being quite first-rate. Mr. J. Aplin, gardener to W. M. Baker, Esq., was second. Mr. Vallance, gardener to T. A. S. Dorrien Smith, Esq., of Tresco Abbey, Scilly Isles, sent one hundred varieties of Daffodils and Narcissus grown in the open air, and which were stated, in a note accompanying them, to be at least a month later in flowering this year, than last.

Liverpool Horticultural Association.—There was a very large gathering of the members of this association at the meeting held on Saturday evening last at the Free Public Library, William Brown Street. Mr. R. G. Waterman occupied the chair, and a practical paper on the "Cultivation of the Melon" was read by Mr. William Bardney, who, in a comprehensive manner, commented on the most desirable form of structure for growing Melons in, and such important points in connection with their cultivation, as soils, watering, feeding, training, heating, and the general details of management necessary to observe in order to obtain this favoured fruit in quantity and of the best quality. "Progress in Gardening" was the subject of a paper read by Mr. Thomas White, that contained a considerable amount of dry humour, that at frequent intervals greatly amused the audience. The subjects commented upon by Mr. White, included the various branches of science connected with gardening, the structure and constituents of plants, and the important part that the microscope has played in the pursuit of plant knowledge. Herbaceous plants were also brought under review, and comments made on the valuable subjects which collectors had sent home from time to time. The Cape of Good Hope was designated as the botanic garden of the world; and alluding to Aucuba japonica, Mr. White pointed out how the female plant had for many years played the part of a "grass widow," whose charms were not fully realised until a mate was sent home. A hearty word of praise was accorded to the noble army of collectors, who at the risk of their lives and a great sacrifice of personal comforts had enabled us to say that we have the richest collections of plants in the world. Plants that produced flowers that appeared difficult of impregnation by insects were next alluded to, and to Thomas Andrew Knight was accorded high honour for his researches in hybridisation. The Gloxinia being typical, was instanced as a subject which illustrated how little these matters were understood. For some twenty years we had no hybrids, although several species were in cultivation. The improvements in many plants, fruits, and vegetables which had been brought about by cross-fertilisation, was undoubtedly of the utmost importance to mankind. The horticultural press was designated as "a mighty engine," for the dissemination of knowledge, and one of the greatest of modern incentives to progress; and the good services rendered by horticultural societies and exhibitions, and by nurserymen and seedsmen who introduced rarities and novelties were not forgotten.

QUESTIONS AND ANSWERS.

The Amateur Question.—*R. W. W. B.*: "A" is decidedly a Gardener and Florist, and therefore is not entitled to compete in classes 13 to 20. In the absence of any definition of an amateur in your Schedule, we rule that "B" and "C" are both Amateurs in the general acceptation of the term, and entitled, as the Schedule stands, to compete in classes 13 to 20, although under the circumstances, it hardly seems fair to allow them to compete with Cottagers. In a constituency like yours it would be better to define an Amateur as one who does not regularly employ a gardener, and to keep "Cottagers" and "Amateurs" separate.

Orchids.—*J. R., Junr.*: Your plan of watering is perfectly correct, as also those things you mark as keeping moist. With the Odontoglossums may be classed the Sophronites grandiflora which should be suspended near the roof. Cypripediums, Lycastes, Zygopetalums, and Cœlogynes, do not require actual drying off although a very limited supply of water suffices when not growing. Carefully water the plants when in flower, as the blooms draw on them, but do not over do it. When the growing time is known to have arrived, the re-potting should be done,

and the supply of water be slightly increased, but when the growths and roots are seen to be active, too much cannot well be given if the drainage is good.

NAMES OF PLANTS.—*R. S., Ware:* 1, Asplenium bulbiferum; 2, Alonsoa linearis; 3, Asplenium flaccidum; 4, Pannicum imbicile variegatum; 5, Gymnogramma ochracea; 6, Gymnogramma Mertensi. The cause you assign for the malformation of the flower of Deudrobium nobile is the correct one. It has been brought about by a check of some kind in the growth.

VIOLETS.—*H. B.:* Yes, it would be much better to plant them out as soon as we get some nice genial weather, and transfer them to the frames again about the end of September. Let the soil be good, and plant out only the strongest of the young runners. If kept well watered and free from thrips, these will make fine winter flowering plants.

COMMUNICATIONS RECEIVED.—T. S. (only omitted on account of pressure of other matter).—J. L. (next week).—S. C.—C. H. D.—J. R. P.—W. S.—M. D. D.—W. B. L.—G. T.—R. D.—H. W. W.—H. J. C.—E. J.—E. A.—J. H.

LONDON SEED TRADE.

March 17th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a very slow demand for all kinds of Agricultural Seeds in consequence of the continued severe weather, values, however, are firm all round, and Red Clover in particular shows a decided upward tendency. White and Alsike are still extremely cheap, and at present prices should be a safe investment. Rye Grasses of all kinds both home and foreign maintain late quotations, but the supply is large and quite equal to the demand. Spring Tares a little dearer; Bird Seeds unchanged.

COVENT GARDEN MARKET.

March 18th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes, per lb.	2 6	8 0	Pears ... per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	10 0	14 0
Pine-apples, Eng., lb.	1 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 6	3 0	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 8		Onions, per bushel	5 0	6 0
Cabbages ... per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 6	3 6
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d
Abutilon, 12 bunches			Lilium Longiflorum, 12 blooms		
Acacia mimosa, French per bunch	1 0	1 6	Marguerites, 12 bun.	4 0	8 0
Anemone, French, 12 b.	3 0	6 0	Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	4 0	8 0
Asters, 12 bunches			Pelargoniums, per 12 sprays	1 0	1 6
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.		
Camellias, 12 blooms.	2 0	6 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Primulas, Chinese, bun	0 4	0 6
Carnations, 12 bunch.			Roman Hyacinths, 12 sprays	0 6	1 0
Chrysanthemums, 12 blooms	2 0	4 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 bunches	12 0	18 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea ,,	2 0	3 6
Daffodils, per bunch	0 6	1 6	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Stephanotis, 12 sprays		
Gardenias, 12 blooms.	6 0	18 0	Tuberoses, per dozen.	1 6	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Lapageria, white, 12 blooms			Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Arum Lilies, per doz.	9 0	12 0	Hyacinths, per doz.	6 0	9 0
Asters, per doz.			Hyacinths, Roman, per dozen		
Azalea, per dozen	24 0	42 0	Hydrangea, per dozen		
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Lilium lancifolium, per dozen		
Chrysanthemums, per dozen pots			Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.		
Cockscombs, per doz.			Narciss, per dozen	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Cyperus, per dozen	4 0	12 0	Pelargoniums, doz.		
Daffodils, per dozen	9 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia, per dozen		
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanum, per dozen	8 0	12 0
Ferns, in var., doz.	4 0	18 0	Spiræa, per dozen	12 0	15 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 6			
Fuchsias, per dozen					
Genista, per dozen	10 0	15 0			

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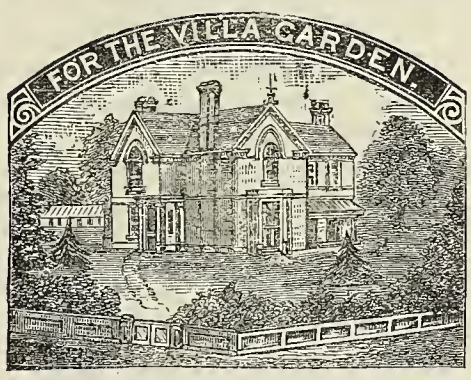

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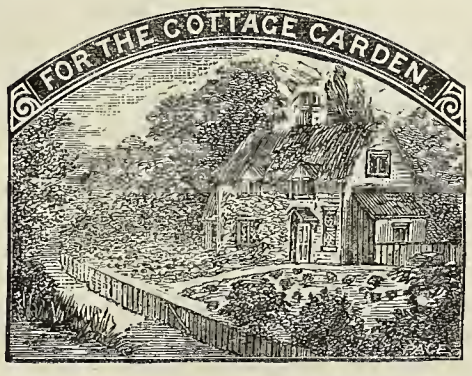

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CLAY CROSS HORTICULTURAL SOCIETY.

TWENTY-NINTH ANNUAL EXHIBITION, AUGUST 10th. Amount offered in Prizes, TWO HUNDRED and NINETY POUNDS. Schedules now ready.

Clay Cross, Chesterfield. J. STOLLARD, Secretary.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

The Schedule of arrangements for the Shows and Meetings to be held in the Conservatory at South Kensington, during the current year, is now ready, as also that of the Provincial Show to be held at Liverpool, from June 29th to July 5th, inclusive.

Applications for the same should be made to the Secretary, Royal Horticultural Society, South Kensington, S.W., or to the Superintendent, Royal Horticultural Gardens, Chiswick.

Royal Horticultural Society.

THE REPORT OF THE ORCHID CONFERENCE is now ready, and may be had by Fellows of the Society on application to the Assistant Secretary at the Office, South Kensington, S.W.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 27, 1886.

WILD FLOWERS.—A recent wail over the misdeeds of wild plant collectors and other iconoclasts, whether well meant or somewhat hysterical, will have one good result should it succeed in attracting the attention of compilers of flower show schedules to the gross absurdity found in offering prizes indiscriminately for bunches or baskets of wild flowers. It is true that in some suburban and in most rural districts wild flowers are plentiful enough, though in really wild districts never too much so for our enjoyment of the picturesque. Still, wherever man establishes his domicile these wild flowers soon disappear; indeed, the red man of the American backwoods has not vanished before the onward march of the white settler more thoroughly than have our beautiful wild flowers vanished under the advance of what is called civilisation.

It is true the requirements of man, and especially the imperious necessities of civilisation, must have the first consideration. Still, we need hardly destroy all elements of natural beauty in attaining these necessities. Gardening has provided us with many floral delights,

and it does serve admirably to concentrate for us many striking floral charms which might otherwise never be found. But with all our appreciation for the beautiful in gardening, we are not without some considerable appreciation also for the beautiful in nature. Hence there is ever enjoyment of the highest form when we are permitted to gaze upon glades gay with Primroses, dells brilliant with Bluebells, hedgerows bedecked with Foxgloves and Dog Roses, or even fields literally masses of scarlet Poppy or golden Charloch. No gardening, however beautiful, can hope to excel in sweetness and beauty such refined yet wild elegancies as these.

It is worth our while, therefore, wherever found, that some effort should be made to preserve these natural charms, in which wild flowers play so important a part, and any effort in that direction, however trifling it may be, will be welcome. But it is certain that in the process of extermination of wild flowers, which is undoubtedly proceeding, there is some blame to be attached to those who so absurdly encourage children and others to promiscuously gather wild flowers in bulk, as seen at most flower shows. It is not that there may be, and in many districts are, plenty of flowers and to spare; but the present system serves to breed in the minds of children a distressing disregard for our natural plants; indeed, they have no intelligent appreciation for them whatever, but just learn to regard them as convenient means to earn a money prize or two, and nothing more.

Now, if it were possible to sweep away at once the system of giving prizes to huge handfuls or basketfuls of flowers, and invite competition for collections of twelve or twenty kinds, to be shown separately in small bunches, and all as correctly named as possible, with something affixed to each on cards with respect to family, habit, and other useful information, a new and intelligent interest would be at once created in flowers that would prove most conducive to their future preservation. Boys, it is notorious, will cruelly, ignorantly, and without any intelligent purpose, pillage birds'-nests of their pretty eggs, even at the risk of utterly destroying some of the sweetest of our woodland songsters. Teach them to become ornithologists, and they at once learn to love and preserve that which before they stupidly destroyed. The same good results may be hoped for when children of both sexes are taught that wild flowers have names, and many elementary interests full of pleasurable enjoyment if properly studied. We may thus hope to benefit our children, and at the same time preserve our wild flowers.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday and Wednesday.* Spring Show at the Royal Aquarium, Westminster.

Spring at Length.—The delightful change which has taken place in the weather amply justifies the declaration that now is the winter of our discontent past and the summer of our aspirations well nigh come. Truly we have passed through a long and trying winter; one, as far as inclemency was concerned, easily endured by those surrounded with comforts, but hard, indeed, for those whose labour has been arrested by the frosts. Gardeners especially felt its inclemencies; and whilst those working the soil have found day after day only an implacable crust, too hard to break, and rendering work impossible, the vegetation, which a dry summer had spared to us, has suffered fearfully, and in many cases has been swept absolutely away. Happily, we are naturally endowed with sanguine temperaments, and in the delightful awakening into life and activity seen in nature now, may soon forget all our previous losses, privations, and discomforts. Some little extra activity is needed on our parts to make up leeway in gardening matters; but with continued favourable weather that will be done, and very soon shall we see the ground cropped, and the earth giving forth to industrious man her increase. Nothing will so materially tend to solve the problem of how to provide for the wants of starving myriads as this new break of weather, for it calls us all, as it were, to arms, or, rather, if more peacefully put, to dig and to plant. The few weeks needed to obliterate the evidences of the harsbness of the past winter will also bring in the summer, and if the spring proves as favonrable as its opening days have, we may yet see a glorious and a fruitful year.

The Orchid Conference.—We are requested to state that Messrs. Thomson and Son, of Clovenfords, N.B., have written to the Royal Horticultural Society to draw attention to the fact that no notice of their extensive and valuable collection of cut orchids, shown at the Conference, in May, 1885, appears in the Conference Report. The Conference committee regret the inadequate recognition contained in the Report of many rare and beautiful plants and collections, and that of many others there should be no mention. This was due in a great measure, to the difficulty of doing full justice to so large and varied a collection of plants, and to the necessity of keeping the horticultural part of the Report within moderate dimensions, having regard to the space required for the botanical part.

New Plant Certificates, in Ghent.—At a meeting of the Belgian Chambre Syndicale des Horticulteurs, held at Ghent, on Monday last, Certificates of Merit were awarded to Mr. Vervaet-Vervaene, for Imantophyllum Madame Vervaet; to Mr. A. Peeters for Oncidium Jonesianum; to Mr. Joseph Vervaene, for Azalea Vervaeneana; to Messrs. Vervaet & Co., for Cypripedium Leeanum, Odontoglossum Pescatorei Vervaeteanum, and Od. Halli leucoglossum; to Mr. Jules Heye, for Cypripedium Sallieri; and to Messrs. Desbois & Co., for Amasonia punicea.

Private Spring Exhibitions.—Messrs. James Veitch & Sons annual spring exhibition of Amaryllis, Orchids, Hyacinths, Cyclamens, and other miscellaneous forced flowers is now open, and will be continued to the end of the month. Messrs. William Cutbush & Co., announce that their annual display of Hyacinths, Tulips, Azaleas, and other spring flowers, will commence on Monday next, and be continued to April 10th. Mr. B. S. Williams' annual exhibition of spring-flowering plants was opened yesterday, and will also be continued to April 10th.

Hardy Spring Flowers.—Such weather as we have lately experienced proves the value of cold houses, frames, and plant protectors generally for sheltering from the rigors of our climate, and bringing on in perfection our favourite hardy flowers. A box of flowers before us, gathered in an unheated house in Mr. B. Gilbert's, Anemone Nursery, Dyke, Bourne, Lincolnshire, contains a delightfnl array of blossoms of Anemone fulgens, Anemone King of Scarlets, a beautiful new double scarlet of the brightest hue; the very fine white primrose, Harbinger; Marie Louise, and Compte Brazzas double white violets, &c., all of great size and purity of colour, and which with Mr. Gilbert are flowering in great abundance.

Messrs. James Veitch & Sons again announce a series of exhibitions of popular flowers, which will be held at their Chelsea establishment from the present time to July inclusive. The arrangements made are as follows:—To March 31st, Amaryllis, Orchids, Hyacinths, Cyclamens, Miscellaneous forced flowers; April 1st to 15th, Orchids, Amaryllis, Imantophyllums, Greenhouse plants; April 16th to 30th, Roses in pots, Orchids, Miscellaneous forced flowers; May 1st to 15th, Orchids, Azaleas, Roses in pots, Greenhouse Rhododendrons; May 17th to 31st, Azaleas, Tree Carnations, Gloxinias, Begonias, Orchids; June 1st to 15th, Orchids, Anthuriums, Pelargoniums, Roses; Jnne 16th to 30th, Orchids, Miscellaneous flowers, Pelargoniums; July 1st to 31st, Orchids, Nepenthes, Flowering Stove Plants, Hybrid Rhododendrons, Carnations, and Picotees.

Prices of Fruits and Vegetables in Covent Garden Market.—The mouth of many a countryman will water when he is informed that during the week ending March 20th, Strawberries were realising 1*s.* 6*d.* to 1*s.* 9*d.* per oz., or 24*s.* to 28*s.* per lb. Trade was not particularly lively at these prices, but they sold, though slowly. The highest price paid for Strawberries this season was 32*s.* per lb.; but as some buyers objected to the price, it fell to 28*s.* Late Grapes are still to be had, but meet with a slow sale, and Tomatos are by this time nearly over, and buyers are waiting for the new fruit of the latter, but up to the time mentioned only one pnnnet or so had been received, and they were sent by the Channel Island Company; which also, it is said, sent abont the 13th ult. a basket of new Grapes, bnt being white, and the samples small, they did not appear to go. Leeks are fetching unusually high prices, as mnch as 9*s.*, 10*s.* and 12*s.* per dozen bunches, the nsnal price for which is about 2*s.* or 2*s.* 6*d.* This may be accounted for from the fact that Leeks—good Leeks at any rate—are somewhat scarce, owing to the dronght of the past summer, which affected their growth, and it was not until late in the season that they were able to make mnch of a start. It is said that Londoners are ont-stripping their Welsh fellow-countrymen as eaters of the Leek. Cucumbers have fallen in price, as a fortnight or three weeks ago they sold at good remunerative prices, but good samples can be had at 3*s.* and 4*s.* per doz. Broccoli and Radishes have declined, although they recently fetched good prices. New Potatos from the Channel Islands have fallen in price, and have been sold as low as 4*d.* and 5*d.* per lb. Now that a change of weather of a highly desirable character has set in, there is every probability of a decided improvement in trade.

The Royal Horticultural Society's Provincial Show.—A special general meeting of the members of the Liverpool Horticultural Association, was held in St. George's Hall, Liverpool, on March 18th, to determine the advisability of entering into an agreement with the Royal Horticultural Society for the admission of the subscribers and members of the association to the proposed provincial exhibition of "The Royal," to be held in the Botanic Gardens, and Wavertree Park, in June and July of the present year. Mr. Thomas White presided over what was probably the largest meeting of gardeners ever held in Liverpool. The chairman gave an outliue of the negotiations which had passed between the two societies, the substance of which was that "The Royal" had offered for the sum of £250 to admit 1,500 subscribers on the first or second day, and 2,000 members on the third or following days. A resolution was submitted to the meeting by Mr. W. Bardney, seconded by Mr. R. G. Waterman, and supported by several members present to the effect that the sum of £250 be offered to "the Royal" for 1,500 admissions for the first day, and 2,000 for the second or following days. Mr. Bardney in supporting his resolution, urged the necessity of amalgamation as being conducive to the best interests of the association, and to horticulture generally. Mr. Waterman contended that by making such an arrangement as that proposed, the future stability of the association would be increased, as the subscribers' interest would be enhanced by the invitation to view the finest horticultural display of the year, as "The Royal" would undoubtedly prove. Mr. R. P. Ker suggested that the committee should endeavour to arrange for the admissiou of the members on the first or secoud day at four o'clock, as after this hour but little admission money would be received. Several speakers addressed the meeting, some advocating the holding of the usual summer exhibition, others supporting the resolution, which was finally carried by acclamation.

Mr. W. J. Ireland leaves Headfort Gardens, Kells, about April 12th, having been engaged by Lord St. Oswald, Nostell Priory, Wakefield, York.

INDIAN AZALEAS.

THE spring months of the year give us an abundance of choice in showy and attractive flowers for furnishing the conservatory, &c., but scarcely any plant makes a greater display than the varieties of Azalea indica, and with a good assortment of plants they may be had in flower from Christmas till June, but the general collection will be at their best during April and May. That the plants are worth growing well there can be no question; but how often do we see the Azalea thrown on one side, or placed in some corner after it has done blooming, and who can expect his plants to flower well the next season under such treatment. The amateur grower is often forgetful that all these kind of plants require room to grow them after they have done blooming, and this one particular item is often the cause of many failures. The following remarks will treat on the cultivation in a liberal spirit, and if followed out, cannot but ensure satisfaction.

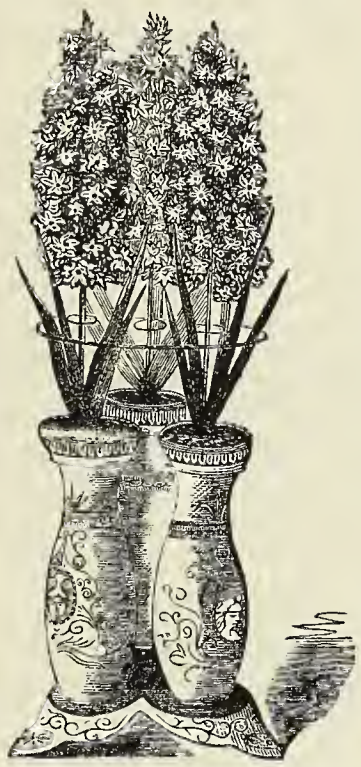
I do not intend to treat in this paper on the propagation of these plants, but strong-growing kinds can be raised by cuttings, the weaker-growing ones by grafting on to some strong variety. Plants for training should be always grafted on a tall stock, so that the plants can be tied down into shape afterwards. Young plants require very liberal treatment at the commencement, to induce them to make as much growth as possible in one season, and this can be accomplished by giving a good moist heat, and stopping the shoots occasionally to induce them to break and form nice close heads or bushes.

After Azaleas have finished flowering, if they require it, they should be potted into a mixture of peat of the best quality and silver sand. The potting should be made very firm—a little extra care and time is well spent in doing this work well—and at no time give the plant too large a shift, as they always flower best when thoroughly pot-bound. One great error young men make when commencing to pot this kind of plant, is not seeing that the soil is rammed well to the bottom of the pot all round the old ball; if this is not particularly attended to, no good results can be expected from the labour undertaken.

Place the plants in a growing temperature of 65° to 70°, and ply the syringe freely night and morning to induce a free growth, and also to prevent thrip, which is the plants greatest enemy; should this pest appear amongst them, a few good strong doses of fumigating is as good as anything to hold them in check, as this remedy has the advantage of working into all corners and crevices where the insect is likely to hide. The growing season can be prolonged till August, but all growth should be complete by this time, so that the plants may be removed to cooler quarters or else into the open air to mature the young wood and set the flower buds. If the plants have been grown under any shade they will require inuring to the sun's rays, but I do not recommend shading for Azaleas at any time (only whilst they are in flower), providing you can keep them from having the foliage burnt by the sun's rays. When not shaded the growth is much stronger and firmer, and from such growth the better flowers must come than from a weak and puny growth made under a heavy shade. The plants will require getting into their winter quarters by the end of September as they will not stand too much frost, and the earliest flowering varieties can be placed in an intermediate house to gradually bring them on for flowering at Christmas time; by introducing a few at a time into this house a succession of flower may be kept up.

It is not advisable to begin training the plants in too young a state, but give them a few years growth, and bring into shape as much as possible by pinching the points where they show a tendency to get away. Double varieties are extremely useful, especially white, and should be grown largely where the flowers are wanted for bouquet purposes. The single varieties are more useful for making showy conservatory plants. Weak manure water may be given to the plants if they are pot-bound, both during the growing season and for a few weeks before they come into flower, it assists them in a marked degree, and adds materially to the staying power of the flowers. Azalea amœna and all its varieties are useful for forcing into early bloom, and where room can be afforded these varieties should be grown. The number of varieties of this plant now catalogued is enormous, but many of the varieties that have been sent out for some years past are great improvements on the older sorts. Any attempt to mention any particular varieties as the best, will, perhaps, be rather out of place. I should, therefore, recommend would-be growers to visit some of the spring shows that will now be taking place in London and nearly all the large provincial towns, and select the varieties that suits their taste best.—*W. G.*

Double Hyacinth.



Hyacinths in a Vase.

Single Hyacinth.

HYACINTHS.

The annual spring shows have commenced, and bulbs are as abundantly exhibited as usual; the stately and fragrant Hyacinth taking a prominent place amongst them, though the Tulips are more brilliant in colour. The Hyacinth is a general favourite, and enormous quantities are imported to this country every year to meet the wide-spread demand, indeed the number cultivated seems to be increasing still, although the plant has been so long known. Numbers of provincial societies now hold spring shows at which they give substantial money prizes for Hyacinths, and the competition is usually keen, beautiful displays being produced both by amateurs and nurserymen. Already exhibitions have been held at Liverpool, Bristol, and in London at South Kensington and Regent's Park, which have amply proved how popular these plants are with all, while the principal metropolitan, and other nurserymen also have home displays that will render their nurseries bright for some time to come. One great advantage these bulbs possess, they are most easily grown, even the magnificent specimens seen at shows do not require a tenth of the skill in production that numberless other plants need, to obtain them in exhibition form. The principal point is to secure fine well matured heavy bulbs, and those who wish to have the best should order early, and not stint the price, for unless a really good bulb is procured to start with, no after-treatment will ensure the desired result, namely, massive spikes and well developed bells. Of course much can be done by good culture to assist them, or perhaps we should say that it is easy to spoil fine bulbs by bad treatment, but we must reserve some observations upon this matter to a more seasonable opportunity, the present is the time for admiring the plants, and noting the most effective varieties.

It would be unnecessary to review the whole history of the Hyacinth, but a glance at a few of the leading facts may be interesting. Everyone knows that the cultivated varieties have been obtained from the Hyacinthus orientalis, which is found wild in the Levant and eastern parts of Europe or Asia, but few who saw a spike of the wild form would suppose it to be the progenitor of our garden Hyacinth. It is not more imposing than our native Hyacinthus non-scriptus or Scilla nutans, but the skill of the cultivator has worked wonders with this as with other plants, and we now have grand spikes and large bell-like flowers, widely different from the early forms. It is not certainly known when the Hyacinth first made its appearance in England, but it was probably early in the sixteenth century, by a company of merchants who were commissioned by Queen Elizabeth to visit Persia on a silk trading expedition, but it was more generally grown in Holland before it was much known in this country. It was included by Gerard in his "Herball" at the close of that century, and he refers to it as if it was then well known. To the efforts of the Dutch florists, however, its popularity is due, for not content with growing the bulbs largely, they commenced raising new varieties from seed, soon forming an imposing list of variations. For a considerable time the varieties were all single, but in the eighteenth century a Dutch florist, named Peter Voehelm, succeeded in obtaining some with double flowers, and whether these were the first or not they attracted the most attention, one entitled the King of Great Britain having realised the enormous price of £100 per bulb. Since then the prices have fallen, and the numbers of fine varieties have wonderfully increased, so that sixpence is regarded as a good price for any but the newest varieties. In Holland the cultivation of these bulbs for sale is an important industry in the neighbourhood of Haarlem and Overveen, hundreds of acres being devoted to these plants alone, and the numbers of bulbs exported amount to hundreds of thousands.—*H. O.*

Royal Horticultural Society.—The Council having decided to receive Provincial Horticultural and Floral Societies into association with the Royal Horticultural Society, upon an annual subscription of five guineas, they offer them the following privileges:—One Silver Knightian Medal; one Silver Banksian Medal; one Bronze Knightian Medal; and one Bronze Banksian Medal, to be given as prizes at the Shows of the Provincial Society; and one member's Ticket for the Secretary, and twelve single tickets, admitting the bearer to any one meeting or show of the Society.

WHITE POTATOS.

In spite of the freedom with which coloured Potatos are produced, and especially are they abundant in American kinds, yet the whites are still largely the most numerous and acceptable. Probably the fact that white-skinned Potatos are in most favour, apart altogether from flavour, cropping, and other qualities, arising, perhaps, from prejudice in regard to colour of skin, conduces materially to this greater abundance. Certainly we can find two good white kinds to one coloured one in ordinary cultivation. Some of the handsomest of coloured kinds unfortunately carry their skin-hues into the flesh, and that is objectionable. Many an otherwise capital and handsome kind has had to be condemned for that reason, and even some of the kinds now in commerce have that failing, more or less. Whites, however, are never afflicted with that failing; hence they are more reliable.

But the other day one of our leading growers of Potatos for exhibition invited me to give him a selected eighteen kinds, round and kidney, of white-skinned forms, from which to select a dozen from when grown and lifted. Wanting at least twelve kinds for exhibition, he was wise to grow as many as eighteen sorts to choose from. As far as possible I gave a selection which comprised really high-class table kinds, for it was held as important that they should be as good for cooking as for show. Now the kidneys were Midsummer Kidney, one of the finest and best of all earlies, and wanting to be far more widely known. It is long and roundish in form, handsome, and may always be distinguished by the readiness with which it purples after several days' exposure to the light. New Reading, a handsome second-early kind, flattish, yet long, and very distinct. Snowdrop, also a long flattish kind, with snowflake-like foliage, a good cropper, handsome, and good quality. Edgecote Seedling came next, one of the best of the Lapstone breed, and yet has a dark top, and not one of the usual Lapstone type when found true. Then Cosmopolitan, a fine handsome kidney, second early, beautiful nutty quality, and a good cropper.

Woodstock Kidney also is one of our best Potatos, though in some seasons much subject to disease. Still it is very handsome and of beautiful quality. Chancellor is a late robust kind, producing very fine handsome tubers, usually rather oval in shape, and very distinct; it is a grand main crop Potato. Fidler's Prolific, a fine cropping flattish kidney, is also a first class sort. Finally, from the same raiser as the preceding, the Colonel is a grand flattish kidney also, and one that only needs to be known and grown to be universally esteemed. Turning to white rounds, it is evident that the handsomest of all the new ones, and first class for cropping, and table also, is London Hero; flattish pebble shaped, and produces, probably, more exhibition tubers than any other variety.

Schoolmaster still remains the best and handsomest of its strain, and in spite of a tendency in some soils to become knobbed, it always gives a fine show sample. First and Best though somewhat resembling that known favourite Porter's Excelsior, yet has a higher table reputation, and always gives capital samples, for it is a true round, and is very handsome. Snowball turns out tubers as round as those of Schoolmaster, and almost as fine in good ground, and yet it is early, has a dwarf top, and admirable for warm borders. It is of the best quality, and is very handsome. Of fine quality also is Early Regent, one of the very best of its strain, and much handsomer than the Regent section, with which it is associated only in name. It is a fine cropping and generally good Potato. Sunrise is a fine mid-season round, rather oval shaped, a large cropper and of capital quality. Prime Minister, usually throws broadish flat round tubers, large and handsome, and of superb quality. This is a fine main crop kind, and worthy of cultivation in garden or field. Fidler's Success is also of an indefinite shape, but rather a longish flat round as a rule; a beautiful Potato, and a heavy cropper. Finally, of free cropping whites, is M.P., something of a Climax form, but home raised, and a capital Potato. It has a spreading top, is of mid-season ripening, and is very valuable for early winter use. Here then is a list of eighteen kinds, and I am sure that any good show dozen will include many of them. Of course there are other good kinds, and of sorts that produce tubers of good quality, yet are not absolutely handsome; these are legion, as also there are still with us many kinds, that if handsome, are yet not good when cooked; but these are fast being driven out of cultivation. It is certain that exhibitors will always prefer sorts of first class table quality, if they know them, and can obtain them. The more growers who cultivate the older and less worthy American sorts, replace them with some of the best home raised new ones, the better for them and for all who have a liking for good mealy Potatos.—*A. D.*

NOTES ON HEPATICAS.

The Hepaticas constitute a small though valuable genus among spring-flowering plants, a genus peculiarly innocent and exquisite coming in the very dawn of spring, but which like all else at the present time, is far behind its wonted flowering period. This is due to the extraordinary prolonged season of severe weather, a season which will long be remembered, and which will serve as a reference in future years. For weeks past everything in the garden outside has been almost at a dead standstill, and plants generally under glass have to a greater or less degree been suffering from the lack of sun. Some six weeks ago the Hepaticas were prominent in bud just ready to emerge from the sod, and there was little or no change in them until the warm bright sunshine and the genial showers came a few days ago to free them from the frost-bound clod. Now the beauties of spring will soon surround us, and included in them will be found the little group under notice.

This genus like many others suffered great losses during the great war which for years raged between the old and new bedding plants of our gardens, when many of our choicest old favourites were ignominiously expelled—swept as it were by a mighty wind hither and thither—into a few remote corners, where they remained hidden from the rage and fury of the blast, and which when over were allowed to emerge again into fashion, and have since been eagerly sought after. Still the huge clumps which were to be seen formerly in so many cottage gardens are to day no more, and instead of being among every day occurrences they are the rarities. They are now, however, becoming comparatively cheap, for good clumps may be had for a shilling, and very good-sized plants for even less than this, so that those who are in favour of them may yet acquire them if they will.

A partially shaded spot is that which they prefer, in light sandy loam, and if leaf-soil is abundant do not be afraid of using it, for these little gems fully repay well doing; if the soil be disposed to be clayey or stiff, use abundance of sharp road grit or river sand, and once well planted let them remain. Mulch annually with well rotted manure and decayed leaves, for they produce an almost incredible number of fibres below as compared with leaf growth. The varieties are now somewhat numerous, and from these it is easy to select some good and distinct kinds with very pleasing shades of colour. The shades of blue from collected plants is remarkable, varying from the type to rich bright blue, while others are of a pure celestial shade, and some of a decided lilac tint. Some of the better known kinds are H. Americana, H. angulosa, and H. acutiloba; these three are North American species, that second named being the largest in all its parts of the entire group, and certainly a very handsome species. H. triloba is European, and has been an inhabitant of our gardens for more than three hundred years. It is of this last that the numerous forms referred to above issue. The best of the singles are triloba alba, cœrulea, cœrulea major, lilacina, rosea and rubra, while in doubles we have the double blue, a still rare plant, and double red; and lastly I would mention the two peculiarities of this group, *i.e.*, the two forms of H. triloba alba, with red and white stamens respectively, both very pretty in themselves, but which might be completely hidden if a label bearing their cumbrous names were placed before them. Here they are in full—Hepatica triloba alba staminibus albus (this is the single white with white stamens), and Hepatica triloba alba staminibus rubrus (the white with red stamens). Such names as these do nothing to make hardy plants popular, which should be our chief aim. The double kinds may only be increased by division; all the singles are readily increased by seeds and division. If the seed is sown as soon as ripe, and covered with a ½ in. of fine soil, upon which place a slate, they will remain uninfluenced by rain or sun, and neither cats nor birds can molest them.—*J.*

A HOME FOR FLOWERS.

(Concluded from p. 458.)

It is a fact that in the Swanley houses zonal Pelargoniums are never out of bloom, and exhibit their glorious colours rarely more finely than during winter. Of doubles there is a huge collection, but these have undergone so much hard cutting to give flowers and cuttings for sending away, that bloom is now scarce. Still, there is here, perhaps, the best collection in the world, for every new kind at home or abroad is at once obtained and grown. Ivy-leaf, gold and silver tricolors and bicolors, and all other varieties, not excepting the rich-blooming, large-flowered and fancy sections, the regal kinds especially, are here by thousands, all looking the picture of rude health. One of the best to furnish early white flowers is White Venus, a great beauty, and very free. A couple of dozens of plants of this kind in any good garden would prove invaluable. It is worthy of remark that all cuttings are put singly into small 60's, and once rooted, the further progress is rapid.

Two of these long houses are full of Cyclamens in bloom, presenting a remarkable sight; the strains, especially of the giganteum section of persicum, are wondrously fine, and the quality of the flowers first class. Mr. Cannell is too good a judge of Cyclamens to grow rubbish, and he has ample opportunities offered him at South Kensington to take stock of what is the best market strains to make mistakes. It is pretty certain that all the skill in Cyclamen culture is not limited to the market men. Some 20,000 plants are reared annually, and the seedling batch for next winter's blooming, now in small 60's and thumbs, is as good a lot as can be seen in the kingdom.

Then there are some three or four houses filled to the utmost with those beautiful winter flowers, Chinese Primroses, single and double. Of the former the Swanley strain is of the very finest, that grand selection from Swanley Red, Improvement, standing out with fine distinctiveness for the size and rich madder-red hue of its flowers, and the robust habit of the plants. White Perfection is a glorious form, the flowers of great size and substance, and resembling enamel. Those are allied to elegant reddish Fern foliage. It is, indeed, a beautiful strain. Lovely also is Princess of Wales, a delicate blush; Swanley Giant is a grand reddish purple; and Swanley Purple resembles that, but has deeper hued flowers. The Queen is a grand white kind, and Swanley Blue, probably, is as good as any other of the blue-flowered strain in cultivation. Swanley Stripe is a beautiful flaked form, with immense blooms. The pretty crimson-hued punctatum form, so far seldom seen with large flowers, has here given a superb coloured seedling of good size. There are several other fine seedlings of the present year, and these again are being further cross-fertilised. Whether due to strain or to the good cultivation afforded, certainly the Swanley Primulas are of all hues of the stoutest and most robust I have met with. Doubles, too, are very largely grown, indeed, one house is full of them, including all Gilbert's and other raiser's finest kinds. Eva Fish, Annie Hillier, Lord Beaconsfield, Marchioness of Exeter, &c., are all finely grown; and of the old double white and fimbriata plena there are myriads of big plants full of blooms. This is about to be sacrificed to enable propagation to proceed.

Although another of the Swanley specialities, tuberous Begonias, make no great show at present, they are grown in enormous quantities. Many tubers are potted and pushing growth, thousands are yet lying dormant for the supply of trade orders, whilst of seedlings yet in the nursery boxes they are a multitude. Mr. Cannell has some over one hundred shallow boxes, about the usual bloater-box size, and there are probably not less, perhaps many more, than 40,000 seedlings nearly ready to prick off. What a long and tedious job for someone presently, and how this great number illustrates the undoubted popularity of what is, without exception, the most popular of all the summer-blooming plants of the day.

Cinerarias are one of the spring specialities here, and just now both double and single kinds are in fine form, the former in strong plants just bursting into bloom, are in large numbers, and in a few weeks will present a striking display. There is here, perhaps, the best collection of these curious and interesting flowers to be found in the kingdom. Of singles those fine selected kinds, Victory, a glorious crimson, and March Past, a

brilliant ringed flower, have given a grand progeny, all fine robust plants, probably a thousand or more in 8-in. pots showing a very fine strain. These singles are fast opening, and will present a brilliant show worth going a long journey to see. The strain has not only a first rate habit, but is not excelled by any other.

There is also a huge lot of fine plants of herbaceous Calceolarias, and their robust healthy appearance shows that the cultivation of these somewhat difficult greenhouse plants is fully understood at Swanley. The strain is a beautiful one, and presently the plants will exhibit a glorious show. Of miscellaneous things their name is legion; in fact, Mr. Cannell seems to have in stock and grow well something of everything. Tree Carnations alone fill a house 150 ft. long and some 12 ft. wide, and within it may be seen the finest stock extant of that beautiful yellow self, Pride of Penshurst. The work of propagation goes on incessantly, and yet there is grass in immense quantities should any be wanting, cuttings of all the varieties. Out in the frames there are some 20,000 plants in small pots of Carnations, Picotees, Pinks, &c., of all kinds; indeed, the stock is a marvellous one, and indicates how popular have this section of the Dianthus family become.

Dahlias are a remarkable feature, and are being propagated in great numbers. Mr. Cannell has long been to the fore with the Cactus section, and has in a box a choice lot of roots, just in from Portugal, where hundreds of seedlings of the Juarezi section are grown for him. The flowers of these novelties will be seen later. In one house was a large number of Orange plants, ranging from 12 ins. to 20 ins. in height, full of deliciously-flavoured ripe fruits. These plants, thanks to the parcels post, are sent away singly in considerable numbers through that medium. Roses are being grafted in bulk in one house. In another may be seen a large collection of succulents of all kinds; in another a lot of pretty pyramids of the pleasing Tropæolum tricolorum; in another vast quantities of Chrysanthemums, &c., so that Swanley is not merely a floral home sectionally, for it shelters almost every flower which may be found in modern gardens.—*D.*

Scottish Gardening.

Figs in the North.—It would appear that the cultivation of Figs on walls is becoming a thing of the past in northern parts. Like Peaches and Nectarines, they are, no doubt, considered to give more labour than profit. Figs under glass, in cool as well as hot-houses, have increased of late years, and evidently they are still making headway. When proprietors are accustomed to have this most wholesome fruit on their tables for dessert, they do not like to be without them for any lengthened period. The finely-ripened, delicious, and, one might add, nutritious Fig always becomes a special favourite when a taste for them has been acquired. The treatment of some kinds has to be almost of an opposite character to others. The strong growers, like Castle Kennedy, require a deal of curtailing and cramping at their roots till they are made to bear freely, or trees of limited size, we do not refer to pot trees and those built into brick basins, but trees trained to say 10 ft., 15 ft. or more apart, and it is trees of such dimensions one occasionally sees on Scotch walls, but only in favoured positions.

In East Lothian and along the south coast of Fife I have seen Figs, and in a few cases doing tolerably well. The kinds which seemed to receive most favour were Brown Ischia and Brown Turkey, evidently two of the hardiest. The greatest faults we have noticed in connection with the cultivation of Fig trees, both in north and south, is allowing the branches to become matted with small growths. The crowding of the shoots together probably indicated a desire to secure abundance of fruit—many of these branches no doubt showing abundance of young Figs which dropped "untimely." But the very means (still very common) used to secure plenty is what defeats the object in view. The same may be said of most kinds of fruits, and the "let alone" system of root and branch management too often exhibits this mistake. Figs are by no means tardy in taking to almost any kind of soil, and will make growth almost in any position, but ripening of fruit in such positions is quite another matter. Were we to start growing Figs in any of the favoured districts north of the Tweed, thorough drainage, plenty of shelter, and free exposure to sun would be of primary consideration, and under such conditions we have seen very fair Figs ripened north of the Forth.

Good loam with a dash of sand and lime rubbish in it does well for Fig growing, stones, brickbats, and old plaster, made thoroughly firm makes an excellent bottom for the roots, and with ample drainage under them one need not fear that the feeders would become waterlogged. We prefer building a front to the border to keep the roots under control, and when they become a mass of fibre good top dressings may be given, and drenchings of manure water during the summer as may be required. In managing the trees during the growing season, we believe in getting the tree to the desired size (trained according to taste), horizontal, vertical, or fan, all do well. We like to get good clean growths, as one would a Pear, retaining them as main stems, training the young bearing shoots on one or each side of these main branches, cutting out the old in the autumn when they have borne one crop (a second or third in the north is out of reason) allowing the young growths which are to fruit the following year all the sun and air possible; regulating the root growth gives a decided advantage to fruiting. Early ripened stiff shoots a few inches long do not fail in showing fruit, and all other things being equal they are not apt to drop "untimely." Well managed trees in course of time require next to no stopping or pruning. The emission of suckers should always be carefully avoided—a clean stem from the root 1 ft. or more long, is very desirable with all wall trees.

In the application of liquid manure many errors are committed; strong, but putrid liquid manure is the cause of much mischief. Instead of the roots being refreshed and the trees fed by such applications the former are destroyed, or, at least, rendered unhealthy, and one need not add that flabby looking foliage and badly ripened wood follows suit. There are good artificial manures (the properties of which have been abundantly proved), which can always be used with safety and with much advantage to the trees. We do not know any fruits which manure water tells more decidedly on than Figs, but rank fibreless roots receiving copious draughts of liquid manure only gives wood and foliage minus fruit.

The protection of Figs (especially in such wintry weather as we have been experiencing), is of great moment; we have seen fine Brunswick trees on open walls killed outright about 400 miles southward from where we write. Strawbands twisted round the stems, a thatching with straw, thick coverings of Spruce branches, thatched portable hurdles, and coatings of Fern are some of the methods adopted for the protection of Fig trees. They are covered at the fall of the leaf, and uncovered when frost is well past in spring (about 1st of May). No one would recommend the planting of Figs on open walls while they had glass cases or other structures at command, but in the absence of the latter, would certainly in favoured positions do something with wall culture. On the fronts of houses, similar to what one is so familiar with in Apricot culture throughout Oxfordshire, would be positions which we should choose for Figs. We do not know to what extent the grafting of Figs has been tried, but it has been done at Callandar House Gardens by the successful fruit grower there, Mr. Boyd, and we hope to examine the experiment when the season is further advanced.—*M. T.*

Aberdeen Horticultural Association.—The monthly meeting of the members of this Association was held in the Young Men's Christian Institute, Aberdeen, on Friday, 19th inst., under the presidency of Mr. Peter Harper. There was a good attendance. Professor James W. H. Trail (Professor of Botany, Aberdeen University) read an interesting paper on the history of well-known plants, specifying the different orders, and then sketching the history of the different plants comprised under each. The plants named included the Cabbage, Turnip, Radish, Pea, Bean, Carrot, Parsnip, Parsley, Celery, Lettuce, Dandelion, Artichoke, Potato, Tomato, Spinach, Beet, Asparagus, Onion, &c. None of the plants, he said, were indigenous to Scotland, but they had been introduced by the original settlers, by the Romans and others. At the close of the paper a cordial vote of thanks was accorded Professor Trail on the motion of the chairman.

A paper sent by Mrs. Farquharson, of Haughton, on "Fern spores and their development" was then read by the secretary of the Association (Mr. Reid). The paper, which was illustrated by mycroscopic slides, was exceedingly well received, and the thanks of the meeting ordered to be conveyed to the writer. Several plants were exhibited on the table, which the committee inspected. These were a Cyclamen from Mr. Auld, the Firs, Murtle, near Aberdeen, for which a cultural certificate was awarded; a pot of Lilies from Mr. R. Gregor, Sunnybank; and Cinerarias from Mr. Smart, Lesmurdie, to each of whom a vote of thanks was awarded. A similar compliment having been paid the chairman the proceedings terminated.

The Amateurs' Garden.

THE VEGETABLE GARDEN.

After so many weeks waiting, favourable weather has come at last, and as suddenly as might have been expected from an almost Arctic winter, we were hurried into mild spring-like weather, releasing the ground from the frost-grip, and permitting much overdue work to be accomplished. It is surprising what a rapid effect the higher temperature has already had upon the fruit trees, and what few vegetables there are left. Apple and Pear tree flower buds are gradually extending from their scales, and will soon expand if this weather continues. Red Currants are similarly showing, while some early Gooseberries have shoots ½ in. long, others breaking rapidly also. A few Turnip-tops and Brussel Sprouts, which had been given up as no good, but left in the ground on the bare possibility of a renewal of growth are starting again, and we shall secure a cutting or two that will be most serviceable now all is so scarce. Sowing seeds must now be proceeded with as rapidly as possible, as there is so much lost time to make up that no further delay can be afforded. We had sown a few early Peas before the frost, and now we have got in another lot—a few rows each of Maclean's Little Gem, and King of the Marrows, which are favourites with us in addition to those we have previously recommended. It is not necessary to have a large number of varieties of Peas to keep up a good supply, as this can be regulated better by successional sowings than in any other way, for Peas that come in at different seasons can be sown at the same time and as they will come in their natural order, Peas will be obtained in good succession, and a glut at any one time is avoided. Beans and any of the other general crops mentioned in our last calendar can be sown now, and we are putting Lettuces and Radishes out freely, as both these are in good demand. Asparagus beds may be attended to if the work has been delayed—planting fresh ones, or giving a good dressing of old manure to the established beds. Any planting in arrears must now be got through quickly, for the sun has gained so much power that on clear days it has an injurious effect upon plants that have been disturbed at their roots. Frames containing seedlings must be well ventilated.

THE FLOWER GARDEN.

A good opportunity is now afforded for a general clean-up, sweeping and rolling lawns and paths, trimming the margins of lawns or beds, and where the latter are not occupied with bulbs or spring bedding, they should be prepared for their summer occupants. Dig the beds well, and use a little old leaf-soil, but do not employ any rank manure for those that are to contain Pelargoniums or similar plants, as if these are induced to make very luxuriant growth they will never flower satisfactorily. It is far better to have the soil intended for flowering plants of this character rather poor than otherwise, and it applies equally to the tricolor and silver variegated Pelargoniums as well as those used in carpet bedding, such as Alternantheras. For subtropical plants of the Castor Oil and Canna types a rich soil is requisite, as the object with these is to get as rapid and vigorous a growth as possible, or the beds do not become well filled in one short season. A dressing of old manure may, therefore, be dug in for them, the soil being pulverised, and large stones removed. Lawns that have the grass rather thin in patches should have a little fine soil strewed over the bare places, and some mixed seed sown with some Clover if it is wished to make a thicker foundation. Where moss is abundant, strew a little lime over the place, and then rake slightly to remove the moss, subsequently sowing seed as advised. Annuals may be sown in warm borders, or, preferably, in pots placed in frames, and subsequently planted out.

THE GREENHOUSE.

The plants in this house will now require much attention, supplying water more freely, and ventilating liberally. Whenever this house has to be kept closed for some time, it is impossible to have the plants in satisfactory condition, the growths become drawn and weak, the foliage loses its natural colour, and the flowers do not last so long as when in a well-ventilated

atmosphere. Early Azaleas will now be going out of flower, and should have the remains of their blooms or any seed vessels picked off, placing the plants in a warm position as previously advised. Camellias should also be cleared of their old flowers, any straggling shoots shortened, and growth encouraged by syringing and a slightly warmer position. Bedding plants must now be seen to and encouraged to grow, potting any that have not been so treated, and inserting cuttings of Lobelias or any other plants of which the stock is insufficient for the purpose. Annuals and other plants raised from seed for flowering in pots, may now be sown in the greenhouse.—*Scolytus.*

PRIMULA OBCONICA.

It is now of such an every day occurrence to meet with good strains of Chinese Primulas, well grown and flowered, in greenhouse and conservatory decoration, that, coming as they do annually, we often regard them as a matter of course, and some fresh comer welcomed. In P. obconica we have one of the freest and best for conservatory work, a plant which for delicacy and grace is far better suited for decorative purposes than the sinensis section; for vases or epergnes it is beautifully adapted and retains its flowers a considerable time. It is, perhaps, in one point unique, it is a perpetual bloomer, and if liberally treated and grown in quantity would prove an acquisition in conservatories, and also for cut flowers; the latter are arranged in umbels, the colour white and shaded lilac. It is of easy culture, and may be grown in the same way as the sinensis type and with the same treatment.

It is, however, evergreen, a true perennial and hardy in some localities. The result is not satisfactory when grown outside as compared with cool greenhouse treatment, nor does it do the plant justice. Quite recently in a conservatory in the neighbourhood of Bath, I counted some thirty spikes in various stages on a plant in a 7-in. pot, and which had been flowering for upwards of three months, the gardener assuring me that the quantity of flower spikes which had been cut fresh added to those which had been removed as the flowers faded would reach an almost incredible total, which statement I could easily entertain, and which only endorses my own experience of it. Here it is allowed to flower some five or six months, when the flowers are all removed, and the plants divided and grown on again for winter work. It may be also raised from seeds, which if sown at once and treated liberally would make nice plants for the ensuing winter. It grows about 1 ft. high, and makes a handsome bush, and I am sure those who give it a fair trial will not easily be persuaded from continuing to grow it. It forms a pleasing contrast to, and companion for the yellow flowered P. floribunda.—*J.*

SCIENCE IN HORTICULTURE.

Much has appeared lately upon the desirability of extending the scientific knowledge of young gardeners, and some excellent views have been expressed by several writers. It is quite evident that there is a growing opinion that gardeners, like other men, are all the better for an acquaintance with the principles upon which their practice is founded, but for all that they must be practical; for however good a man's theoretical knowledge may be, he cannot expect it to serve him much unless he combines it to elucidating the operations in which he is engaged. It is on this point that some have made a mistake when entering life, and it is in the same way that prejudice against scientific instruction in horticulture has been caused and fostered.

When a young man is being trained for the calling of a gardener he must bear in mind that his chief object is to master the various methods of culture, the mode of performing certain operations, the times when they require attention, the most successful systems of cultivating and training fruits, plants, and vegetables. This constitutes the art of gardening, and he must resolve to master it thoroughly, or he will never rank as a practical man and will constantly be meeting with difficulties that theory alone will not enable him to surmount. When he is becoming familiar with the principal operations he will, if of an observant character as all good gardeners must be, begin to wish to know the reasons for much that has to be done in a certain manner or at a certain time. Then a little study will help him, and he should commence by gaining an elementary knowledge of plant structure and their chemical constitution. This may be followed by a study of the chemistry of soils and manures, the principles of meterology, and the laws of heat.

Some knowledge of drawing, planning, etc., is also necessary, and from these the student can extend his attention to any cognate matters, such as levelling or surveying, for all may prove useful at some time. Anything in fact which has a bearing upon his profession can be utilised by a man who thinks about his work, and who is actuated by an earnest desire to excel. Those who scoff at knowledge of this character to be employed in the assistance of practice, are not worthy of attention, they are behind the times and will have to give place to others who take wider views. The aim of every young man should be to gain as much knowledge as possible, but let it be useful, and such as will help him in his calling, and he will have cause in after life to congratulate himself on time well occupied.—*An Old Hand.*

THE FROST AND ITS LESSONS.

Preachers frequently discourse on the lessons which adversity should teach us. It may be well for us who have to do with the stern realities of life, which the late prolonged low temperature influenced in a remarkable degree, to enquire what lessons we may learn from the unwelcome experiences we have passed through. I think all must admit that the season of 1885-1886 is one of the worst with which the present generation of gardeners have had to contend, following, as it did, after a cold dry autumn, during which the staple crops we rely upon for the winter and spring supply made only one half the growth they generally do, found many ill prepared to supply the requirements of the culinary department; and had a comparatively mild winter ensued, the difficulties of the situation would have been great enough to contend with, without their having been intensified, as they have, by the long-continued frost which seemed loath to leave us, the thermometer registering twice during the week before last 14° of frost, and the east winds of the previous week scorching up much that bid fair to give some return for past labour, when milder weather, which we have long been looking for, should set in.

We have been from the middle of October using up what had grown previous to that date, and have drawn on our supplies to that extent that many are in a condition of vegetable bankruptcy; and now there is, in many instances, little or nothing that can be done. Those who have plenty of room under glass can do much with French Beans, New Potatos, &c.; but there is a large class who have not the facilities to grow these things, and it may be worth while for them to reflect, whether by care and forethought they can be better provided against similar eventualities in the future. Previous to this season we have had several mild and open winters; and now having passed through one of greater severity, we may look for one or two more to follow it, and all should do their utmost to be well stocked with produce to meet a probable contingency.

I would suggest that a much larger store of Sea Kale crowns should be grown than we usually find in most places. What might easily be sent to table daily is too often considered a luxury, and only sent in occasionally. This, of all vegetables available for the winter and spring months, is the most appreciated, and a good supply of it will go a long way in tiding over the difficulties of a season like the present. Another resource, of which, unfortunately, few can avail themselves of this year from the scarcity of the crop owing to the drought of last summer, is the forced tops of Swede Turnips. These placed in a warm dark place, soon produce an abundance of sprouts, which make an excellent dish, and are generally much approved of whenever they are tried, some pronouncing them nearly or quite equal to Sea Kale. Where cows are kept the roots, after yielding a crop of sprouts, may be given to them.

A ton of roots will produce an astonishing quantity of sprouts, which make a very agreeable variety at table, and where the roots are used for the cattle when done with, the sprouts are provided at a very small cost. The roots should be introduced into the Mushroom-house, forcing pits, or under the stage of a warm house, in batches suitable to the requirements of the family, and be planted in soil to about half way up the bulb, and may be packed pretty closely together. Where there is plenty of space, it might be worth while to grow a breadth of the Thousand-headed Kale, which is used by some farmers for sheep-feeding. It seems to stand severe weather better than our Scotch, Cottager's Kale or Chou de Milan; but being a coarse feeding subject, it is not very many who would care much for it if anything else could be had, and where grown in ordinary seasons, it would very likely be let run to waste, better things being available.—*W. B. G.*

THE AMARYLLIS.

The untoward character of the season which has so much upset the reckoning of many experienced practitioners, is responsible also for many of our spring flowers being later than usual in displaying their floral charms. Messrs. Veitch & Sons' grand collection of Amaryllis is quite a fortnight later than last year, but they have lost nothing by being kept back, for, with the more genial weather of the past week, the flowers have come along at a great rate, and in perfect form and colour. At the present time the large house devoted to these showy plants is quite a forest of stout vigorous flower scapes, and by next week a great proportion of the 2,630 flowering bulbs will be in bloom. The seedlings of which Messrs. Veitch raise an immense quantity, naturally claim the first attention, as it is to these they look for improvements and advances on existing sorts; and the present season's batch, it is satisfactory to know, has already yielded some sterling novelties, of which mention may be made of the following:—

Nemesis.—A splendid shaped flower, about 8 ins. across, raised from Leopoldi crossed with a Continental variety. It is a white ground flower handsomely mottled with red.

Nestor.—A large, smooth, reddish crimson flower, with the tips of the segments greenish white. From Leopoldi crossed with a good seedling.

Caradoc.—From the same pod of seed as the last named; of the Leopoldi shape, and in colour blood-crimson, mottled with white.

Fenstanton.—A rich lustrous crimson, shading off to red, with a light centre, very distinct, and obtained from a feathered seedling crossed with Emiliæ, a certificated variety.

Cavalier.—A distinct and large flower from Junius, crossed with Leopoldi; dark crimson shaded with rose, and light centre. A fine smooth flower.

Damio.—A rich lustrous crimson, from Empress Eugenie and Emiliæ, partaking of the former in colour, and the latter in shape.

Robin Hood.—A grand flower, being of great size and substance, round and smooth; a brilliant scarlet in colour with a white starry centre.

Nubia.—Very distinct in colour, being of a rich red-wine shade. From Malvolia, crossed with Emiliæ.

Hengist.—A broad flower with well-reflexed segments; rosy crimson, with white veins, and a light centre. This also comes from a continental variety crossed with Leopoldi.

Mars.—A very fine showy flower of a rich scarlet hue, with a green centre, and the tips of the segments white. From the same parentage as Nestor.

Brennus.—Very large and round, of a deep port wine colour, slightly mottled with white. From Prince Leopold and John Heal, and partaking of the former in its deep colour, and of the latter in size and shape.

Perdita.—A very distinct, large, open flower; crimson mottled with white.

Falkirk.—Very large; white, heavily shaded and veined with crimson. From Prince Leopold and Henry Little.

Among the older sorts which still hold their own we noted in fine bloom Prince Leopold, John Heal, and G. Taylor, both perfection in form; Clarinda, Empress of India, which has given some of the finest varieties; Perle, ivory-white, with a few crimson veins; Lord of the Isles, pure scarlet without a trace of green; Alba viridis, one of the most distinct, pale creamy yellow with a lacing of crimson round the segments; James Douglas, a fine deep crimson; General Gordon, a rich red wine colour, with a white band down the segments; Sir Redvers Buller, scarlet with a white starry centre; and Picotee, creamy white with the upper segments feathered with crimson. For the moment the Amaryllis house is the leading feature in the Messrs. Veitch's nursery; but visitors during the next week or two should not fail to see the superb collections of Hyacinths and other spring flowers in one of the show houses, and the grand lot of bloom in the cool Orchid department.

THE MARECHAL NIEL ROSE.

It will, I think, be readily admitted on all sides that at the most this is probably the shortest lived of all our Roses, a problem somewhat difficult to solve. Various reasons have been assigned for this premature decay, but anything in the way of a preventive is not so readily to hand. Many thousands of Roses are annually "worked" by leading nurserymen on various stocks, and disposed of in a great many gardens where soils of various character and treatment of different kind is sure to await them. Though I have never heard of "half leaf mould," see p. 411, prescribed for this Rose, or, indeed, any other, I am inclined to the belief that there is truth in the statement, that the stiff natural soil of the garden is well suited to it, as stated by your correspondent, Mr. Bayne.

I have seen it planted in most unfavourable positions—that is positions which would never have been selected, but on the contrary, condemned by experienced men. Still the plants have made such headway that it was evident their requirements were for once met. I have in my mind's eye two cases of this Rose doing well, one in a carpenter's garden near Nottingham, the other in a nursery; in the first case the plant, which was on its own roots, was planted in the ordinary soil, which was excellent brick soil, large kilns being in the neighbourhood, and trained to a brick wall some 12 ft. long and 6 ft. high, which served as a party wall to semi-detached cottages, and was the only available spot. All the care bestowed upon it at planting time is obvious in the words of its owner, "I thought I'd stick him in and see if he'd do any good.'

The roots, too, had to travel beneath the brick floor in the back yard, rendering mulching almost impossible, nevertheless, it made great progress, flowered freely and well, and was surprisingly free from canker. In the nurseryman's case the plant was on a briar stock, a standard some 4 ft. high, which was planted beneath a stage in an old Azalea house, and, though it was cankered at the union of stock and scion to nearly the size of a cocoa-nut, I have known it to carry in a season upwards of 2,000 fine blooms.

The owner much feared losing his plant, which, by the way, was a profitable one, occupying little room, and requiring little attention, and I suggested placing a strong box 2 ft. square about the stem above the stage, cut the stem all round above the canker after it had ceased flowering, and filling in with good stiff rich loam and manure; this advice was followed and the plant is still a healthy and vigorous one, yielding quantities of bloom annually. I do not say that if this had not been done the plant would have died, but on the other hand the increased vigour of the plant bore sufficient evidence that new roots had been emitted, and in turn were acting beneficially towards the plant.

I am of opinion that a cool greenhouse heated only in case of severe frost would suit it best, and I would certainly give the preference to plants on their own roots or on the seedling briar. I think an excellent stock for the future may be found in the Grifferaie for the Marechal Niel, being stout and of a vigorous constitution. In any case it is worth trying—*J.*

Amaryllis: One of the Best Types.

WHITTINGHAME.

High on the rounding banks of an excellent trout stream, which flows quietly through a beautifully wooded glen, facing the "Old Castle"—once the home of the Douglases—at the top of the charming grounds on the opposite side, stands Whittinghame, the ancestral home of the Right Hon. A. J. Balfour. The stream referred to above, is generally called the Whittinghame Burn; its real name, however, from its source in the Lammermoor hills until it empties itself into the sea at Belhaven Sands, is the Papana. Whittinghame is situate amidst a wealth of woodland scenery, about three miles south-east from Prestonkirk and the East Linton station of the Great Northern main line of railway; and a like distance, in an opposite direction, from Dunbar and its historical castle, now, like many others of the thirteenth century note, in ruins. I may be pardoned for making a slight digression here to state that the Earl of March, being away with the Regent in 1339, the Earl of Salisbury took advantage of his absence, by attacking his castle of Dunbar, expecting an easy victory; but in this he was woefully mistaken, as the good lady of the house—Black Agnes—kept him at bay for nineteen weeks.

"She kept a stir in tower and trench,
That brawling, boisterous, Scottish wench;
Came I early, came I late,
I found Agnes at the gate."

The Whittinghame Estate is rich in "old castles," as there are two in addition to the one referred to above, which in the time of Queen Mary was, as already stated, occupied by a Douglas—not, as is very generally believed, the Black Douglas, but quite a different family altogether, a younger scion of the house of Morton. The castle of Hailes, now in ruins, was at that time occupied by the Earl of Morton, head of that house, and the castle called "Stoneypath Tourn," which then belonged to the Earl of Bothwell. I may also mention the existence of the old parish graveyard, in close proximity to the old castle in the grounds, and which has been closed since the year 1300, the only token of the past being a monument erected there in 1817 to the memory of the old proprietors of the estate, Mr. Balfour's late mother, Lady Blanche Balfour, and his late brother, Professor Balfour, who met with his death on the Alps a few years since, are both buried here in a plot of the sacred ground enclosed for the purpose. It may also be interesting, in an antiquarian point of view, to say that embedded among the roots of the large Beech trees, which were uprooted during the great October gale of four years since, were found human skulls and other bones of the human frame.

The present mansion is an elaborate building in the Grecian style of architecture. It is commodious, handsome in appearance, and (as indicated above) is effectually protected by a mass of spreading trees from the fury of the north and east winds from the German Ocean, a few miles distant. Whittinghame is well known to many readers of The Gardening World as being a first-rate gardening establishment, having numerous glass-houses of modern erection, extensive and beautifully undulated grounds, as well as for the beauty and excellent condition of the choice collection of Conifer and other trees they contain. Therefore, a few particulars of the most notable trees may not only prove interesting, but also instructive, beginning with the greatest stranger, a Eucalyptus. Hitherto, Mr. Garrett, the able gardener at Whittinghame, had supposed the species to have been E. viminals, it having been so named by the late Professor Balfour; but Sir Joseph Hooker, to whom Mr. Garrett lately sent a branch, recognised it as one which he had himself gathered on

the mountains of Tasmania, called E. Gunnii, or Cider Tree. The natives make use of the fermented juice as a potable beverage. Its dimensions are—trunk, 10 ft. 4 ins. in girth; main limb, 5 ft.; other two, 3 ft. 7 ins. each, and some of smaller dimensions; height, 60 ft.

Of Araucaria imbricata, there are trees from 15 ft. to 30 ft. high, and furnished to the ground with luxuriant growth; two bearing cones from which a quantity of good seed has been collected. Picea cephalonica, 50 ft. high, circumference of branches 34 yds.; Wellingtonia gigantea, trunk 10 ft. 8 ins. in circumference, and about 50 ft. high; Abies Douglassii, spread of branches 48 yds. in circumference, and girth of trunk 7 ft. 9 ins.; Thujopsis borealis, a fine specimen, 25 ft. high; Picea pinsapo, 45 ft. in height, a good tree; P. pindrow, 40 ft. high; P. nobilis, 70 ft. high, stem 6½ ft. round; P. Nordmanniana, over 70 ft. high, stem 6½ ft. round; P. Morinda, 40 ft. high; P. Webbiana, 45 ft. high; Pinus excelsa, 40 ft. high, as also is P. cembra; Picea nobilis glauca, 30 ft. in height; Taxodium sempervirens, 50 ft. high, a fine tree; Fitzroya patagonica, 20 ft. high; Cupressus Lawsoniana, 30 ft. high; Cryptomeria japonica, 40 ft. There are numbers of standard Portugal Laurels, having stems mostly 6 ft. round, and heads from 20 yds. to 28 yds. in circumference, truly grand specimens; and in the flower garden there is a very fine silver variegated Holly, 26 ft. in height, and 33 yds. in circumference; while close by the old castle is a remarkable and most interesting Yew tree—remarkable alike for its great age and size—the circumference of the trunk being 10 ft. 6 ins., diameter of space inside where branches rest on the green sward 35 ft. outside spread of branches close upon 100 yds. in circumference, and interesting from the fact that underneath the spreading branches of this venerable tree Bothwell and other Scottish nobles opposed to Darnley, the husband of the ill-fated Mary, Queen of Scots, are said to have concocted a plot to assassinate him.

Before quitting the grounds, I may as well mention a simple method which Mr. Garrett adopts for protecting young trees from rabbits, viz., strips of Larch bark, about 2 ft. in length, laid against the stem of the tree or shrub and tied at top and bottom with tarred string. This, Mr. Garrett considers, is not near so costly or unsightly as wire netting, much more effective, and of course it is not in the way when work has to be done round about the trees. I have not seen or heard of the plan having been tried elsewhere. The soil at Whittinghame overlies the old red Sandstone formation, the sub-soil being mostly of sand or gravel, the atmosphere is consequently dry, and to this fact Mr. Garrett, naturally enough, attributes his immunity from severe frost, as he finds a given amount of frost does not do the same amount of damage as it does in the low lying districts, where the air is more moist. The Whittinghame elevation is about 320 ft. above sea level. The flower garden, which at the time of my visit (September 11th), was quite gay with a variety of pleasing colours, is in keeping with the ground as as regards extent and artistic arrangement of colours and designs.

The kitchen garden covers two acres inside the walls, in addition to a like space of field, for the production of Potatos and the commoner kinds of vegetables. Both are, it is almost needless to say, well stocked with seasonable vegetables of the best description; as also is the large orchard, and the garden walls, which are 16 ft. high, replete with approved and flourishing collections of the different kinds of fruit trees, the condition of which indicate a thorough knowledge of their culture on the part of those who have to do with the pruning and training of the individual trees.—*H. W. Ward, Longford Castle.*

(To be continued).

The Rainfall for the Month of February proved remarkably low, rain only falling on five days. The greatest fall was on the 2nd, when ·25 were registered, and the total for the month only reached ·82. The thermometer was also much below the average, for the 28 days; ending March 18th, the mercury went below freezing point every night. The coldest nights were March 7th, with 22°, the 5th with 15°, the 8th, 10th, and 11th, with 12° of frost. The fall of snow during the present month has exceeded twelve inches; a great change has now taken place, the minimum temperature for the 20th, being 45°.—*R. G. Waterman, Woolton, Liverpool.*

CAPE PELARGONIUMS.

A collection of the distinct species of Pelargoniums is not only interesting on account of the great diversity of character of the various kinds, but many of them are extremely beautiful, though not so showy as the garden hybrids of the various classes. From the curious little P. melananthon to the tall straggling P. gibbosum, all are alike interesting. P. zonale, and P. inquinans, which are the first parents of the splendid race of Zonal Pelargoniums, are especially interesting, as they show how much has been done by the hybridist; the original P. zonale being one of the least attractive of all the species, while the bright colour of the flowers of P. inquinans is the chief attraction of that species. P. cucullatum, from which the show varieties have sprung, is also an interesting, though not a very beautiful species. Among those which deserve to be cultivated, either for their beauty or for their peculiar distinctness, the following selection may be made, and when grown in a group together they form an interesting study.

P. acetosum.—Leaves small, pale glaucous green; flowers light salmon, long narrow petals.

P. elatum.—A very distinct species, with pale green ovate leaves, and very attractive flowers, the upper petals of which are crimson, with very dark blotches, and lower petals nearly white.

P. betulinum.—A compact growing species with small birch-like leaves; flowers pure white, upper petals slightly veined with crimson.

P. glaucum.—Small thick glaucous leaves; flowers white, with dark blotch on upper petals.

P. flexuosum.—Small bright scarlet flowers, very pretty.

P. selectum.—Deep crimson flowers, distinct and pretty.

P. echinatum.—Stout Cacti-like stems, flowers white with rose blotch on each petal. *P. crectum* is of similar habit, with rose-coloured flowers.

P. Schottii.—A tuberous-rooted kind, with large deeply cut leaves, and dark crimson flowers.

P. triste is another very distinct tuberous-rooted sort.

P. melananthon.—A tiny species, growing only about 2 ins. or 3 ins. high, producing a round truss of small almost black flowers.

P. reniforme, P. fragrans, P. fulgidum, P. ignescens, P. schizopetalum, P. quinquevulnerum, P. Blandfordianum, P. ionidiflorum, P. pulchellum, P. tomentosum, and *P. nibifolium* are all very distinct.

P. quercifolium, P. crispum and P. citriodorum are three of the best scented-leaved species, and there are several good varieties, such as *crispum majus, citriodorum minimum, Lemon, Little Gem, Mrs. Gibson Craig, Prince of Orange, Lady Plymouth* (variegated), *quercifolium majus,* &c.

Culture.—To flower the Cape Pelargoniums successfully, it is esssential that they should be potted into their flowering pots early in the season, and the compost used should not be enriched with manure of any kind, or the plants will grow out of character, and will not flower freely. They should be grown in a position where they can be fully exposed to the sun, and kept moderately dry until they begin to show flower, when more water may be given, and a little liquid manure may be used after the plants begin to flower. With a little encouragement many of the kinds will continue to flower throughout the summer.—*A. Hemsley.*

THE R. H. S. SCHEDULES.

I observe that the first of the regulations of the exhibitions of the Royal Horticultural Society specify that "the prizes offered are open to all competitors residing in the United Kingdom." It would be interesting to know first what is implied, or intended to be implied, in those words. Their interpretation seems all the more needful, as they are adopted in the schedule of the forthcoming Liverpool show, which, it might be assumed, would be open to competitors from all the world. But there is a peculiar wording in this regulation that leaves room for doubt whether growers in France, Belgium, the colonies, or anywhere else are excluded. The words are, "Open to all residing in the United Kingdom," which leads to the inference that only those resident in the United Kingdom are eligible to compete; or, again, they may imply that non-residents still are not excluded.

All depends upon what is implied, because it is evident that whilst the words are explicit enough to show that all resident in the United Kingdom are eligible to compete, yet that those resident outside cannot be declared absolutely disqualified. Having regard to the open character of big continental exhibitions, it does seem to show a lack of reciprocity if such a regulation is purposely intended to exclude foreign growers. It is true that few of those would care to enter into competition with our best exhibitors; but there are classes for new and rare plants not in commerce, and sent out within three years, in which it is just possible foreigners may desire to compete, and with advantage. Perhaps the matter simply needs attention to be revised.—*Z.*

FRUITS, FLOWERS & VEGETABLES.

Treatment of Stock Lobelias.—Reserve at bedding-out time a sufficient number of plants in proportion to the quantity of stock required, planting them out in ordinary garden soil, and keeping them free from bloom by the occasional use of the shears. Early in August earth-up with finely-sifted leaf-mould and sand, working the compost well among the shoots, patting all firm, and giving a constant supply of water. By the time they require winter shelter each shoot will have become an independent plant, and only requires separating from the old root. It is very important that every particle of this old root should be cut away, as it is the cause of much failure. The plants may be pricked off 3 ins. or 4 ins. apart in pots or boxes, and should be kept as near the glass and cool as possible, compatible with their being safe from frost and damp. In spring they may be earthed-up again and divided as before, or cuttings made from them in any quantity in the usual way. Perhaps Mr. Fry's method may be a better one than this, and I shall give it a trial. I have been very much exercised as to the best and easiest way to keep a sufficient stock in a little room, and tried many before adopting the one described.—*W. G. K., Slingsby.*

Mignonette.—How very seldom one sees this plant well grown in private establishments, and yet what is there more easy to grow when one has mastered a few details. I should not like to say how many times I failed to grow a good pot of Mignonette; but I know I failed several times, and I attribute my repeated failures to sowing the seed in loose soil, for ever since I took to making the soil quite firm I have been successful. I now proceed as follows:—In the middle of July I take 8-in. pots, well crocked, and fill them with a mixture of equal parts of sandy loam and leaf-soil, pressing it down as firm as I would the soil in potting Heaths. On this soil I sow about six seeds, cover them lightly, and place in a cold frame on the shady side of a wall. The plants soon appear above the soil, when we give plenty of air, pulling the light quite off as opportunity offers. On the approach of frosty nights we shift the plants into a house from which frost is excluded, and place the pots on a shelf close to the glass. Through the winter the plants receive occasional doses of liquid manure. In February we move them into a warmer house, where they will soon commence to bloom and give a quantity of their sweet-scented bloom until the middle or end of April. The varieties I find best suited for pot culture are Parson's White, Matchet, and Miles's Hybrid Spiral.—*J. W. L.*

Early Forced Strawberries.—Your correspondent, "G. T.," asks for the name of the Strawberry we started in December last. It is Vicomtesse Hericart de Thury. Permit me to inform "G. T." that I have grown Sir Charles Napier Strawberry for twenty years past, and have always done well with it but once, something like fourteen years ago, when the whole of my plants of this variety went blind, both inside and out. I have, this day, March 20th, taken this Strawberry from the ridges, they have been carefully protected with Fern during the eight weeks of frost, more or less, and I find the roots in the best possible condition, and have no fear but that the crop will be satisfactory. I have never seen this excellent variety go blind, except in the case mentioned; neither have ever I noticed it go blind more than any other varieties. I have a special border of Strawberry plants planted in August, which I keep for runners, all blooms being removed as soon as seen, so that my stock of plants is always a good one.—*R. Gilbert, Burghley.*

Wintering Strawberry Plants.—Your very complimentary correspondent, "R. D.," tells your readers that the cost of stacking Strawberries, and packing with coal-ashes, would cost no more than constructing a pit, purchasing the fibre, and filling it with pots. Now, I will leave your readers to draw their own conclusions. Mr. Roberts buys the timber and the fibre, while I use no timber, neither do I buy coal-ashes, so that mine must be the cheaper way. I would give something to have "R. D." down here this evening, just to show him 200 ft. of shelving full of ripe Strawberries; he would leave me a converted man. "R. D." also says that Mr. Roberts thinks his plan the best, and so follows it, and I feel sure he will give me the same latitude. I, of course, think my plan best, and shall follow it.—*R. Gilbert, Burghley, March 20th.*

I have been greatly interested in the discussion of this subject in your columns. I have for several years tried stacking them in sawdust, leaves, or ashes, and frequently met with mishaps, especially during a sudden thaw following a severe frost, when down would come the Strawberry stacks, breaking the pots, bruising the crowns, and wasting time as well as plants—for it often happened that the balls of earth were in a half-frozen state, which made it impossible to re-fit them into fresh pots. Another great disadvantage was that, except in a very mild winter, all the healthy well-developed leaves were "browned" as if with fire, in fact, in just the same plight as our outdoor plants are after the late severe weather; consequently, the flower-spikes did not push so strong as they ought to have done, owing to their sap "laboratory" being so much impaired by cutting off the frost-bitten foliage. During the last ten years I have had my plants plunged in ashes in wooden frames, and I am sure the time and material used in making those frames has been well repaid in the healthier condition of the plants, fewer broken pots (often a considerable item), saving of time and temper, and, lastly but not least, the great advantage of being able to move them at all times and seasons. I may also add that our "blind" plants rarely average three per cent., though the winter storing has but little, if anything, to do with sterility in Strawberries.—*Chas. Lawton, The Gardens, Welton House, East Yorkshire.*

Two good Wood Sorrels.—Oxalis cornosa is a large yellow-flowered species of a shrubby habit, having long stems—which give it a bush-like appearance—4 ins. to 8 ins. high. It has green leaves, very much resembling those of the Ice plant, and the single large yellow blooms are produced in clusters on the top of stems 3 ins. or 4 ins. long. It blooms most continuously through the summer, and is very showy for borders or rock-work, and I have seen it very effective as a bedding plant. It is quickly raised by cuttings in spring, and only needs to be just kept from frost. This plant does not appear to be half so much known as it deserves to be, and should be grown by all who are interested in good border plants. Oxalis Bowiei is so showy and beautiful that it deserves to be noticed. It has large, showy, vivid rose-coloured flowers, with large, broad, trifoliate leaves. It has tuberous roots, and rests a good portion of the winter months.—*Con.*

After Twelve Weeks of Snow.—After the heavy fall of snow on Wednesday, the 17th inst., thaw set in, and continuing on Thursday, Friday and Saturday, cleared the snow away, with the aid of two showers. Sunday was a glorious balmy day here, the birds making the woods echo with their songs. The season has worked sad havoc amongst the rooks, many lying dead by the brook-sides. The thermometer stood at 50° at 7 p.m. on Sunday, but there was a slight frost on Monday morning. It was pleasant, however, to look round and see such a bright prospect amongst spring bulbs and hardy plants; Snowdrops and Aconites, semi-wild, were all aglow, and the flowers are very fine this year. Hepaticas give promise of a good display. The Crocuses will soon be gorgeous on the grass, as we plant all our bulbs after forcing round the boles of large trees, where they have a pleasing effect. Grape Hyacinths are pushing up strong, and showing flower; Glory of the Snow, Dog's-tooth Violets, Scillas, &c., are looking better than usual. Christmas Roses are still flowering, and I see double red Daisies peeping out. Wallflowers seem to have suffered worst of any thing. The vegetable garden does not assume quite so gay an appearance. Curled Green, Cottagers' Kale, Chou de Russie will afford us something to cut at; Chou de Burghley proved itself equally hardy, and gives a fine change, Sutton's late Queen Broccoli is quite sound, and every plant true; long may it remain so, for it has never failed me yet. There is a good row of White Gem Celery; but the August-sown Onions all lay on top of the ground after the snow-coat had gone. A good flat of Lettuces stood to a plant, and Parsley kept well. We have been able to gather all through the season from under the snow. It never fails here with three sowings. We shall soon be able to get the spade in the ground, and we shall be glad of the chance, for we have not a seed in yet outside.—*Geo. Bolas, Hopton.*

Flies and the Blue Gum Tree.—In reply to "Curio's" question on p. 446, I would recommend a plant or two of Eucalyptus globulus to keep flies from entering the room. I have had no experience with it as an indoor window plant, but planted out in a border here, under the dining room windows, it grows vigorously, and during last summer, although flies were most abundant, none ventured into the room. It would be interesting to know if any correspondent has noticed other plants adapted for the same purpose.—*G. W. C.*

Wallflowers, in Pots.—The Double Dwarf German are exceedingly useful as pot plants early in the year, for cutting from, or as plants for filling baskets, &c., for house decoration. They are so sweet that they are always sought after by ladies, and when they have done blooming they can be destroyed, and so make room for other things. I have some plants before me, as I write, which are full of bloom in 48 sized pots, and which commenced blooming in the early part of February. They were taken up in the autumn, potted into 48 and 60 pots, placed in a cold pit, and about Christmas transferred to a pit filled with fresh leaves to start Strawberries in. When the blossoms began to open they were put into an intermediate house, and find more favour than many other things grown in pots.—*Con.*

Black Prince Pine Apple.—It is seldom we see such a handsome example of this Pine Apple as that shown at Kensington the other week by Mr. Mitchell, Aberaman Park Gardens, Aberdare, and if it were easily obtained in such condition it would soon become a great favourite. The fruit was about 18 ins. high to the top of the crown, the latter being large and about 6 ins. high, the fruit itself was broad at the base and gradually tapering to the top, thus assuming a distinct conical form. The pips were deep and even in size, and the fruit might be estimated to weigh about 9 lbs., well coloured and proportioned. We have not grown this variety, and should be pleased to learn from Mr. Mitchell, or others, something about the quality and whether any particular culture is needed, for though Pine Apples are not much grown in private gardens now, my employer is one of the few who likes to have some home-grown fruits, and those we rely upon are the well-known Queen's and Smooth Cayennes.—*G.*

Narcissus pallida Præcox.—This, despite the exceptionally severe weather, is the earliest of all the Daffodils. It is already 6 ins. or more high, just ready to expand. In colour it is a beautiful soft sulphur or straw colour, the cup and perianth being similar in this respect; the cup is long and beautifully formed, and well recurved at the mouth. It is not unusual for this very pleasing form to flower in the open ground in January, so that when we add that it is not yet expanded out of doors, March 18th, the lateness of its flowering this season will be all the more remarkable. All who delight in soft pleasing shades should make a note of this charming flower.—*J.*

Apple Production in Canada.—We have it on authority that the production of Apples in Canada is very largely on the increase. It is authoritatively stated that "the Apple production of the Annapolis Valley, in Nova Scotia is now about 200,000 barrels during good years, of which 100,000 are exported to Europe. It is only of late years that the people of the Valley have awakened to the remarkable adaptability of their lands to Apple culture. Cheap railway and ocean communication, and the opening of the English markets a few years ago, inaugurated, however, a new era. In 1871 the acreage of the Valley devoted to Apple culture was 5,152, in 1881 it had increased to 8,500, to-day it is over 10,000 acres. When the next census is taken, there is every reason to believe it will be 16,000 acres, while the acreage of the province which to-day is about 25,000, will then be, at least, 30,000 acres."

The Gardeners' Calendar.

THE PLANT HOUSES.

As soon as the Indian Azaleas and those of the Mollis type which have been forced have done flowering, let them be removed from the decorative houses, and be placed in a structure where abundant atmospheric moisture prevails, that they may be encouraged to make a rapid and early growth, picking off remaining flowers and seed vessels. Should it be necessary to place them in a Vinery or Peach-house, I would also advise giving the plants of the Indian section a good syringing, especially upon the under-side of the foliage, with a wash composed of a wine glass of paraffin oil to one gallon of water, so as to be sure that thrips are not introduced to the Vines or Peaches. It is amazing how rapidly they visit the young foliage of the Vines, and unless this precaution is taken a colony is speedily formed which takes several consecutive fumigations to eradicate.

It will also be advisable now to look to the state of the roots, and where shifting on is necessary let it be done, but give a very small shift in preference to a full one. Deutzias, also, as they go over, may be better preserved in good health by similar treatment, only that less heat is required; Peach-house treatment, where they are heavily syringed, suits them admirably. The stock of Lobelia cardinalis should now be introduced into one of the started Vineries if not already done. Sprinkle the clumps with leaf-soil or other light material which will retain moisture, and when fairly started let the clumps be divided and potted singly into medium-sized 60's, returning them to the Vineries for a time, from whence they may be placed in the cold frames, and will flower much earlier and more continuously than if treated as an annual. Keep a sharp look-out on the stock of bedding stuff, and where any doubt exists lose no time in making every exertion to get what is required; for although we have experienced a lot of bad weather, and the outside is so dreary-looking, I would intimate that we are fast approaching the end of the month of March.

FORCING HOUSES.

Work in this department will now be confined almost exclusively to the forcing of the different kinds of fruits. In the Vineries daily attention will now be needed all round; do not further interfere with the laterals which have been lapsed where the Grapes are not set, as with the constant tapping of the rods to distribute the pollen, if they are looped too tight, some of them are sure to spring, and so leave ugly gaps in the trellis. Let the foliage be distributed as evenly as possible over the trellis so as to keep it healthy. If Gros Colmar is grown in the early house, the Vines should now be considerably developed, in which case, as we have so little sunshine, the foliage of this variety will be even more liable to scald than usual, and I would advise a little inch mesh netting to be tacked over the individual Vines as a safeguard.

In the succession houses proceed with the disbudding, looping, and so on, and as the operation proceeds, thin off the surplus clusters of bloom; in the house with us, which now needs this attention, there are from two to four clusters on each lateral. It would be a bad policy indeed to allow these to remain a moment longer than they can be got at, as it must prevent full development; let the disbudding be carried out at intervals of of few days, always commencing at the top of the rods, and working downwards. I notice the Muscats are breaking freely, the extra sun and warmer air having contributed to this.

Continue the heeling in and disbudding of Peaches as advised, and in the early house gradually reduce the remaining fruit as may be seen which are likely to be the best placed and most perfect. Keep the fruit thus early as free from shade as possible, as it is quite useless to think of getting highly coloured fruit if this is not attended to early in the season. In the second house we have a most abundant set, and, although we have not yet begun disbudding, we are removing a quantity of the underside fruit, so as to ease the trees as much as possible.

Let an hour or two be devoted to the stopping and tying of the Cucumbers and Melons, as if once allowed to become over-run, the crop of the former will fall considerably shorter than should be the case if well

attended to. Rhubarb being so late outside this season, we have placed another batch in the Mushroom house so that the supply may be kept up.

THE KITCHEN GARDEN.

In walking round one is able to perceive the rapidity with which vegetation is moving, Apricots on the walls are open, Pears and Plums are having a race to see which shall expand first; Crocuses and other spring flowers, which could scarcely be seen at the beginning of last week, are now in full bloom, so that some of the apparently lost time will soon be made good. In the sowing of seeds we have made some headway, having got in the main crop of Onions and Parsnips, with remainder of Broccoli, excepting, of course, Borecoles and late Broccoli, which, if sown thus early, would be quite useless, unless ground were kept specially for it, which is not as a rule done.

We hope to-morrow to sow a good bed of Parsley, we always try to select a good open square in good heart, but not manured for this crop; draw the drills 1 ft. apart and sow the seed in the same manner as Onions; when large enough, chop out the plants to about 1 ft. apart, and a few days afterwards thin the bunches to single plants; as the crop advances keep the ground well stirred with the Dutch hoe, and add, before rain, a good dusting of dry soot as a fertilizer. Many eminent practitioners, from force of circumstances, are compelled to take a lot of pains in the culture of Parsley, but with us the above treatment always succeeds. As the stock of greens is so short, it will be advisable not to remove any old stools likely to furnish a dish, until the ground is absolutely required for cropping.—*Walter Child, Croome Court, March 22nd.*

ORCHID NOTES AND GLEANINGS.

Angræcum citratum.—This pretty neat-growing Orchid is, perhaps, not so much grown as its merits deserve. Being at once neat in habit and very floriferous, it is sure to give satisfaction to the most fastidious. The flowers, which are whitish with a shading of French grey, are produced closely together along the spike evenly on either side. It may be grown in either shallow pans or baskets, but I prefer the former. During the summer it will be best on the shaded side of the East Indian house. It is rather susceptible to the attacks of thrips, which, if not kept in check, speedily destroy the appearance of the young growth, and which detracts from the appearance of the plants.—*E. Dumper, Limerick.*

Orchids, &c., at Broomhall Field.—At the present time there is a goodly display of flowers at the above-named place, the residence of B. P. Broomhead, Esq., and as nearly all the Orchids grown here have been bought in as imported plants during the past four or five years, it may be interesting to note the measure of success attending the enterprise. It ought here to be stated that no elaborate and expensive structures have been erected for their accommodation, but such ordinary structures as existed for the cultivation of general stove and greenhouse plants and fruit have been utilised as required.

Odontoglossums are to the front in successful establishment; "bits" that were obtained several years ago are now large (comparatively), strong and healthy flowering plants, and no small amount of interest is excited when their flower-spikes appear to know whether the qualities of each respective variety will be good, bad or indifferent; and in this, as in other respects, Mr. Broomhead has cause for satisfaction. Amongst the Alexandræ type are some very beautiful varieties, some with broad sepals and petals of pearly whiteness blotched with deep crimson, others almost devoid of markings, and others with longer and more pointed sepals and petals with delicate markings of lemon and rosy crimson. Occasionally an O. Lindleyanum appears; but other times what was obtained for an Alexandræ turns out to be a good variety of O. gloriosum, thus producing never-ceasing interest. O. pulchellum, O. cirrhosum, O. vexillarium, and O. Rossii majus are most successfully established, and most of them are now in flower or producing flower-spikes in abundance.

Amongst the Dendrobiums now in bloom are two superb varieties of D. Wardianum, which were obtained from Rangoon in 1884 amongst a lot of others. One is particularly noticeable on account of the large size of its flowers as compared with the average collection; the other on account of the depth and richness of its colouring. Were these in the hands of a nurseryman, large prices would be asked for them. A specimen plant of D. Wardianum is very striking, five pseudobulbs bearing 100 flowers. D. primulinum, D. nobile, D. nobile var. Wallichii, and D. crassinode were also flowering very freely. Few people are more successful than Mr. Walker in cultivating D. Devonianum, D. Dalhousianum and D. thyrsiflorum. The Devonianums have pseudobulbs 3 ft. to 4 ft. long, with flower-buds developed nearly three-parts of their length; D. Dalhousianum is producing six fine spikes, and has growths nearly 5 ft. long; and the large D. thyrsiflorum is a perfect specimen. Vanda cœrulescens gives us a colour very scarce in the Orchid family, but very effective when introduced into "arrangements" of Orchids in flower.

In the conservatory at Broomhall Field is a perfect medium-sized specimen of Yucca aloifolia variegata. This is the top of a once "leggy" plant; but Mr. Walker made a ring round the stem immediately below the foliage, bound it with moss, which he again surrounded with soil kept in its place with a cloth bandage, and in due time roots were formed, the stem severed, and the 3 ft. or 4 ft. of foliage on the top of equal lengths of bare stem became a beautiful and symmetrical plant.

The Cinerarias are now in full flower and are a splendid sight, the strain is called "Wonder of the West," the plants are large, clean, and robust, bearing dense heads of large and beautifully coloured flowers, varying in colour from deep purple to pure white; the purple selfs and crimson selfs, crimson edged, and magenta edged being particularly good.

In one of the vineries is a Black Hamburgh Vine, the stem of which Mr. Walker layered the whole length, and having effected his object with the shoots obtained therefrom, he retained the end shoots and in due time shortened them back, last year from two shoots he took three, which made very long and strong canes. During the winter he pruned them, and has left two shoots 15 ft. long, and one shoot 18 ft. long, these have now broken strong and are showing abundance of fruit. It will be interesting to know the condition of this vine in future years.—*J. Udale.*

Dendrobium Wardianum.—I think your correspondent Mr. Dumper's flower of the above must be very thin in texture, or it would last as long, or even longer, than the smaller forms, providing the plant is well established, and has plenty of roots to support the flowering bulbs. We have an exceptionally fine variety, which in 1883 produced flowers measuring 4½ ins. across the sepals and petals, and 1½ ins. across the lip. Since then the individual flowers have not been quite so large, but equally fine as to colour and substance, lasting fresh from three weeks to a month. —*Thomas Simcoe.*

Dendrobium crassinode album.—We have a plant of this, with two strong flowering bulbs bearing twenty flowers each. Colour pure white, except the lip, which has a large blotch of pale yellow on the upper part of it. A very desirable addition to the family of Dendrobes, but at present scarce.—*Thomas Simcoe.*

Cymbidium eburneum.—This is now flowering very satisfactorily with us, and out of some half-dozen plants in bloom, there is one in an 8-in. pot bearing ten spikes or twelve flowers. Last year, the same plant, in the same pot, bore eight flowers. The stronger plants, in larger pots, have fewer spikes, but more with two flowers upon them. I suppose plants of this extremely chaste and beautiful Orchid can now be bought for shillings where they would have realised guineas ten years ago.—*Thomas Simcoe.*

Phaius grandifolius.—This is not grown nearly so much as it deserves to be. I once heard a gardener remark, "Oh, only a common Phaius, give me something choice—a Phalænopsis or an Angræcum"; well, I replied, "they are certainly both choice and beautiful Orchids, but I maintain that a well-grown specimen of Phaius grandifolius with eight or ten spikes of flowers towering up well above the dark green foliage is not to be despised—if it is a common plant." I have to provide a constant supply of cut flowers for the house, and to send away also nice plants for house decoration, and I find Phaius grandifolius very useful and most accommodating; for instance, I have had a plant of it in the drawing room for a fortnight at a time, and then not much the worse for its change. I repot them as soon as they have done flowering in a mixture of peat and fibrous loam with some well-dried horse manure, and grow them on in an early vinery where they revel in heat and moisture; as soon as they get established in the new soil we give them manure water twice a week.—*W. Driver, Longfords.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 23rd.*—As usual at the meetings held here, preceding the first spring shows at the Botanic and Crystal Palace, there was a liberal display of subjects of a popular and seasonable character, forming altogether quite a brilliant little show, which few, however, came to admire. Daffodils, Cyclamen, and Hyacinths were the leading features, and the highest awards voted, Silver Gilt Medals, went to Messrs. James Veitch & Son's for a grand group of Hyacinths; and to the St. George's Nursery Co., for a magnificent collection of Cyclamens. Silver Banksian Medals were awarded to Mr. T. S. Ware, Messrs. Barr & Son, and Messrs. Collins Brothers & Gabriel, for extensive and exceeding showy collections of Daffodils, that of the latter firm being especially noticeable for the great variety staged, and the superb quality of the individual blooms. From Mr. Smith Dorien's remarkable garden at Tresco Abbey in the Isles of Scilly, a very fine collection of Daffodils, grown in the open, was also sent, mainly varieties of the Tazetta, Incomparabilis, and Ajax groups, and a Silver Medal was awarded. Silver Banksian Medals were also voted to Messrs. Wm. Cutbush & Son, for an extensive collection of well grown Hyacinths, something approaching their old style in quality; and to Mr. J. James, Farnham Royal, for a superb group of Cinerarias, the flowers erring, if anything, on the point of size, but perfect in shape and richness and variety of colour. A Bronze Banksian Medal was also taken by Mr. J. Wiggins, gardener to W. Clay, Esq., Kingston-on-Thames, for a good group of Cyclamens.

The new plants certificated were the new Cattleya Lawrenceana, represented by a beautiful specimen with fifteen flowers, from Baron Schroder, a beautiful variety which immensely raised the reputation of the species; Dendrobium crassinode Wardianum, a supposed natural hybrid, also shown by Baron Schroder, and a gem amongst Dendrobes. The growth is upright, strong and vigorous, and partaking of the character of D. crassinode; while the flowers closely resemble in size, massiveness, and colours, those of D. Wardianum, and equally as freely produced. The hybrid Dendrobium Leechianum, splendidly shown by Messrs. William Thomson & Sons, of Clovenfords, at last gained the coveted award; be it also stated, by an unanimous vote. The award was gained by sheer force of merit, as it has often been shown before and as often been sent back on account of its supposed resemblance to D. Ainsworthii, raised from the same cross, but in different places. Of its distinctness from, and superiority over that hybrid there can now be little room for doubt, and for freedom of flowering it is, perhaps, unrivalled; even quite small bits having a natural tendency to display its floral charms. By another unanimous vote, a First Class Certificate was awarded to Messrs. E. Vervaet & Co., Mont St. Amand, Ghent, for a very distinct and exceeding fine variety of Odontoglossum Pescatorei, named Vervaeteanum; the flowers of which are of fine form and substance, white, suffused with rose, and with from one to four circular deep crimson spots on the sepals and petals; a distinct variety of the highest excellence. Certificates were also given to Messrs. Veitch & Son's, for Hyacinths, Queen of the Pinks, and Grande Fleur; the former was obtained from King of the Blues, and resembles its parent in the shape and general character of the spike and bulbs, but of a pleasing pink shade of colour. Grande Fleur is also a single pink ground flower, heavily shaded with a rich wine colour, a close compact spike, and distinct. Messrs. William Cutbush & Son received a similar award for Azalea mollis, var. Lord Shaftsbury, one of the finest and best shaped varieties we have seen, and wonderfully bright in colour, clear yellow ground, shaded with orange.

Other notable subjects exhibited includes a curious species of Pleurothallis, and a very showy Odontoglossum, in the way of O. mulus or O. lyroglosssum, from Messrs. Vervaet & Co.; a fine variety of O. triumphans, with fifteen flowers on a spike, from Mr.

O. Thomas, Chatsworth; Dendrobium Wardianum, from Messrs. J. R. Pearson & Sons, Chilwell; a plant with three flowers of the white Ærides cylindricum, from Mr. Hill, gardener to Lord Rothschild, Tring Park, which was awarded a Cultural Commendation; a large, well formed, and showy crimson bizarre Carnation, named Madame A. Bernaiux, from Mr. W. Bealby; Odontoglossum hystrix and other orchids De B. Crawshay, Esq.; Imantophyllum miniatum, Mrs. Laing, a fine specimen of a very fine variety, from Messrs. John Laing & Co., which received a Cultural Commendation; Cœlogyne cristata varieties, from Messrs. F. Sander & Co.; and some pretty hardy Primroses, Beatrice, mauve; Brilliant, dark crimson-maroon; and Hose-in-hose, Novelty, violet-purple, from Mr. R. Dean.

Royal Botanic.—*March 24th.*—The spring shows held in the metropolis have been satisfactory up to the present, much better indeed than could have been expected in such an unfavourable season, for though the numbers of exhibitors have not been quite so large, yet the quality of the exhibits has left little to desire. The Royal Botanic Society's first show of the season, on Wednesday, was a good representative display, though smaller than we have seen in previous years. Bulbs formed the greater portion of the exhibition, Hyacinths being finely shown by such firms as Messrs. J. Veitch & Sons, Mr. B. S. Williams, and Messrs. Cutbush, while amongst amateurs, Mr. J. Douglas, as usual, had the best contributions; the last named exhibitor also succeeded in obtaining the leading prizes in most of the other classes, including the Veitch Memorial Medal and prize of £5, for the best collection of twelve distinct Amaryllises, the plants being healthy, and the varieties some of the finest. The Daffodils and hardy flowers from Messrs. Barr & Son, Messrs. Collins & Gabriel, and Mr. T. S. Ware occupied much space, as they did at South Kensington on the preceding Tuesday, but an additional attraction was afforded by the Roses in pots from Messrs. Paul & Son, Cheshunt, and W. Rumsey, Waltham Cross, which were neat, dwarf, well-flowered plants, and were much admired. Mr. James' Cinerarias, Mr. Clay's Cyclamens, and Messrs. H. Williams and Son's Lilies of the Valley were also interesting features. The miscellaneous non-competing collections constituted in fact the major part of the exhibition, some of the amateurs productions, especially in the Azalea and Hardy Plant classes, being quite unfit for a show of this character. The principal prizes in other classes were taken by Messrs. G. Wheeler, R. Butler, Eason, H. R. Wright, and D. Phillips, in addition to those already named.

Medals were awarded as follows, Silver to Mr. B. S. Williams, small ditto to Messrs. J. Veitch & Son, Messrs. Barr & Son, Messrs. W. Cutbush & Son, and Mr. T. S. Ware. Bronze to F. Jacomb, Esq., for a group of Odontoglossums; Mr. W. Rumsey, the St. George's Nursery Company; and a Certificate to Mr. Stephen Castle, for fine bunches of Gros Colmar and Alicante Grapes.

Botanical Certificates were awarded to Mr. B. S. Williams, and Messrs. J. Laing & Co., for Cattleya Lawrenciana; Messrs. W. Thomson & Son, Clovenfords, for Dendrobium Leechianum; and to Messrs. E. Vervaet & Co., for Odontoglossum Pescatorei Vervaetianum. Floricultural Certificates were awarded to Messrs. J. Laing & Co., for Imantophyllum robustum, Mrs. Laing, ; to Mr. J. Douglas, for Narcissus, General Gordon, and Amaryllis Clarinda; and to Messrs. Veitch and Son, for Amaryllises, Plato and Lascelles.

Birmingham and Midland Counties Gardeners' Association.—At a general meeting held on Wednesday evening, March 17th, at which about 110 members were present, Prof. Hillhouse, M.A., F.L.S., Professor of Botany and Vegetable Physiology at the Mason College, gave a lecture on "The Scientific Value of Gardeners' Experiences." After congratulating the gardeners and the town on the formation of the Society, and expressing his own desire to do all that lay in his limited power to help it. He said that the formation of such a society implied that the gardeners not merely were willing to improve themselves but felt that improvement was desirable. In no part of their work could this need be more keenly felt than on its scientific side. In gardening, as indeed in most work with which the average Englishman had to do, there was too much of the rule of thumb principle in use; ancestral ideas too strongly held them captive, to the exclusion of individual reasoning power. This has been felt and shown most strongly in agriculture, where the innate conservatism of the farmer has much to do with his inability to keep his head above water, but has not been realised in the case of the gardener, although the work of both is so largely alike. In both cases the cause of comparative failure has been the same: methods have been learned, and learned, met carefully and well, but reasons have been left out of the calculation well-nigh altogether. We have, it is to be feared, as a nation too far forgotten that a method is only of value for its direct results, while a reason is far more wide reaching; without reason new methods come only by lucky accident, with reason new methods arise naturally, the very failure of one is, with the aid of our reasoning powers, often the key to anothers success. That man will be most fertile of resource who has most thoroughly trained himself to look for the reasons for everything he does. There is a world of difference between a Priestly groping about in unknown regions, and coming across grand discoveries by accident, and a Faraday doing everything upon a solid ground-work, and keenly alive to the probable results of everything he does.

The lecturer illustrated his ideas upon this point by an analysis of the theory of "rotation of crops," and by discussing the object of working the soil for gardening purposes. He used these as proofs that reasons do not always lie upon the surface, but often have to be sought for with all the knowledge and skill of which we are capable. He further illustrated the value of reasoning by plants of very rapid growth during a short period requiring food in the most digestible form. From this, and other evidence, the lecturer drew the conclusion that for a gardener to use his experience with effect, he needs, at least, a training in the principles of botanical science. With ability to work fully with his head, a gardener would have enormous advantages in scientific investigation, particularly in connection with the external phenomena of plant life, such as their relations with insects, their capability of adaptation to new circumstances, their general variability, and the power to produce varieties of greater economic importance, and many other such lines of research. He urged upon every gardener not to dissipate his energies over a wide space, but to take up some limited sphere of experimental work, giving cautions as to the need of absolute accuracy and abundant evidence, and the danger of hasty conclusions, and inaccurate observations. In conclusion, he recommended them above all to study the methods of some master in the art of experimenting, such as Charles Darwin has laid down in his published works, expressing the opinion that nearly every line of investigation which Darwin followed, was open to the fruitful labours of any clear-headed patient observant gardener.

Preston and Fulwood Horticultural.—*March 17th and 18th.*—As a natural result of the uncongenial season, the eighth spring flower show of this flourishing society showed a slight falling off in quality; nevertheless, it was an admirable display of the floral resources of the district, and great praise is due to the committee of management and its admirable chairman, Mr. Councillor Harding, and indefatigable secretary, Mr. John Atherton, for the zeal and energy with which they watch over the interests of the society. The tables ranged along the central length of the hall were aglow with colour, massed most effectively. In the middle of the central aisle there was a magnificent group of flowering plants and shrubs, shown by Mr. Rowbotham, the Parks curator. Flanking the entrance to the hall, beyond the vestibule, Mr. J. B. Dixon had arranged a score or so of tricolour Pelargoniums in an advanced state of cultivation. At the opposite end of the room, and extending the whole breadth of the orchestra, Mr. W. Troughton, nurseryman, exhibited a splendidly arranged collection of plants, infinite in variety, with a fine Stella Azalea for a centre-piece. The most meritorious part in the display, however, was played by the young Azaleas, which had been brought to a high pitch of perfection, their chief characteristics being purity of colour. The judges made a note of this feature, and awarded special certificates for a delicate white Souvenir de M. Vervaine, a handsome red M. Louis Obert, and a Max von Froebell, very uniform in colour. A First Class Certificate was also given to a very handsome new Scolopendrum. It was discovered some years ago, and afterwards came into the possession of Mr. Atherton, after whom it was named as a new variety. It is very large and wavy, and the fronds are crested. Another feature of the show was Mr. J. Atherton's curious collection of succulents. Some handsome cut flowers and a fine selection of Roses, in exceptionally good condition for the season, were shown by Mr. J. Whitehead, and Mr. Frisby, gardener to the Misses Ffarington, exhibited an unusually big clump of Mushrooms, grown from spawn supplied by Mr. Troughton, and, as a curiosity, also contributed a skeleton plant, the delicate framework of each leaf in all its intricacy having been very carefully preserved.

The larger plants entered for competition in groups of various sizes made an unusually good show. Mr. E. Payne, who took the first prize for twenty miscellaneous plants, had a very handsome group. He also, in this class, which was open to nurserymen and florists only, was awarded prizes for Azaleas and Roses, the latter, however, being very backward, owing to the recent inclement weather. In the next class, open to gentlemen's gardeners and amateurs, the groups of three foliage plants were very effective, and each had a Cycas revoluta in their group. One of the prettiest features of the show was a result of the competition in plants grouped for effect, and here Mr. Timothy Moss, who has been unusually successful in other departments, came to the fore. His chief competitors were Mr. J. B. Dixon and the Misses Ffarington. The gardener at Worden Hall, with the rare material at his disposal went in for grandeur and form, and so far as these points were concerned, produced an imposing spectacle —in itself a credit to his skill—but Mr. Moss aimed at achieving a success in variety and harmony of colour, and used smaller and more plants than his competitor for this purpose, and the judges awarded the palm to him. The other groups of miscellaneous plants were very beautiful, and special mention might be made of the six plants contributed by the Misses Ffarington, and which were awarded the first prize. They included Clerodendron Balfourianum, a Franciscea calycina, an Imantophyllum, and Ferns, overshadowed by a majestic Kentia Fosteriana. There was a good show of Deutzia gracilis and of Spiræa japonica. The Azaleas formed the principal portion of the bloom among the larger plants, and there were some very good specimens staged. The Hyacinths, though not quite so numerous as they have been at previous shows, were all excellent in quality. Mr. E. Payne took the first prize, offered for twenty-four single Hyacinths, his collection including several with remarkably handsome trusses. He was equally successful in the single Hyacinths. In the class limited to gentlemen, gardeners, and amateurs there was an unusually good collection staged by Mr. J. B. Dixon, who carried off the chief prizes offered for both the single and double varieties, though in a general display of pots of bulbs, corms, tubers, or rhizomes in flower he was beaten by Mr. Moss, who staged a handsome group composed of Liliums, Cyclamens, Narcissi, &c., Mr. J. B. Dixon's collection including some handsome plants and a new variety of Fritillaria, Tulips, Polyanthus Narcissus, Lilies of the Valley, Mignonette, Musk, Primulas, and Cinerarias; the two latter especially, were all in good condition, and the window plants and bulbs shown by cottagers, who had entrance to the competition free, were of unmistakable merit. The show of Orchids was a considerable improvement on that of last year. The first prize was taken by a Cattleya Trianæ, the others being fine examples of Cypripedium and Dendrobium. The bouquets and baskets of flowers were an interesting feature of the show.

Liverpool Horticultural Association.—*March 18th.*—The favourable change in the weather took place a day or two too late to be of any benefit to this exhibition, and, consequently, it was somewhat below the average. It was held, as usual, in St. George's Hall, and attracted a good number of visitors. One of the principal features of the show was the splendid collection of Hyacinths, indeed, seldom has there been a finer lot of Hyacinths seen in Liverpool, and lovers of this exquisite and sweet-scented flower were thus afforded a rare treat. The 1st prize for eighteen Hyacinths was carried off by Mrs. John Aikin, and although in this group there were some capital specimens, probably the most perfect ones were to be found among those exhibited (not for competition) by Messrs. W. Cutbush & Son, Highgate Nurseries, London. The Tulips were not a very good class. The Orchids were particularly fine, and included a fine Dendrobium; Cattleya Trianæ, and Dendrobium crassinode, fine specimens of which were shown by Mr. Enoch Harvey. There was also a brilliant display of Azaleas and Rhododendrons, and the Cinerarias were of exceptional merit. Roses were not very plentiful, and the Narcissus were rather poor; but the Cyclamens and Ferns were quite up to the average. In the bouquet competition the old fault of overcrowding was very successfully avoided in the case of Mr. A. Crosbie, gardener to B. Hall, Esq., who was awarded the 1st prize in both the open and amateur classes. A large quantity of plants were sent in for exhibition by nurserymen, including Messrs. R. P. Ker & Son, the Liverpool Horticultural Company (John Cowan), Limited, and Messrs. Fisher, Son, & Sibray, of Sheffield, the latter of whom exhibited a collection of lovely greenhouse Rhododendrons. A case of skeleton leaves, most artistically arranged by Mr. W. Nicholson, gardener to A. M. Smith, Esq., of Roby, attracted considerable attention, and was examined with interest by the many persons who visited the show. Prizes were offered for the best two bunches of Grapes, and there was a keen competition for the first prize. Considering the time of the year the Grapes were in wonderful condition, this being particularly the case with regard to two bunches of Muscat of Alexandria. The onerous duties of staging were very efficiently carried out by Mr. T. White, vice-chairman of the committee of management, and Mr. E. Bridge, the energetic secretary, whose arrangements were all that could be desired. The usual luncheon took place at the Grapes Hotel in the afternoon, and was admirably served by Mr. Griffiths. Mr. T. White presided; and the toast of "The Judges" was proposed by Mr. Waterman, and responded to by Mr. Swan, Mr. Harrison. and Mr. Paul. The toast of the "Liverpool Horticultural Association" was also honoured.

QUESTIONS AND ANSWERS.

Erratum.—In the article on "Soot and the Onion Maggot," twenty-two lines from the bottom, on p. 455, read "Although I am willing to admit that the maggot is more plentiful in old soil than in new," instead of as printed.

Small Conservatory.—*W. K. G.*: It would be much better for the plants, to use clear glass entirely; and during the hottest part of the summer, to wash the outside of the glass with some shading mixture, such as "Summer Cloud." If you are only going to grow hardy plants, you should aim to have the house gay in early spring especially, and at that season they will want all the light possible, which you cannot get through rolled plate glass. By selecting the right sort of plants, such a house may be made a most agreeable adjunct to the dwelling, but to make

the most of it, we would strongly advise you to make provision for keeping the temperature above 40° in severe weather.

NAMES OF PLANTS.—*D. W. M.*: Cattleya Trianæ delicata, a very pretty and well-shaped form of it.

CANVAS HOSE.—*W. P.*: From Messrs. Merryweather & Son, Long Acre, W.C. We should think the antimonial Red Rubber Hose would be the most durable.

CAMELLIA SASANQUA.—*H. Arnold*: Messrs. James Veitch & Sons have the double-flowered varieties, album and roseum.

ONION MAGGOT.—*B. L. Y.*: The writer in question is not whom you suppose.

COMMUNICATIONS RECEIVED.—Ch. J., Paris.—H. C.—M. T.—J. T. B.—J. H. J.—H. W. W.—J. N.—W. B. L. (many thanks). J. D. (next week).—J. V. and S.—W. G.—E. J.—G. F.—W. B. G.—J. S. T.—W. J. I.—G. B.—R. G. W.

TRADE CATALOGUES RECEIVED.

JOHN HISCOCK, 107d, Queen's Road, Peckham Road, S.W.—Catalogue of Vegetable and Flower Seeds.

LUCOMBE, PINCE & Co., Exeter.—Wholesale Catalogue of Nursery Stock.

LONDON SEED TRADE.

March 24th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report an improved demand for Agricultural Seeds, the disappearance of frost and snow enabling farmers to commence their sowing operations; but, up to the present, this has not influenced values to any appreciable extent. Clovers of all kinds continue firm, Red is still offered free from the continent; there is also a plentiful supply of English seed now coming forward, and it, therefore, seems probable that the high range of prices anticipated in some quarters is not liable to be realised. White and Alsike show no change in value, and notwithstanding the exceptionally low quotations there seems little demand and no disposition to speculate—the same applies to Trefoil. Italian and Permanent Rye Grasses are enquired for, and a fair amount of business is being done at the lower rates previously noted. Spring Tares meet with brisk demand, and values are advancing, the supply on the spot being comparatively small. Bird Seeds show no change in value.

COVENT GARDEN MARKET.

March 25th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes, per lb.	2 6	8 0	Pears .....per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	10 0	14 0
Pine-apples, Eng., lb.	1 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 6	3 0	Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb...	0 8		Onions, per bushel ..	5 0	6 0
Cabbages....per doz.	2 6	5 0	Parsley, per bunch ..	0 6	
Carrots, per bunch ..	0 6		Radishes, per dozen..	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
			Sea Kale, per basket..	2 6	3 6
Celery, per bundle ..	1 6	2 6	Spinach, per strike ..	2 0	
Cucumbers, each	0 6	1 0	Tomatos, per lb.	1 6	2 6
Endive, French, doz.	2 6	3 6	Turnips, per bunch ..	0 6	
Herbs, per bunch....	0 2	0 4			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acacia mimosa, French per bunch	1 0	1 6	Mignonette, 12 bun...	4 0	12 0
			Narciss, 12 bunches..	4 0	8 0
Anemone, French, 12 b.	3 0	6 0	Pelargoniums, per 12 sprays	1 0	1 6
Arum Lilies, 12 blms.	4 0	8 0	— scarlet, 12 sprays..	0 8	1 0
Azalea, 12 sprays....	0 6	1 0	Primula, double, bun.	0 9	1 6
Bouvardias, per bun.	0 6	1 0	Primulas, Chinese, bun	0 4	0 6
Camellias, 12 blooms.	2 0	6 0	Roman Hyacinths, 12 sprays	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Roses (coloured)	4 0	9 0
Chrysanthemums, 12 blooms.....	2 0	4 0	Roses (indoors), doz.	1 0	3 0
			Roses, Tea ,,	2 0	3 6
Chrysanthemums, 12 bunches	12 0	18 0	Roses, red, French ,,	2 0	4 0
			Snowdrops, doz. bun.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Tuberoses, per dozen.	1 6	2 6
Daffodils, per bunch..	0 6	1 6	Tulips, 12 blooms....	0 9	1 0
Epiphyllums, 12 blms.	0 6	1 0	Violet, 12 bunches ..	1 0	1 6
Eucharis, per dozeu..	4 0	6 0	— Czar, French, per bunch....	1 6	2 6
Gardenias, 12 blooms.	6 0	18 0			
Heliotropes, 12 sprays	0 6	1 0	— Parme.....	4 0	6 0
Lapageria, red, 12 blms.	1 0	2 0	White Jasmine, bun.	0 6	0 9
Lilac (French), bunch	2 0	7 0			
Lilies, 12 sprays	0 9	1 6			
Marguerites, 12 bun...	4 0	8 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Genista, per dozen ..	10 0	15 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen ..	24 0	42 0			
Begonias, per dozen..	6 0	12 0	Hyacinths, per doz...	6 0	9 0
Bouvardias, per dozen	9 0	18 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Cineraria, per dozen..	10 0	12 0			
Cyclamens, per dozen	12 0	24 0	Marguerites, per doz.	9 0	12 0
Cyperus, per dozen ..	4 0	12 0	Mignonette, per doz.	8 0	12 0
Daffodils, per dozen..	9 0	12 0	Narciss, per dozen ..	8 0	12 0
Dracæna term., doz..	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, doz. ..	18 0	24 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Ferns, in var., doz. ..	4 0	18 0	Primula, single, doz..	4 0	6 0
Ficus elastica, each..	1 6	7 0	Spiræa, per dozen....	12 0	15 0
Foliage Plants, various, each.....	2 0	10 6	Tulips, per dozen pots	6 0	9 0

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Guaranteed Pure Soluble Cocoa of the Finest Quality, with the excess of Fat Extracted.

THE FACULTY pronounce it "the most nutritious, perfectly digestible beverage for Breakfast, Luncheon, or Supper, and invaluable for Invalids and Children."

Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas *thickened*, yet *weakened*, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

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THREE Maidenhair Ferns and one of each of Lady Fern, Moulei, and Rubrum, evergreen Asplenium Marinum, Trichomanes, Ruta, and Black Maidenhair Spleenwort. Blechnum Boreale, Scaly Spleenwort, and Crenatum. Cystopteris, Fragilis, hard and soft Shield Ferns with thorns. Lastrea recurva, like Parsley. Dilatata and Thelypteris. Royal flowering Fern and the Tunbridge Filmy Fern. Scolopendrium cristatum and marginatum, and the very rare Obtusidentatum. Polypodium semilacerum and serrulatum. All large and well rooted Ferns. The 23 rare and assorted species for 5s. 6d.; half quantity for 2s. 9d.; 8, 2s. Carriage Paid, and satisfaction guaranteed. 12 different Irish Alpine plants for 3s. 6d. Free Important Catalogues on application for 2d. The Ferns and Flora of the Burren Mountains of Ireland are fully developed in those Catalogues. P. B. O'KELLY, Fernist, Florist, Botanist, &c., Glenarra House, Ballyvaughan, Co. Clare.

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POLYANTHUS.—Beautiful white, very fine, full of bloom-buds. Six for 1s., 12 for 1s. 6d.

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CARNATIONS, PICOTEES, and CLOVES, sweetly scented, beautiful colours. From the very finest show flowers. Strong 1-yr.-old plants, to bloom well. Six for 2s., 12 for 3s.

POLYANTHUS, the cream of all the most noted growers of this spring-flowering plant. Most beautiful colours. Twelve for 1s., 30 for 2s.

AURICULAS (Alpines).—A really grand strain of this deliciously scented old fashioned favourite spring flower. Strong 3-yr.-old plants, that will bloom well. Twelve varieties for 2s., 24 for 3s. 6d.

AURICULA, pure Snow-white—One of the most beautiful hardy spring flowering plants in cultivation. Two for 1s.

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MALVA MOSCHATA, Rose, Honesty, Purple, Rose, & White.

PRIMULA CORTUSOIDES, beautiful Mauve; Spring flower.

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STRAWBERRY PLANTS, all selected crowns, transplanted, warranted to fruit well this year. Black Prince, Brown's Wonder, Alpha, Keen's Seedling, Exquisite, Early Crimson Pine, Duke of Edinburgh, and others, 100 for 3s.; Laxton's grand new Strawberry, King of the Earlies, 1s. per dozen; The Captain, 2s. per dozen.

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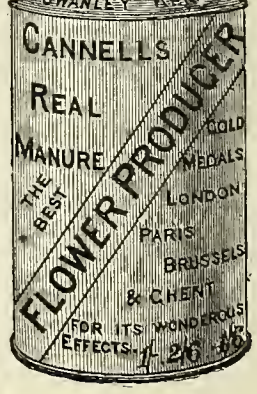

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(Which is *not* connected with any other Paper)

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17, CATHERINE STREET, COVENT GARDEN, LONDON, W.C.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 3, 1886.

UNDER GLASS.—A very enthusiastic promoter of a grand scheme for the regeneration of gardening, and through that of humanity—at least here at home—regards the introduction of glass-houses as the chief means whereby home growers of fruits and vegetables may be eventually enabled to surmount climatic difficulties, and overcome the competition of that terrible *bête noir* of the English gardener—foreign enterprise. Certainly, vast areas of the surface of the kingdom covered with glass would be a costly speculation to say the least, however profitable may be the after-results; but it does seem as if moderate areas of glass-houses, erected to produce material for market sale were of a profitable character certainly, having regard to the number of such houses being built. We read of what enterprise has accomplished in this way in the Channel Islands, where the natives are endowed with one-third more warmth and sunshine than we are in England, and there have advantages

for the outdoor culture of fruits which we cannot even dream of here, much less realise. But if there, as seems probable, one half of Guernsey will presently be covered with glass-houses for the production of fruits, Tomatos, dwarf Beans, &c., even with the natural climatic advantages found there, how much more does it seem needful that we at home, if we are to keep pace with the requirements of the times, should follow suit.

Both gardeners and agriculturists are ready to assert that even more needful than reforms of land-laws, however desirable that may be, and of changes in foreign competition, the great need for them is to be found in what is beyond human power to procure—change in weather or climatic surroundings. Of course, we do not desire to have a climate that is semi-tropical. If anything would tend to destroy the native energy and genius of Britons, it certainly would be a warm climate. Few things have so much tended to provoke energy and developments of human force as have our changeable and uncertain climate, and it is because it is so uncertain, and too often inhospitable in relation to the cultivation of fruits and flowers, that we are being more and more driven to the creation of glass-houses in which to produce that which can only be so obtained in this our cold climate. We have heard it asserted that there is too much glass engaged in the production of fruits and flowers already. That seems improbable in face of the fact that we have a rapidly growing population that certainly is not becoming poorer, even if at times exhibiting in parts material poverty. Then we are—or, at least, believe we are—as a people rapidly increasing in intelligence and refinement and a love for garden products; indeed, all which relates to gardening is indissolubly associated with refinement.

Perhaps the opinion that we have too much glass now arises from imperfect employment of the same—perhaps from some local causes. In any case, it is certain that some who do understand pretty well the requirements of the age and have faith in their enlargement, still continue to erect glass-houses, and in blocks that would surprise those unfamiliar with the largest of our market establishments. At Bexley Heath, Dartford, and Swanley there may be seen such vast areas of glass-houses as to resemble small towns, each capable of sheltering an army: and very probably these three blocks alone have a run of not less than four miles of glass-houses, and all belonging to one grower. Four miles of glass-houses devoted to the production of Grapes, Peaches, Cucumbers, Tomatos, Strawberries, and cut flowers, seems enough to supply a vast population alone; but there are myriads of places—not merely around London, but all over the kingdom—devoted to the same special purpose; and, we hope, in spite of the slackness of the times, that all are paying their way.

Of agricultural land it is doubtful whether five or six acres maintain one man in constant labour. In open market-gardening about one acre maintains its man, and in high-class gardening would maintain two men; but an acre of ground covered with glass would need the labour of six men at least, and thus we see how much the question of extending glass-houses for the production of fruits and flowers tends to the solution of the labour problem. Not only under glass do we need the assistance of more men, but we need also help of a much more skilled and intelligent kind. Better wages can also be given, and the employment of so much labour in the production of things necessarily now scarce or only obtainable from other countries, re-acts upon the nation, and serves to promote its prosperity, whilst controversialists will yet discuss the aimless subject as to whether our climate has changed for the worse or otherwise, sensible men will realise that whatever the climate may be, it is for us to do our best to surmount the obvious difficulties which it presents to gardening. In the gross, we cannot hope to produce large crops of Apples, Pears, Gooseberries, or similar fruits, except when seasons are specially favourable, and of late those seasons have been few. The continued production of crops of those fruits must still be dependent upon weather, do what we may in the erection of glass-houses, although a very profitable result may still be obtained in the culture of the choicer kinds of the two former, and also of Cherries, Plums, the most select of other stone fruits, Strawberries, &c.

That a vast quantity of these fruits are already grown for sale is certain, but still so moderate is that quantity, none the less, as compared with the population of this country, that little of it so raised comes to the tables of the masses. We want fruits of these kinds produced in greater abundance (and cheaply, too) under glass, if it be possible to combine cost of production and profit on the same, and yet dispose of the things at reasonable prices. It may be taken for granted that flowers will seldom fail to find a ready sale, and their production is not necessarily costly under glass, because there, at least, they are secure from those troubles which afflict tender plants in the open. All depends upon the season at which they are required, and no reasonable buyer will expect to find flowers or even fruits so cheap in winter or early spring as in their ordinary seasons; but it will be great gain to get them home-grown even in ordinary seasons, because purchasable by some to whom yet these things are costly luxuries. We prefer to take a generous view of the ultimate development of market-gardening in these its higher aspects, and think that nature, enterprise, and energy will eventually overcome existing difficulties.

GARDENING MISCELLANY.

The National Potato Show.—Under this title we understand that the Crystal Palace Company intend to hold an exhibition of Potatos in the autumn, which is to take the place of the collapsed International Show. A liberal schedule is projected under the direction of Mr. Head, and it is expected that the same substantial support will be received as was accorded to the previous scheme. Probably, some new features will be developed, and those interested in exhibitions of this tuber will welcome the news that the Sydenham Show is to be continued, but under new management.

The Croydon Horticultural Society will hold its nineteenth summer show, in the grounds of Wellesley House, on June 30th, and its tenth exhibition of Chrysanthemums, &c., in the Public Hall, Croydon, on November 10th and 11th.

The United Horticultural Benefit and Provident Society.—The annual report and balance sheet of the above society has just been issued; it also contains lists of the committee and members, and also a list of the meeting nights in the year 1886, and January, 1887. It is a pity that it does not also contain a statement in brief of the advantages offered by the society to members. A small leaflet could be made to contain all that it is necessary should be stated, and if these could be distributed among such of the members as would be willing to circulate them, many persons would gain a knowledge of the society who are at present ignorant of it. Copies of the report and balance sheet can be had of the secretary, Mr. J. F. McElroy, The Gardens, Moray Lodge, Campden Hill, Kensington, W.

Home-grown and Foreign-grown Fruits.—How is it that the Apple cultivators in Canada can compete with the home producer, and not only hold his own, but find his trade increasing. *The Covent Garden Gazette and Market Record* points out that while the advance in Canada is so rapid, "the increase in the same branch at home is so insignificant that one almost wonders if the home grower is not only apathetic, but asleep; or is it true that they are bound hand and foot and cannot move? We fear there is something in this. Unjust land laws and impediments block the agriculturist in every direction when he attempts to move; not the least of these being tithes, which are a disgrace to any enlightened nation. Does the land tiller improve his soil, and by industry and skill force its value up in the market? Then, at the expiration of his time, he must stand by and see the fruits of his hands harvested by another. What the agriculturists want, and must have, is to be placed upon the same footing as his foreign and colonial rival. But till he is free, he is only making the world believe he is a farmer, at the some time that he knows he is simply playing the part. The fact remains that in no country under the sun is fruit culture so hampered as in this country, where it should be most unfettered. The English grower's loss is the foreigner's benefit. Is this just?"

Stocks for Exhibition.—At not a few flower shows, held during the months of July and August, examples of Stocks are shown in the cut-flower classes; but it can be noticed that there is a want of uniformity in the method in which they are shown. One exhibitor will dig up plants from the ground when the centre and side spikes are at their best, and by washing the roots free of soil, show them in this way with their roots put into a glass of water, or some such vessel; another will cut out from his plants the centre spike when at its best, and be content with exhibiting this. So much depends upon the wording of the schedule of prizes and the interpretation put upon it. What is the best Stock for exhibition? There are two deserving of attention. One is a strain known as Giant Perfection, a strong-growing type, with very large and fully double flowers, and this can be had in six or eight distinct colours; another is Mauve Beauty, a Wallflower-leaved pyramidal Stock of great beauty, and massive spikes, but it only forms one of a collection of six sorts, and it is well worthy a place among exhibition varieties.

The Royal Horticultural Society of Southampton will hold its twenty-fourth great summer show in Westwood Park, Avenue, on Saturday and Monday, July 31st, and August 2nd, 1886; and its ninth grand exhibition of Chrysanthemums, Fruits, and Flowers, in the skating rink, on Tuesday and Wednesday, November 9th and 10th, 1886. Owing to the falling off in the receipts at the exhibitions last year, the Council express their regret that they are compelled to issue a schedule of prizes for these shows, containing a reduced number of Classes, and in several cases smaller prizes. It is hoped, however, that the exhibitors will assist the society, in tiding over its present financial difficulties, by exhibiting as largely as before, notwithstanding the reduced amount offered.

Anthracite Coal.—A correspondent "J. S. T.," writes:—"The use of Anthracite as a fuel for garden purposes is becoming (year by year) more appreciated, but while some recommend that it be mixed with coke, I much prefer it alone. Among its many advantages over other fuel, it may be said that it is smokeless, requires less attention, is of slow combustion, takes less room for storage, and the great heat which it throws out. I am led to make a few remarks upon the use of Anthracite Coal, from the fact of my being compelled—from unavoidable circumstances—to resort to coke again, but as soon as possible I hope to be relieved from that necessity. I would not return to the sole use of coke for a pension, and those of your readers who do not consume this coal, I heartily invite to give it a trial. I might enter at length into the use and mis-use of dampers, but I will confine myself to mentioning that Anthracite requires a little more draught than coke. I remember one place I was at where there was no damper in the chimney for regulating the fire, hence there was much waste, but I soon rectified that mistake." We may add to our correspondent's remarks, as a bit of practical experience, that Mr. B. S. Williams uses no other fuel than Anthracite Coal, and considers that as it is cheaper than ordinary coal, that it gives off greater heat, is more cleanly, and requires less attention from the stoker; he saves quite 50 per cent. by it—a matter of considerable importance now-a-days.

Mr Joseph Powis, of Shobdon Gardens, Herefordshire, has been engaged as gardener to S. Howitt, Esq., The Firs, Worcester.

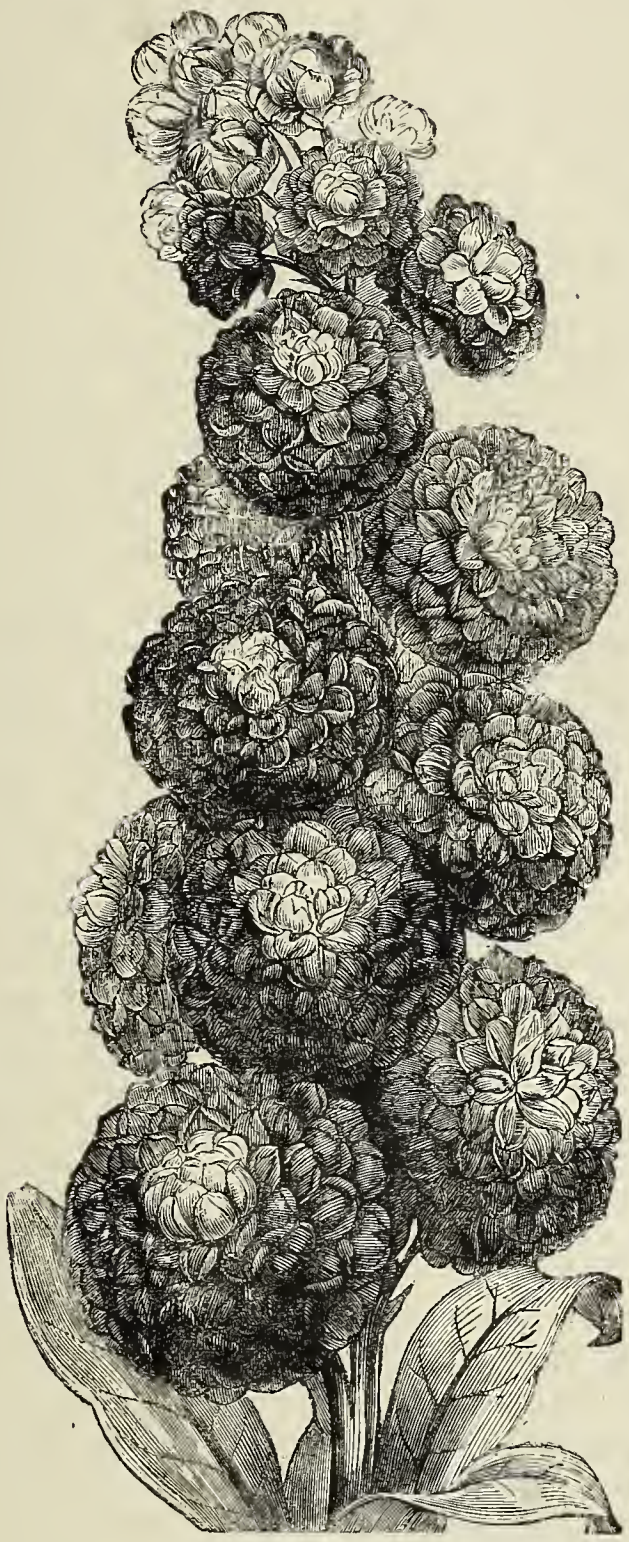
The Havant Chrysanthemum Society will hold its third annual exhibition, on Tuesday and Wednesday, November 3rd and 4th next.

The Ludlow Horticultural Society's summer show, will be held on August 25th.

THE SPADE.

The spade as known to us is a far different implement to the rude devices of the remote ancestors of civilised man. In all probability, the first contrivance for breaking up the crust of the earth with a view to its cultivation more nearly resembled our picks or mattocks, and which being attached to long handles, were elevated above the shoulder and brought down by their own weight; by this rude contrivance the soil was scarcely more than scratched over. Experience gradually taught man that the deeper he could break up the surface the better returns he got for his labour, and it is no mere figure of speech to declare that the spade as we have it, is as good an attestation to the truth of the doctrine of evolution as any thing we see in nature, being the gradual outcome of centuries of human thought and toil. It is of all tools used in the garden the most important, for without it there would be little use for some of the others; we depend on its use for breaking up the soil so that its crude particles may be subjected to the ameliorating influence of the atmosphere, and and rendered friable, and in good tilth for the reception of seeds and plants.

Very much will often depend on the kind of tool put into a workman's hands, both as to the quality and quantity of the work done; and while we are told to call a spade a spade, it is worth while sometimes to remember that there are still spades to be found that are not worthy of the name, and dear at almost any price. There was formerly a custom of allowing each workman to select his own tool, which had its advantages, for a number of spades of the same pattern when seen together will prevent no difference to a casual observer, but a good workman will find some difference in the one he selects for himself by which he will always distinguish it, and will take better care of a tool which is set apart for his own use than if it is used promiscuously by anyone. Some of the points he sees may be mere fancy, if so, it is one which it will pay very well to indulge him in. There is a vast difference between the old fashioned iron spades which were all that could be obtained in our early boyhood, and the many improved makes now made, some steel-faced, and others entirely of steel. I fail to see any distinct gain in the all steel blades, for the steel pointed ones of Parks, Lyndon, and other makers, are steel quite as far up as they can be used with advantage. Common iron spades may still be obtained, but no good economist would ever think of using them, for in comparison to the steel ones they are dear at any price.



Stock for Exhibition.

I well remember that among the first lot of steel-faced spades there were some which, from some defect in the making, parted at the junction of the iron and steel, a defect which was soon remedied, and it is now many years since I saw a casualty of that kind. The blades wear with a good edge up to the last bit of steel; and unless all steel spades can be procured at the same prices they present no special advantages. In the American steel spades there is a new method of fastening the straps to the blades introduced, the straps being made quite distinct from the blades and attached to it by means of a heart-shaped flange; the blade is strongly clasped to these with rivets. This is a very good and strong tool, and being hollowed out more in the centre of the blades than our English patterns might, I think, be used in the strong clay soils, instead of the ordinary grafting tools. They are more proportionately narrower than ours, and wear more pointed, when they make a useful tool among flower-borders; there is not the same amount of wear in them as in the makes of Parks, Lyndon, and some others; and for some purpose, they are, as compared to our English makes, at a disadvantage. For digging in strong clay soils, what is called the Essex step spade, with a treadle attached to the handle, a few inches above the blade, will often do good service; but most workman will prefer an ordinary graft or drawing tool. For tree-lifting a few extra strong spades with straight handles, well strapped up almost to the eye, should be provided.

I have found the digging out of rabbit-holes very destructive to spade handles, till finding some especially strong made in the way described, got them especially for this purpose, and have not been troubled with broken-handled spades for years; they are practically unbreakable. Ordinary digging spades are not equal to the strain often put upon them in the removal of shrubs, and frequently give way under the strains put upon them. There is much in the way of using a tool; a careful workman will seldom break the handle of his spade, whilst a novice will be continually doing so; this commonly arises from thrusting it into the solid earth and levering it up at a right-angle. A strong man can break almost any spade put into his hands by doing this; what is wanted to ensure the safety of the tool, is to give it a kind of side twist in levering it up. I think that crutch-handles should be avoided; the workman has not the same ready grasp of them which the eye-handles give. The eyes of all the spades should be rivited both above and below the eye; this renders them as secure against breakages, as they can well be made.

The centre strap spades, with solid blades, are strong tools, but not popular with workmen, the complaint being that they do not handle so well. Shovels are so closely allied to spades that a few words will suffice about them. There are still many of the old-fashioned iron ones used. The bright steel American ones, which have the straps fastened to the handles in the same way as the spades, are good strong tools when heavy material has to be shifted; for lighter purposes the best tools are the dark steel ones, the blade and strap being formed out of one sheet of metal. These are, perhaps, the lightest and best shovels we shall ever see; they are very light, and quite rigid enough for all ordinary purposes. One of them will out wear two of the common old-fashioned ones.—*W. B. G.*

THE SPRING.

That there has not hitherto been evidenced that great rebound from snow and frost looked for in plant life, may, it is feared, be taken as proof that the genuine spring is not yet come. When the vernal equinox was passed, the weatherwise assured that the wind on that day was not in the east—felt that there was nothing more to fear, and that henceforth in the coming season, at least, all would be rosy. On the eventful March 21st, eventful at least to those who claim to be weatherwise, and not less so to all concerned in gardening if the maxims of the weatherwise be correct, the wind was in the south-west, and there lately it has remained. Now the wiseacres hold that where the wind is on March 21st, there will it remain for the next three months, almost an appaling prediction, because the wind sticking in one particular quarter for so long a period can hardly be other than a disaster. Still almost any quarter is better than that terrible one of the east quarter, which seems to give us both imperially and domestically more troubles than does any other quarter of the globe.

However, we may almost even meteorologically jump out of the frying-pan into the fire by a change of wind,

and it having been in a dry quarter so long, combined with the frost, the soil has been in a most admirable condition for planting and sowing. There seems good reason to fear that heavy storms and rainfalls from the south west are undoing all the good in the soil the previous weather had worked. A cold late spring, even if a dry one, is not at all desirable, but it is not at all certain that a cold wet one is not a graver trouble. Certainly when the soil is dry we can sow and plant even though the coldness of that and the atmosphere may not favour growth. But when the soil is saturated with moisture, we can neither plant or sow, whilst growth too is checked, and myriads of slugs and other pests prey wholesale upon what seedling plant life may be found.

How rare it is that gardening conditions are so very favourable that there is associated with them no absolute anxiety. When the winter really broke up, we were full of hope and pleasant anticipation, now has followed heavy cold beating rains, and the ground is chilled and saturated. Those favoured with very light soils may find the rain no great evil, although anxious for more warmth. Those troubled with stiff soils not only find work intensified, but see all the good effects of the winter frost disappearing, ere they can be utilised.

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—VII.

I NOW come to a class of plants that are fast becoming general favourites with a large section of the public as well as the regular Chrysanthemum growers, viz., the early or summer-flowering varieties. There can be no doubt as to their great value for general cultivation out-doors, and also their usefulness for conservatory decoration. They are very easy to grow and possess a variety of colours, but like other plants they repay for a little extra attention.

Where the grower depends upon his display of bloom from plants grown in the borders, a selection of these useful varieties should be planted, as they will produce a quantity of bloom, and make the garden gay till the frost cuts them down. Even in the extreme north they will bloom well out of doors.

Unlike the large-flowering section, these early-flowering varieties can be bloomed in small pots, and excellent plants can be grown in 4½ in. pots, to produce a quantity of bloom. Some of the varieties can be had in flower in June, but as a rule September is quite early enough, as it is then that we appreciate their usefulness. As to the time to commence propagating, a great deal depends upon the time they are wanted to bloom and also the size of plants desired. I think February quite soon enough to commence their propagation as at that time of year the cuttings can be inserted and grown on without receiving any check. Some good illustrations of these useful varieties were given in THE GARDENING WORLD for October 31st, and November 7th, 1885; several of the varieties there illustrated were not struck until the end of March.

For general decorative purposes cuttings may be inserted any time from February to June, and should be about 3 ins. long, and neatly trimmed, so that they appear like the illustration given on page 216. Insert them in a compost prepared according to directions there given. As soon as they are rooted, stop them, and in a week they should be potted singly into 3-inch pots. When the roots reach the sides of these pots, pinch them again, and in a week or ten days they may be again potted, this time into 4½ in. pots.

If the plants were struck in February they can be further stopped when the shoots are about 4 ins. long, and of course, they will require larger pots to bloom in, but for ordinary conservatory or window decoration, 4½ in. or 6 in. pots are quite large enough to bloom the plants in, and the cuttings need not be inserted before the end of March. If cuttings are put in about the end of June and twice stopped, they make useful plants for the conservatory, for October and November. For outdoor culture they should be planted out about the end of April. Carefully prepare the ground beforehand, by forking in some well-rotted manure, and attend to stopping the shoots when about 4 ins. long, but do not stop after the first week in June.

The plants will require the same treatment as to watering, syringing, &c., as previously directed for the large-flowering varieties, and they will also be benefited by receiving manure-water after the buds are set; instructions for this shall be given in a future number.

The following will be found a good selection for the amateur to commence with. The first variety I must mention is that little gem, La Petite Marie, pure white, very early and dwarf, and a good variety for pots or borders. Next to claim attention is that splendid white variety, Madame C. Desgrange, and its yellow sport, G. Wermig; and among new varieties, Mandarin, a very free-flowering Japanese variety; Pomponium, a very pretty and free-flowering variety; Surprise, Roi des Precoces, La Bien Aimee, and Ete Fleuri.—*W. E. Boyce, Archway Road, Highgate.*

HYACINTHS.*

THE honorary secretary of our horticultural club has invited me to say a few words upon bulbs and bulb-growing in Holland, and while feeling willing, or even anxious to oblige the members, I will endeavour to meet your wishes, but the subject has been treated upon so much before that I must request your kind indulgence. Bulbs or flower-roots have for over 250 years been grown and cultivated in the vicinity of Haarlem, and their cultivation has gradually increased in importance, until it has reached its present position. Among the admirers and lovers of plants and flowers, bulbous plants have always found many ardent protectors. No doubt the great and constant advance which civilization has made in nearly all quarters of the world has greatly aided to extend the cultivation of flower roots, and increase the demand, even in countries where fifty years ago there was not a single bulb, and where Hyacinths and Tulips were nearly unknown.

An advantage which bulbs have over plants in general is, that bulbs have nearly all a yearly period of rest, when they can without much injury be packed and be exported to the most distant places. An advantage worth mentioning is that after they have done blooming and have grown to their full maturity they require only to be placed in a dry locality, and for a considerable time require no labour or attention. A further important advantage of such bulbs as Hyacinths, Tulips, &c., is that by artificial treatment they can be brought to grow and bring out their bloom several months earlier than they would do if kept out of doors and left to their natural development, which for winter-blooming plants makes them unequalled by any other family among living plants.

I must mention first of all the so-much-beloved Hyacinth, as being not only one of the most esteemed among bulbs, but also one of the most beautiful, although at the same time the most difficult in cultivation and the most expensive to bring to perfection. The name of this genus originated with the writers of antiquity. Hyacinthus, a beautiful boy, was the son of a Spartan king and the favourite of Apollo. Zephyrus, being envious of the attachment of Apollo and Hyacinthus, so turned the direction of a quoit which Apollo had pitched while at play that it struck the head of Hyacinthus and slew him. The fable concludes by making Apollo transform the body of his favourite into a flower that bears his name.

The Hyacinth is a native of the Levant, and was first introduced into England in the year 1596; but it was known to Dioscorides, who wrote about the time of Vespasian. Gerard, in his *Herbal*, published at the close of the sixteenth century, enumerates four varieties—the single and double blue, the purple, and the violet. In that valuable book on gardening, *Paradisus in Sole, Paradisus Terrestris*, published by John Parkinson in 1629, eight different varieties are mentioned and described. He tells us, "Some are pure white, another is nearly white with a bluish shade, especially at the brims and bottoms of the flowers. Others, again, are of a very faint blush; some are of a deep purple near violet, others of a purple tending to redness, and some of a paler purple, Some, again, are of a fair blue, others more watchet, and some of a very pale blue. After the flowers are past the stem bears a round black seed, great and shining, from which, after sowing and protecting, the new varieties can be obtained." During the 250 years that have passed since the above was published, there has been a steady improvement in size, form, and colour of the flowers of this plant. From the eight varieties of 1629 more than 4,000 varieties have been produced, of which, however, the greatest number have become extinct or out of cultivation. Many have been thrown out to make room for the latest improved sorts, from which about 200 varieties only are at present subject to extensive commerce.

The Hyacinth is a general favourite in the most extensive application of the word, and the varieties in colours of different shades, from the purest white to the deepest shades of scarlet, purple, black, yellow, and violet, are fully equal to that of any other florists' flower. The Hyacinths are usually grown for forcing into flower in the dull cheerless months of winter and early spring, when their delicately coloured flowers and rich fragrance lend a charm not otherwise to be obtained. They are equally desirable for planting in beds or in the garden border.

When looking over the cultivation of Hyacinths in Holland, which I have studied practically all my life, I must say that very great changes have taken place during that period in the taste and opinions of what a good Hyacinth should be; and, as a matter of course, this change has considerably influenced the varieties which have been propagated and grown. About sixty to seventy years ago there was a taste in general for the double-flowering varieties, and more particularly for the flowers with dark or in other colours striking eyes or centres, and I remember the time that a few beds sold by public auction realised very high prices indeed, while the varieties thus sold at present are not to be found. These double varieties were mostly very small bulb producers, which fact contributed very much to their being neglected and to their loss of favour in public estimation; while the considerable increase of trade, and (in consequence of this) also increased competition amongst nursery and seedsmen abroad, stimulated by the feeling of revival in all branches of trade at the fall of Napoleon, our French oppressor, brought on a gradual alteration in the Hyacinth fancy, as every tradesman—excited by the competition of his neighbours—was looking out for the largest-sized bulbs among Hyacinths, basing their trade recommendation upon the general but erroneous belief of the general public that naturally the largest bulbs must also produce the largest flower spikes.

The small bulb producing varieties, however beautiful they might be, could not at that time find buyers, and growers were then compelled to meet the alteration in public taste as quickly as possible, and as this alteration in taste came rather suddenly and much quicker than the slow growth and propagation of the desired sorts could meet, prices at that time rose wonderfully high. In this run after large bulbs among Hyacinths many sorts with very inferior flowers were brought out in quantity; but although these large bulbs did increase the general trade, and so far gratified the tradesmen abroad by a greater sale and more profit, still they did not satisfy the amateurs, and better large flowers were looked after. After large-sized bulbs with large spikes of flowers became the demand the single-flowering varieties have been found more capable of giving satisfaction than doubles, and when we compare the large spikes of the present day with the sorts we had sixty years ago we can only be well satisfied at the great progress we have been able to make. Although the double-blooming varieties have at present become so much neglected, mostly because of their small-sized bulbs, there are some few double sorts which have pretty well maintained their position in public estimation, but their number is small compared with the large number of single ones in cultivation, and their great beauty will certainly cause them long to remain great favourites with lovers of very fine large flower spikes.

Among the esteemed double sorts I may mention Lord Wellington and Grootvorst, rose; Prince of Waterloo, La Tour d'Auvergne, and Florence Nightingale, white; Louis Philippe and Garrick, dark blue; Blocksberg and Rembrandt, light blue. Of the double yellow flowers Goethe is about the best, but most in this colour have rather small spikes. Of dark reds among the double flowers there are only a very few varieties, of which Louis Napoleon and Waterloo are about the best, but the latter sort is not so fully double as could be wished for.

Among the single varieties we at present possess the greatest variety of colours, and among them we can now show superb large and handsome flowers, such as are Garibaldi, Pellissier, Scarlet Light, brilliant scarlets; Fiancée Royale, Gertrude, Koh-i-noor, Prima Donna, Von Schiller, reds; Carlyle, Charles Dickens, Dr. Livingstone, Gigantea, Macauley, roses; La

*A paper by Mr. Polman Mooy, of Haarlem, read before the Horticultural Club, March 23rd.

Grandesse, Alba superbissima, Crown Princess, Madame Van der Hoop, pure whites; Grandeur à Merveille, Baroness Van Tuyll, Mammoth, Seraphine, blush whites; General Havelock, Baron Von Humboldt, Masterpiece, Mimosa, William I., black blues; Baron Van Tuyll, Charles Dickens, King of the Blues, Bleu Mourant, dark blues; Blondin, Czar Peter, Grand Maître, Leonidas, Grand Lilas, Lord Raglan, light blues; L'Honneur d'Overveen, Sir Henry Havelock, Charles Dickens, Haydn, violets; Ida, King of the Yellows, La Citronière, Obelisk, Anna Carolina, pure yellow; Beauty of Waltham, Clio, Lamplighter, Lord Palmerston, Argus, flowers with striking eyes or centres. *(To be continued.)*

SCOTTISH GARDENING.

Seed Sowing.—The time has now arrived when special efforts must be put forth to bring up arrears, which are more than usually common at the present time, and which no one can wonder at. The unprecedented lateness of wintry weather, followed up by continuous rains and a total absence of March winds, has kept ground-work at a standstill, much of the seed sowing with ourselves, which should have done on the ground some time ago, has only been carried out with the agency of boxes and frames to meet the difficulty, if possible. Onions are in boxes, coming forward for planting, but on the 23rd of March, we managed to put a good breadth of Onions in, and covered the seed in the rows with finely sifted soil mixed with dry old Mushroom manure with a dash of soot in it, which will be followed up a little later to keep grubs in check; we believe in repeating the dose of soot several times during the growing season, and immediately after showers of rain; guano—a rare item—is also excellent for such purposes.

A small portion of deep, well-broken ground, should be sown with a pinch of Beet to give an early supply. Beet is sown much earlier in northern districts than in the warm south; between the beginning and middle of April is a suitable time to sow. We see in some catalogues that May is the proper season, but Scotch gardeners know better than delay so long. In the south it is a good time to sow Beet at the end of April or early in May. Soils and situation have much to do with the culture of this much esteemed vegetable; dry, sandy, and poor soil gives stringy, dry, and tough roots, cool deep soil, free from rank manure, but not poverty-stricken, gives clean, tender, finely flavoured roots. Carrots may be sown in small lots for drawing young, but the main crop may be sown in well trenched land about the second week of the month; sea sand, in quantity, is a good check to grubs. While the main crops of Celery are advancing, and being pricked out, preparatory for final planting, another late lot for giving supplies during this season of the year may be made under a hand-light. We have seen really good produce from seeds sown in the first week of April. Much promising Celery is ruined by dribblings of water given too often, instead of a good soaking and have done with it for a reasonable time.

Broccoli of all kinds may be sown from this time throughout the month; a good stock of autumn kinds to succeed the Cauliflowers should be on the way. Veitch's Autumn Giant Cauliflower takes the place of many autumn Broccolis, and in favourable seasons can be had good till December. Beans and Peas should be sown every ten days or so. In damp or exposed localities Peas should have plenty of distance between the rows. Few kinds surpass Veitch's Perfection as a cropper, and for good quality; it is a good time to sow it during April. Kidney Beans should have a well-sheltered border, and portable protectors are of much service for very early sowings in northern parts; a quantity established with plenty of roots ready to plant in the frame or pit when the earliest Potatos are lifted is of much value, coming in between those forced in pots and those in the open ground. Ne Plus Ultra is one of the best for all purposes. Herbs, Sea Kale, Asparagus, Chicory for early lifting, Chervil, Water and Land Cress, successions of Leeks (if wanted small and green), Lettuces, Parsley, Spinach, Turnips, Radishes, Rampion, and all the Brassica kinds of vegetables may be sown, watched and tended. Birds and all manner of vermin will now make a claim on the products of the garden. Potato planting may have early attention. —*M. T.*

SPRING FLOWERS AT THE HOLLOWAY NURSERY.

Mr. B. S. Williams' annual exhibition at the Victoria and Paradise Nurseries is now at its best, and well worth a visit if only to see his superb house of Imantophyllums, than which we have never seen anything finer. In the large new span-roofed house, erected for the accommodation of Imantophyllums and Amaryllis, the first half is devoted to the former, and here may be seen large vigorously-grown examples of all the best varieties in cultivation, with flower-heads of quite gigantic proportions as compared with what one usually sees. The gem of the collection is, we think, the one named President Ambrose Verschaffelt, which took the first prize as the best variety in the Ghent show last year, and which is included in Mr. Williams' list of novelties to be sent out this year. The flowers are of fine shape and substance, and in colour a bright shade of scarlet. I. aurantiacum, a fine pale salmon, is also to be distributed this season. I. Lindeni, orange-scarlet, bears an immense head of blooms; and Marie Van Houttei, salmon-red, is also very conspicuous. I. cruentum, which was sent out about three years ago, is remarkable for its neat compact truss and bright scarlet colour. I. Madame Marie Riemers well maintains its position as one of the finest introduced of late years, and I. Van Houtte is distinct, though not now one of the finest in form. Among the seedlings are two which are held in high estimation, and one of them is certainly novel, coming very near to a self white, the centre being pure white and the tips of the segments pale red slightly tinted with rose.

We are pleased to see that these useful and highly ornamental plants are increasing in public favour, as they well deserve to do, for they will grow in a cottage window, in a greenhouse, a conservatory or a stove; they stand forcing well, and their deep green foliage is at all times attractive and pleasing. The Amaryllises are later than usual, and will be at their best in another week or ten days, by which time quite a host of them will be in bloom.

Hyacinths are also a leading feature just now in conjunction with other Dutch bulbs, such as Tulips, Narcissi, &c., and with these and other attractive flowering subjects the large conservatory is rendered unusually gay. The Orchid houses too are daily increasing in interest and beauty, and will soon form an exhibition in themselves. The new Cattleya Lawrenceana is flowering in several instances, and it is worthy of remark, that the dark coloured is very sweet-scented. An Oncidium sarcodes with brightly coloured large flowers must be numbered among the best forms of it we have seen; and among the Cypripediums is a beautiful form of punctatum violaceum. The rare Vanda Parishii Marriottianum is also in flower, so also is the somewhat seldom seen Dendrobium Dominyanum, and late though it is for Calanthes, C. Regnieri, and C. Sanderiana are still in bloom, and in fresh condition. The cool Orchids too are also waking up into floral activity, and will be very gay for some time to come.

THE AMATEURS' GARDEN.

THE GREENHOUSE.

It is not difficult at this time of the year to provide a good display in this house, especially where there is a moderate stock of bulbs, and forcing has been resorted to. In addition to the Hyacinths, Tulips, and Crocuses, so commonly grown for decoration, there should be a good proportion of the Polyanthus Narcissi, which flower so freely, and are so fragrant; their flowers are also much better suited for arranging with other flowers than most of the bulbs are, as these are usually rather formal in character, and do not lend themselves readily to floral decoration. The charming Lachenalias must, however, be excepted, for they are very graceful, and a few pot-fulls have an excellent effect in a house, either on the shelves or suspended from the roof; but for the latter purpose wire baskets are the best, and when the bulbs have been planted so that they flower through the meshes forming balls of foliage and flowers, they have a novel and pleasing appearance. Lachenalias, tricolor, pendula, aurea, and Nelsoni, are the most showy, the last named being particularly handsome owing to the size of the spikes and flowers. Some Roses should also be in bloom now, and very welcome they are thus early in the season. Spiræas are abundant, and a few pots of the dwarf Solomon's Seal are very useful, as they can be tastefully arranged with Azaleas, Acacias, Cinerarias, and the other occupants of the house.

If the roof climbers have been duly pruned and trained the other plants must now be arranged to the best advantage, and the exercise of a little judgment in this matter will assist greatly in economising the material at command, and yet produce an agreeable display. Plants should never be crowded; this is of the utmost importance, for no effective and satisfactory arrangement can be produced when the plants are closely packed, their natural beauty is entirely destroyed, and their flowers do not last so long as when more space is allowed permitting the access of air and light. Avoid the rigid formality which was at one time so prevalent, and that even now is seen far too frequently in amateur's conservatories and greenhouses. The principal idea has seemed to be the formation of a bank, sloping as regularly as the roof of a house, with a mass of brilliantly coloured flowers and a few foliaged plants crammed together, so that what gracefulness they may possess is quite lost. Happily, however, there has been a considerable advancement in the methods of arranging plants for decorative purposes, and this progress is in a great measure due to the admirable examples of tasteful combination that some exhibitors have set at the leading metropolitan and provincial shows. Light freely-arranged groups now take precedence of the heavy, lumpish, haycock-like heaps of plants sometimes seen, and this, apparently, has taught the exhibitors better taste more quickly than anything else, and by a process of imitation has gradually improved the general arrangement. A few have developed original styles, and these have assisted very greatly in the advance, serving as examples for others to modify or improve.

The best plan in starting to arrange a group of plants, either on the floor of a conservatory or the shelves of a greenhouse, is to form a general idea of the style to be adopted, then dispose a few of those taller-foliage plants that are to constitute the background or foundation; place these thinly, allowing sufficient space between them for the dwarfer plants and those to form the substance of the group. Do not have an undue proportion of either flowering or foliage plants, as in one case the effect will be too gaudy, and in the other it will be too dull. At this time of year such plants as Spiræa japonica and Dielytra spectabilis are very useful for grouping, the latter having a very graceful effect, its arching spikes of flowers being free from all formality; Lilies of the Valley, Polygonatums, the fragrant Boronia megastigma, and many others being also very useful for the same purpose. The brighter colours will be supplied by the bulbs, and if there are a few zonal Pelargoniums they can be utilised in this way. A number of small 60-size pots, filled with Selaginella Kraussiana, will form a neat margin for the shelves, or if the plants are arranged on a central bed, an edging of Selaginella can be planted out.—*Scolytus.*

THE HIGHGATE NURSERIES.

At these nurseries may be said to have commenced the practice of holding private exhibitions of Dutch bulbs and other spring flowering plants, which are now so popular and annually made a feature of in the leading London trade establishments. To the late Mr. James Cutbush is, we believe, the credit due for initiating this style of exhibition, and we were pleased to see, when visiting Highgate a few days ago, that his son and successor in the management of the business aims at keeping up the old traditions. We have, it is true, seen Hyacinths and Tulips here in greater numbers than we found on the occasion of our visit, but for this the weather is responsible, and it is a fact worthy of remark, that Hyacinth growers on all hands are complaining of the quick time in which these flowers have "gone off" this season, as compared with their usual period of usefulness.

Looking over the collection we noted a few of the sorts in each section, which almost invariably come good, and yet are not expensive—such sorts in fact as all growers should rely upon in the main; while the sake of variety, a number of other sorts may be added by anyone who has the means to gratify such a refined and commendable taste. In single reds, Macaulay,

Vuurbaak, Cavagniac, and King of the Reds; the latter very distinct, hold their own well, and take a lot of beating. The single blues comprise, King of the Blues, Charles Dickens, Marie, Queen of the Blues, somewhat modern, but very good, Blondin, Baron von Tuyll, Mimosa, a blue-black, and General Gordon, darker still. In single whites, La Grandesse, Mont Blanc, Grandeur à Merville, Gigantea, and Queen of the Netherlands, still stand pre-eminent; and to these may be added Haydn, which is mauve in colour, and throws a tall compact spike.

The best white Tulip is still Joost van Vondel, though the old Pottebakker White runs it very hard. Adeline and Proserpine take the lead among the rose-coloured varieties, and Vermilion Brilliant and Belle Alliance are the greatest favourites among the scarlets. Of what are commonly called striped varieties, Keizer's Kroon remains unsurpassed; and to complete the selection we may add Yellow Pottebakker and Yellow Prince are the best yellows, and Queen of Violets and Globe de Rigaud as fine violet-tinted sorts.

Among miscellaneous subjects made much use of in the decoration of the show-house, were Camellias, forced Rhododendrons, Azalea mollis varieties, including that very fine novelty, Lord Shaftesbury, which was certificated last week at South Kensington; this marks a distinct advance in the neat compact shape of the truss, and the perfect form and substance of the brightly-coloured flowers. Staphylea colchica has been forced largely this season, and has again been found most useful. Cyclamens, Spiræas, &c., help considerably in the making up of a pretty display.

THE INFLUENCE OF LOCALITY ON GARDENING.

This is an important subject, though often overlooked, both by professionals, employers, amateurs, and cottagers alike. Sometimes the first-named finds himself on the outlook for a fresh place, and cannot, as a rule, settle down or choose the county or locality he would like to go to, and if he should be so fortunate or unfortunate, as the case may be, as to obtain a situation the opposite in character to what he has been used to, both in regard to soil and climate, he finds himself situated in a trying position, especially if he has been located in some favoured county or district and should find himself in a picturesque or hilly country, or in the suburbs of one of the large manufacturing towns of the northern counties, it will take him something like a whole season to get accustomed to the altered circumstances. Nor is this all: some favourite fruits, flowers, and even sorts of vegetables will in many cases have to be abandoned as local influences and experience will determine. Gardening may be said to be carried on under great difficulties in such places, for it may be that in many cases it is only of secondary importance, the proprietor pitching his tent more for the convenience of himself and business in a locality favouring commerce more than vegetation. Nevertheless, there are hundreds of such employers who are fond and proud of their gardens, in spite of the districts in which they are placed: but at times are apt to forget themselves when returning home after visiting in the south, where vegetation is under better influences, they demand of their gardeners an explanation as to why their things do not do so well as those they have seen. The gardener, in many cases, is held responsible and blamed for failures, the result of climatic or other circumstances over which he has no control.

Many southern writers, both in the gardening papers and in the annual gardening calenders, are not altogether exempt from criticism, for while the advice given in the locality in which they are placed may be right, and given in perfect good faith for the gardening community generally, to non-practical and cottage garden readers it may at times be misleading, and especially as regards northern districts, in the matter of the spring sowing of seeds. This is overcome by allowing a period of sixteen to twenty-four days later than the advice given by the writers.

The sowing of seeds and the flowering of plants in various soils, even in the same locality, sometimes varies to the extent of from seven to ten days. As an instance of this, I may mention that a gardening friend of mine can sow the same sort of early Peas a week later than I can, and have them up before me; whilst as regards general cropping, he is eighteen days ahead of me, his soil being on the sandstone, and mine on the clay; but in a dry season I have the advantage of him in all other respects but earliness.—*B. L.*

ADIANTUM CUNEATUM.

We have so often heard of the uses and valuable properties of this Maidenhair that it would appear superfluous to add anything more. It is, however, impossible to over-rate its value, and as your correspondent "W. C.," p. 411, has referred to it as a pot plant, I will briefly direct attention to it in another direction—this time as a wall plant. This to many will be a novel way of growing it. It is, however, a most profitable one, as by so doing the walls of lean-to structures, and especially those with a north or north-west aspect, may easily be turned to good account, and which hitherto have been occupied with plants valueless from a pecuniary standpoint, and which, by dense foliage, have only served to hide whitewashed walls from view.

The process is easy and simple, and well repays the trouble. This is the *modus operandi*:—Procure some diagonal wire with a 2 in. or 3 in. mesh and fix to the wall, leaving a cavity for soil of about 2 ins. Place the first width from the ground floor, and when secure fill in with soil, repeating the operation till the top of the wall is reached. If moss can be obtained, the wire may be faced with it to prevent the soil falling out. Little, however, will fall out if rough lumpy peat and fibrous loam and rotten manure is used, pressing it firmly together. Dormant plants are best for inserting, that is plants whose fronds have all been used, and which are taking a little rest. If these are to be had the planting may be done as the work proceeds; if not, small plants in thumbs or old stools broken up will do. These will soon make furniture for the bare walls and be remunerative also.

So far as I know, Mr. J. Ellam, of Cliveden, is the founder of this new means of growing Maidenhair, and who speaks highly in its favour. From my own observation of it at Cliveden, considering the length and breadth of the fronds and their deep colour, I am certain it might be turned to good account. I wonder how many miles of walls in lean-to structures there are in the United Kingdom which give no return at all, and how many more which are only clothed with some such plants as Ficus repens, which, compared with the Maidenhair, is valueless. Why not turn them to account?—*J.*

LENTEN ROSES.

In commencing this brief note it may be well to explain that the Lenten Roses are that section of the Hellebore family which usually flower during the period of Lent, and from which they have taken that distinguishing name. They form, perhaps, one of the handsomest groups among our spring flowers; of such bold and noble aspect, even as foliage plants, that presuming their flowers were inconspicuous, they would form a very attractive and valuable group for their foliage alone. Fortunately, however, there is no need for such speculation, for with their extremely handsome foliage, come their equally handsome flowers, remarkably diversified in point of colour, many of them being quite new, while others are remarkable for the intensity of their markings or spots. Among those of recent years are many very handsome hybrids, scarcely known to cultivation at present, but all more or less beautiful, and which in a few years will occupy foremost positions among hardy spring flowers. They delight in a deep rich loamy soil, and are greatly benefited by an annual dressing of well decomposed manure.

Though hardy in the extreme, the foliage of these Lenten Roses suffer to a very great extent in very severe winters, that is, provided they are planted out in open quarters where no shade or shelter from trees is afforded them. This was the case during the past winter—in exposed situations they are terribly cut, the foliage completely destroyed, and the flowers suffering much the same fate—not so, however, where planted in sheltered nooks, or where they have special quarters under glass. So exceptionally handsome and valuable are they, that they well deserve and repay any extra care which is bestowed upon them; and being quite distinct from all else in the flower garden at this time, their cultivation, which is now far too limited, seems to merit extension.

Some of the finer kinds among the old varieties are to be found in antiquorum and its major form, the flowers of which are pure white, and inclined to be globular in outline; atro-rubens, bright rosy purple; colchicus and its forms, the type being of deep rich plum colour, the varieties of this as well as the type being densely spotted; guttatus, creamy white, with reddish spots; abchasicus, flowers deep purple, and one of the earliest to bloom; and also the white variety of this species. Beside the white there are several other equally good forms of abchasicus, such as lutescens, metallicus, purpurescens, roseus grandiflorus, and rubra. Then comes the orientale section, containing many very handsome forms, among which we have atro-rubens, with bold majestic flowers, of a rich plum colour inside, the exterior being of a reddish purple; and following this are punctatus and purpurescens, the former with purplish rose flowers, densely spotted, and the latter a deep reddish purple, and heavily veined.

Prominent among those of more recent date may be mentioned Apotheker Bogren, having dazzling purple-rose flowers, very large and free, and well thrown over its leaves; Commerzienrath Benary, which is snow-white, margined with reddish purple spots—a most handsome form; F. C. Hienemann is of a dark deep purple, with slate-coloured reverse, very freely spotted and veined; Willy Schmidt has flowers of a fine pure white, 3 ins. across, supported on bold towering stems, which show the flowers to additional advantage. These are only a few of the many good things which are to be found in this much diversified and valuable group of spring flowers. In planting them, choose a somewhat sheltered and partially shaded spot, dig deeply, and manure heavily. Beyond this nothing more is needed, save to let them alone, for what is true of the Christmas Rose is equally true of the various species constituting this spring-flowering section. They are most impatient of removal, and as they root very deeply, the operation cannot be well performed without great loss of valuable fibrous roots.

A good time for procuring small plants for a beginning is the present, and so enable them to make the whole of their new growth (the majority of the old having been cut off, or, rather, very much damaged by frost), and be in condition for flowering twelve-months hence. The modes of propagation are by division and seeds, and as the latter are somewhat freely produced, those of your readers who are endowed with abundant patience, may do well to endeavour to obtain still further improvements on already existing kinds.—*J.*

APRIL.

One of our poets has thus described the month of April:—

"Now, Proteous-like, smiling, and now in tears,
Comes changeful April, mingling hopes with fears;
The soft, warm rain-drops scarce to fall begun,
Like diamonds gleam beneath the smiling sun;
The meadows now a robe of fresh green wear,
The lark's sweet song with music fills the air;
Faintly as yet, now nearer and more near,
The cuckoo's cry falls softly on the ear;
The Sloe's dark branch with snowy flowers is hung,
Ere yet a leaf has burst its wintry cell;
The sweet wild Violet shows itself among
The hedge-row verdure in the shady dell;
And from her home beneath the half-clothed trees,
Gives forth her incense to the passing breeze."

But this is the poet's license of song. He looks at April through rose-tinted spectacles, and paints it as he would have it be—not as it really is. We have had experience of April as a cold, miserable, nippy month, with snow and frost, chilblains and chapped hands. We sometimes get a bit of March—and the worst bit of it, too—dovetailed into April, and then one realises Hood's "Pleasures of Spring."

In the real, not the poetic, April there is usually a large range of temperature, the thermometer varying in some years from 75° to several degrees below the freezing point of water. The mean temperature is about 49½°, and it is found that upon an average of many years there are six frosty nights in this month. Other circumstances being equal, the temperature is in this, as in other months, lowest a short time before sunrise. If there has been a dry March, a wet April is, on the whole, most advantageous to the gardener, and a quantity of rain in April is thought to indicate a dry season for the harvest in August and September. One thing is quite certain, that as the month of April is so full of uncertainties as to the weather, the gardener should be on the alert to protect fruit-tree blossoms and half-hardy plants when required.—*E. W.*

CAPE HEATHS.

Ericas, or as commonly called Heaths, are plants that require great care, patience, and skill in their cultivation, and many disappointments will have to be encountered before success crowns the effort of those who are unacquainted with their requirements. Heaths may be divided into two classes—hard and soft-wooded varieties. The hard-wooded kinds are the finest for exhibition purposes, and are nearly all spring, summer, and early autumn-flowering; soft-wooded are for the most part late autumn and early spring-flowering. The hard-wooded kinds require a greater amount of care in their cultivation, and are generally much slower in their growth; therefore, where specimen-growing is anticipated, young thrifty plants not less than three years old should be obtained, the advantage of young plants being that the grower will be better able to understand the health of his plants, and also have them more under his command, by knowing what sort of soil they are growing in as they advance in years, and also a knowledge of what condition the roots are in, for this is the first essential to their well-doing. If the root action is not healthy, the whole plant will soon show signs of it by either becoming yellow or dying off altogether. This is the great evil in obtaining large Heaths, as you have no idea what they may be potted in, or what particular treatment they have been subject to.

For making the young plants into specimens, they should never be allowed to become pot-bound until they get into the size of pot it is intended they should be trained. By this treatment they grow much quicker than if allowed to get thoroughly matted with roots before potting. Young plants must at all times be kept well staked-out to admit a free circulation of air amongst their foliage, which is apt to mildew. Should mildew appear, dust at once with flour of sulphur, and thoroughly ventilate. Wash off the sulphur in a few days by turning the plants on their sides and giving a good syringe with rain-water. Much has been written about these plants not liking fire-heat, but I find that young plants benefit by a little judiciously applied; sufficient to keep frost away must always be given, but a little during the early spring months, with plenty of ventilation, does not hurt them. It keeps the atmosphere dry about them, and causes the air in the house to circulate better. In potting these plants the greatest care is necessary, and time spent in this work is well spent, and should, under no circumstance, be hurried through. Particular attention must be paid to the drainage of the pot, and a good covering of rough peat should be placed over the crocks to keep them clean from the upper soil.

For potting, select the best peat possible, and use plenty of sharp grit or silver sand. The peat should not be in too dry a condition when prepared for potting, and if it should be so, give it a good watering, and let it lay a day or two then add the sand, and well mix together. When ready for use it should be in a moist condition that will cause the whole to lay firm when pressed for potting. Pot the plants exceedingly firm—small shifts and often are better than large shifts, with the soil in a short time becoming sour round the roots; leave sufficient space on the top of the soil to admit giving enough water at one time to soak the whole ball. Give the plants a good soaking of water the day before you intend to pot—they will come out of the pots better for it, and if the ball seems at all in a condition to take more water after you get it out of the pot, stand it in a bucket or tub of water till it gets soaked through; let it stand and drain for a little time after taking from the water before potting. If the above advice be followed out, the newly potted plants will not require any water from the can for some time; this matter will have to be left to the judgment of the grower. Heaths should never be potted in the hot weather, this causes them to have more water given to them than they require, and the result is more often a failure than a success. The month of March or the end of September is the best time for this work, with a deviation of a month either way where a large lot are grown; but at all times select the plants for potting just at the time they are beginning to grow; the work generally gives satisfaction then.

When large plants get very much out of health it is often very difficult to bring them back into a robust state again, and should the variety not be a very valuable kind, it is better to throw it away, and pot up a young plant to take its place. Hot weather often leaves its mark on a collection of Ericas, and should a long spell of hot dry weather occur at any time, the plants will benefit with a little shade during the heat of the day if the plants cannot be placed in a house or pit facing north; and the younger plants benefit by standing on a bed of ashes. Dribbling watering, light potting, and a confined atmosphere are all evils to be avoided in connection with this class of plants. Soft-wooded Ericas require somewhat the same treatment as to soil and potting, but always benefit by being stood out in the open air during the autumn to mature their wood and set their flower-buds. When there is danger of frost they require to be put into cool airy houses or pits with heating apparatus in them to keep frost out.

Erica ventricosa and its varieties are really soft-wooded kinds, but generally flowering at midsummer, they require somewhat the same treatment to grow them as the hard-wooded kinds. Propagating these plants is a very tedious operation, and will scarcely pay any one to attempt without they can afford to wait some years for the result of their labour.—*W. G.*

Chionodoxa Luciliæ.—This charming little plant advances in popularity every year, and is now becoming quite abundant in gardens. At all the spring shows it now occupies a prominent position amongst the Daffodils, and though these are so much in favour, the "Glory of the Snow" attracts much more notice. None of the Squills can be compared with it for unassuming beauty, either in pots or borders.

DRUMMOND'S PHLOX.

The discoverer of this charming Australian annual probably never thought it would become such a favourite in English gardens, and much as it was admired when first known, some time elapsed before it was found to possess such a capacity for variation as it has since displayed. The plant when introduced was pretty, but there are now numberless named varieties much superior to the form with which we first became acquainted, and from a packet of mixed seed a number of brightly-coloured varieties can be obtained, with large flowers of many differing tints, and the colours diversely arranged. There is no annual to surpass Phlox Drummondi in this respect, and when the plant is employed in suitable positions it is a valuable addition to any garden, as it flowers abundantly with moderately good treatment. It is equally well adapted for borders or for pots, it can be planted as a margin, in clumps, or it can be arranged to cover the surface of a bed beneath other taller plants, such as Roses, and it is occasionally employed in summer bedding with very good effect in mixed borders. In some of the parks, especially in Hyde Park, it has been used in this way during several past seasons, and amongst beds of this character few have been more attractive than those containing this elegant half-hardy annual. By continued selection and "fixing," two very distinct types have been gradually formed, one comprising the tall varieties and the other the dwarf forms, these terms being merely comparative, as the tallest does not exceed 1 ft. in height, and several are not more than 8 ins. high; but the others are from 4 ins. to 6 ins. high, and when well treated they assume the form of neat, compact, diminutive bushes, covered with their beautiful flowers. The taller forms bear the names of grandiflora, grandiflora splendida, with a number of secondary titles indicating the colours from pure white, through pink, carmine, scarlet, crimson and purple to purplish violet. Some are self coloured, others have a pure white centre contrasting with a zone of colour, others have the colours broken up by bands of white radiating from the centre to the margin; some, again, have a white margin, and remind one of the white-edged Auriculas on a small scale, only they possess much more brilliant shades of colour. An extremely beautiful strain is termed the Victoria, being remarkable for the intense richness of its scarlet colour; another is called Heynoldi, very dwarf and of several tints, but chiefly white and scarlet; a charming variety, also, of the dwarf type is Chamois Rose, of a delicate rosy hue and remarkably free. Most of these are equally well suited for culture in pots, and constitute useful additions to the plants available for conservatory decoration during early summer. There are a few annuals which can be really successfully grown in pots, and of these Phlox Drummondi is one of the best in all respects. The chief difficulty is to prevent the plants being drawn or weakened in their early stages, and if the tall varieties are grown a few light sticks must be employed to keep the plants in form.

Phlox Drummondi.

Any time in March is a suitable period to sow the seed, and it must be remembered, that, though so many selections have received distinct names, and are kept true, yet for ordinary purposes a packet of mixed seed of a good strain is all that is necessary, unless it is desired to make a particular design in the various colours. A light soil should be prepared of leaf mould and loam with sand, the two former in about equal parts, and sufficient of the latter to render the compost open and porous. Place this rather firmly in boxes or

pans and sow the seed thinly, sprinkling a very small quantity of fine soil over it, damping it with water from a fine rose can. The seed germinates best in a warm frame, but great care will be needed to prevent the soil becoming dry, either before or after the seed has germinated. When the young plants have formed two or three leaves, either prick them out thinly into other boxes, or into little beds prepared in a cold frame. If intended for culture in pots, they can be dibbled into 60 or 48 size as required, placing sufficient in them to form a full pot when the plants have grown to flowering size. If those in frames make good progress, they can, after being properly and gradually hardened by ventilation, be transferred to their permanent quarters in May, but they must at all times be well attended to with water. The soil should be of a similar character to that previously advised, but a small proportion of old well-decayed manure may be added; it must, however, on no account be rank, and should be thoroughly mixed with the soil.—*B.*

WHITTINGHAME.

(Concluded from p. 474.)

The glass-houses are, as previously stated, numerous and of modern erection. The principal range consists of eleven houses. No. 1, 36 ft. long, 16 ft. wide, and the same height, is a late Peach-house, having one fine tree of Barrington on the back wall, and Plums trained half way up the front, which yield fine crops every year. No. 2, the same size as the preceding house, is a late Vinery, consisting of Mrs. Pince and Gros Colmar, which were carrying good crops of excellent fruit as regards size of bunch, berry, and finish. No. 3 is a span-roofed greenhouse with octagonal front, opposite the entrance to the garden, and it contain a variety of suitable and well-grown plants. No. 4 is another late Vinery; this house and the next four have also a lantern roof with front and back ventilation, so that either or both can be used at pleasure. They are all the same size—35 ft. long, 18 ft. wide, and 21 ft. to ridge of lantern, giving a length of rafter of 24 ft. This house is planted with Lady Downes, of which (like the Muscats) there was a heavy crop of good-sized bunches, which, in point of perfect finish, reminded me very much of the grand examples of those varieties which I saw a few days earlier at the Tweed Vineyard, near Galashiels; but, as the Lady Downes is not liked at table, the rods have all been grafted with Gros Colmar, a variety which finds much favour at Whittinghame. No. 5 is the early Peach-house; the trees—Royal George and Dr. Hogg—have made fine, sturdy, well-ripened growth conditions which augured well for this season's crop, which is generally ripe in May. No. 7 is a span-roofed stove, 30 ft. long and 25 ft. wide, and is filled with large Palms, Crotons, Dracænas, Pandanus, Ferns, &c., mostly for house decoration, and for which purpose they are admirably adapted. There is also in this house a large plant of Bougainvillea glabra, covering the whole of the gable wall, and from which enormous quantities of flowering sprays are gathered for decorative purposes; the colour—a lilac-peach—is very telling when judiciously arranged with flowering shoots of Lapageria alba and L. rosea, pink-flowered Begonias and Fern. No. 7 is the early Muscat-house, and No. 8 the early Hamburgh-house, opposite which there is another garden entrance. The Vines in both houses appear to be in fine condition. Next comes another plant-house, similar in size to No. 3, but chiefly devoted to Orchids, such as Dendrobiums, Cattleyas, Vandas, Ærides, Oncidiums, Calanthe veratrifolia, Cypripediums, &c.

In one of the Vineries I noticed a good batch of nice plants of Calanthe Veitchii and C. vestita oculata, sending up flower-spikes as thick as one's thumb, and which no doubt rendered a good account of themselves afterwards. No. 10 is a mixed Vinery, chiefly Muscats, Hamburghs, and Gros Colmar, all in fine condition, every bunch being fit for the table of a prince or any of the metropolitan exhibition tables; and this is not to be wondered at, seeing that the accommodation for the production of such excellent Grapes is good, and that Mr. Garrett is an old pupil of Mr. William Thomson, having lived with that gentleman at Wrotham Park prior to his going to Dalkeith; and, as I have already remarked, there is a marked similarity of finish in the Grapes at Whittinghame and Clovenfords. No. 11 is a Peach and Nectarine-house; the condition of the trees promised well for this year's crop. Standing on a large square of ground behind this range is a group of heated pits for the growth of Melons and Cucumbers, and for growing on plants as feeders for the larger plant-houses. There is also here a large iron curvilinear-roofed Camellia-house; the trees are all planted out in the border along with some tall tree Ferns. The former are studded with large flower-buds, some of which ere this are unfolding their varied-coloured petals; while the large green fronds of the latter indicate that the conditions under which they are grown are congenial to their requirements. A slate stage runs along the front and across both ends of this house for growing pot-plants on, such as Heaths, &c., the roof being draped with the flowering-shoots of various climbing plants, and which, depending therefrom with just sufficient circulation of air to cause them to move to and fro, are very effective. A large collection of Chrysanthemums—about 400, mostly in 10-in. pots—are grown; the same may be said of Amaryllis—numbering several hundred plants—Primulas, Cyclamens, Poinsettias, &c. The whole of the houses are abundantly supplied with hot-water piping—a piece of practical economy that should never be lost sight of in the erecting and heating of fruit and plant-houses on however large or small a scale—and hot-water can be drawn from the pipes in each house during the forcing season.

Good shedding accommodation, in the way of store rooms, fruit rooms, packing and potting sheds, Mushroom houses, &c., is a necessary adjunct to all gardening establishments with any pretension to completeness. Such is the case here, as the accommodation is commensurate to the requirements of the place. While on this subject, it may be interesting to mention that spread out thinly on a long table covered with soft paper in the entrance lodge to the "old Castle" in the grounds, which is in close proximity to the forcing houses, and is like the large piers close by, an elaborate piece of workmanship of the age in which it was executed, and is in a fine state of preservation. I noticed a fine lot of Peaches which had just been gathered from the trees in the late house. In this lodge, through the gates of which in days gone by passed many a noble chief and warrior brave, fruit is found to keep well, and this is not to be wondered at, seeing that the walls are of great thickness, and the atmospheric temperature cool, dry, and equable—conditions essentially necessary to the preservation of well-ripened fruit of any kind.

In conclusion, I may be allowed to say that the condition of the plants, fruits, &c., in the respective departments, together with the uniformily good keep of the whole place, reflects great credit on Mr. Garrett, who is a thoroughly good all-round practical and courteous gardener, and to remark that when next I go northward I hope to be able to avail myself of Mr. McKellar's kind invite to visit Floor's Castle Gardens, which I understand have been considerably improved during Mr. McKellar's management.—*H. W. Ward, Longford Castle.*

LOBELIA DURING WINTER.

One or two very good suggestions anent wintering this most useful bedding plant have been given of late in the pages of The Gardening World, and I doubt not many will avail themselves of the instruction given. It is now ten years since I conceived the new idea of propagating Lobelia in the way described by your correspondent, Mr. Fry, at p. 456. As my mode of procedure differs slightly from that described, I will briefly cite it. Having planted the number required in bedding arrangements, I took such as I deemed sufficient, and planted in a reserve bed, these having once flowered were cut over and not allowed to flower again; this kept them compact and bushy, and full of young vigorous growth. Early in September these were lifted and pulled into small pieces, *i.e.*, containing about six shoots, and dibbled into boxes in the ordinary way of cuttings, and placed in a cold frame and shaded for a few days; here they were allowed to remain for some three weeks, and afterwards taken out and fully exposed if the weather admitted; if they show signs of growing too weak the tops were cut off with a sharp knife. By the arrival of frost the plants in the boxes were as large as those ordinarily bedded out, and bristling with roots at the base.

To keep them without artificial heat was one chief aim, as long as I could consistent with safety, when they were placed in a cool house. These plants passed admirably through the winter, and in the early days of the new year, when propagating time came round, I discovered that I had not only wintered a splendid stock, but that I had sufficient without commencing the somewhat tedious business of taking cuttings, and only needed to pull my autumn plants to pieces to have enough and to spare, these being again transferred to pots and boxes. Having succeeded with Lobelia, I adopted the autumn plan of propagation the following year for Alternanthera with equal success. The Lobelia is a half-hardy annual, and if this is fully realised, what may we expect but death from plants which have been flowering continuously through the summer, and lifted and potted in autumn. The orthodox position—a shelf near the glass, can hardly give them biennial duration, thus it is that so many are driven to extremes to secure sufficient against bedding time.

Some gardeners pot some extra plants for stock, and allow them to flower as usual, which is almost as bad as lifted plants, as the latter nearly always fail, sometimes die outright ere the new year arrives, and as a natural consequence are a source of anxiety and care, and blame is frequently attached to those in whose charge they may happen to be.—*E. Jenkins.*

As some difficulty appears to be experienced in various quarters in the wintering of Lobelias, from which to propagate in spring a sufficient number of young plants to embellish the beds allotted to their culture in the flower garden during the summer and autumn months, I will, therefore, give the method of procedure practised here with perfectly satisfactory results, and which is simplicity itself, viz.:—early in September a couple of dozen plants in a mixed bed are cut down within a few inches of the ground, and as soon as these make fresh growth they are taken up with nice balls of earth and roots and potted moderately firm in light mould, in 6 in. pots, well crocked. They are then put into a frame, watered through a rose to settle the soil about the roots, and shaded from bright sunshine for a few days until the roots have taken to the soil, after which it is discontinued. The plants are wintered on a shelf near the glass, in company with stock pans of Ageratums, &c., in a house having a minimum temperature of 40°; and, like all other bedding plants, they are kept on the dry side at the roots. But on the approach of spring the plants are put into heat and kept moist at the roots to cause them to push into growth, from which to propagate young plants. We had just taken every cutting off our stock plants and put them into boxes filled with light mould, and having a surface of sand, and which we placed in a hot bed, when Mr. Gilbert's note on the subject appeared, otherwise I should have had the pleasure of sending him a few cuttings.—*H. W. Ward.*

In my note on wintering Lobelias, at p. 456, it should have been stated that the thumb-pots are "inverted" instead of "inserted." It is my practice in preparing pots for cuttings of Pelargoniums, &c., in the autumn to adopt this mode of drainage in preference to using potsherds &c., the cuttings being put round the edge of the pot, the work is done with greater facility, and the cuttings apparently infinitely better, in fact, even in sowing seeds in pots do I invariably adopt this practice, and also in pricking off seedlings from the seedling pots, as not only is effective drainage ensured, but the ingress of worms is at the same time effectually precluded, should the inverted pots be nicely adjusted.—*George Fry, Lewisham.*

SOOT AND THE ONION MAGGOT.

Having only recently seen the letters which have appeared in your columns on this subject, perhaps, Mr. Editor, you will kindly allow me to contribute my experience of that troublesome pest, the Onion maggot. Although not wishing to cast any doubt on the statements of Mr. Ward, I must say at once that I cannot agree with him; for my experience of the use of soot does not justify me in so doing. I would add, also, that I am not so narrow-minded as to think that any fixed remedy or method can be set down as a rule for everyone to go by. I should be just as ready to believe that one kind of medicine would cure every patient that suffered from the same complaint or disease, when most people's experience leads them to think the contrary. But I am digressing. Now to the point. Having had an opportunity of seeing several gardens,

and served in them for longer or shorter periods—gardens in which this pest was never seen, and others where only seen to a limited extent; while the place I have practised in, and the district I have had an opportunity of observing Onions grown—all are extremely troubled by this pest. It is present every season to a more or less extent, and, I think I may say, in every garden to a greater or less extent, including cottage gardens; and I have observed, the dryer the season is, the more of the pests there are to contend with; while the wetter the season, the less there are.

Having tried soot in every possible way, and to a very great extent using it till we feared we should injure the crop, in no case did we ever find it stopped altogether. I believe it helps to keep it under to some extent. We have not had a clean crop during the last ten years, and I shall be greatly obliged to Mr. Ward if he would kindly tell me if he thinks our soot, and that of our neighbours, was always bad or inferior to his, or if he thinks some one would not have found out the proper way to use it. We have tried it in a liquid state and dry, using it at sowing time, and all through the growing periods, and the soot was obtained from various sources, so that I cannot believe it was all bad.

With reference to closet manure being bad for this crop, let me just add that after trying most kinds of manure for dressing the ground with previous to sowing, I am convinced that nothing gives us so good a return as closet manure and road scrapings mixed. I agree with Mr. Ward, that patent manures are advantageous were this pest exists. I am a great believer in soot, it is a grand fertiliser, and I use it very largely, but I know others who have tried it as an insecticide with only partial success, though it is not desirable that I should give their names, as in my opinion, the addition of the names would not add any weight to my statement unless its truth be questioned. When statements are made in a controversy they should be founded on fact. For my own part I rely entirely on my own observations, and I am always ready to defend what I say. I have no doubt, whatever, but that what Mr. Ward has stated is true in his particular garden or neighbourhood, although I fail to see how his remedy can be expected to apply to all soils and all climates.

I am interested in most discussions that take place in the columns of the gardening papers when carried on in a friendly spirit. It is, indeed, their mission to afford opportunities for an exchange of experience and ideas, void of personalities. As to adding one's name in full to notes sent for publication, I fail to see that it is always necessary, though it is well under certain circumstances to name the locality from where the writer hails.—*Con.*

TABLE, WINDOW AND INDOOR PLANTS.

Those who have glass accommodation, even though it be limited to one small house, should at this season, and during the rest of the spring, be on the look out for cuttings from their plants in stock, in order to rear young ones to take the place of those which have or will become too large or too rough for use as table plants. There are numbers of easily multiplied things which, if kept propagated and healthy young plants secured, are charming for indoor work; but the replacing of the worn-out stock requires to be well looked after in time.

To facilitate this, a small cutting-case, or two or three hand-lights lend great assistance; indeed, in the spring time too much space cannot well be given to striking-boxes or other appliances to forward the raising of young plants, as so many useful things which have become shabby during the winter root freely now, and the young plants are infinitely better than the old ones. Among these may be noted the beautiful-leaved varieties of Coleus, the pretty variegated Panicum, the different forms of creeping Tradescantia, Aralias, Grevillea robusta, Marguerites, or, indeed, anything likely to be useful of which cuttings can be obtained.

With what is called soft-wooded plants, such as Coleus, the young tops or any of the lower joints strike freely; but of anything which is seen to be hard-wooded on examination of the old stems, the young shoots should be allowed to get firm before they are severed. The choicest should each be placed in a single pot, and the commoner or more plentiful a number together, the pots in either case being filled with fine soil and surfaced with silver-sand. After dibbling-in, it is well to water the cuttings copiously, and then only occasionally sprinkling them over to keep them from flagging, the case or glasses being kept close until they are rooted.

Seeds of Grevillea robusta, Acacia lophantha, Aralia Sieboldii, many ornamental grasses, and other things of great service for table and indoor decoration, can be obtained from the seedsmen, and if some are sown now it will be a means of getting stock cheaply, and the pleasure of growing plants of one's own raising makes such a course the more attractive.—*M. A., Camb.*

FRUITS, FLOWERS & VEGETABLES.

Replanting Narcissi from Pots.—Since Narcissi became so popular as they are now, immense numbers are grown in pots in cold frames or cool greenhouses for greenhouse or indoor decoration during the first months of the year. Generally the finest and most expensive are thus treated, and though the majority are cheap, many are comparatively dear, not to mention new or rare kinds. Of the single varieties, when guaranteed true, Ajax maximus would be about 1*s.*; Bicolor Horsfieldi something more; B. Empress 2*s.*; Lorifolius Emperor, 2*s.* 6*d.* each, and so on. Now in these economical times, many masters and mistresses will prize their gardens all the more if they take care that those and other Narcissi beauties are replanted to bloom another year. It will not do to throw the pots aside from the conservatory when done blooming; they should be transplanted out of the pots in a rich soil full in the sun to ripen and mature.—*W. J. Murphy, Clonmel.*

Imantophyllum Mrs. Laing.—It seems as if the Imantophyllums are gradually becoming more popular, as they are more frequently seen now than formerly, and as easily grown showy plants they well deserve attention. An extremely fine variety was shown by Messrs. J. Laing & Co., Forest Hill, at several exhibitions last week, and was certificated at the Regent's Park and Crystal Palace under the above name. It is chiefly notable for the great size of the flowers and truss, the petals being broad, round, and of a fine orange tint, very bright and effective. Very few Imantophyllums have been honoured with certificates up to the present time, but the one named deserved the award as constituting an excellent type.—*A Bulb Grower.*

Primrose Harbinger.—In such a season as this has been, flowers of all kinds are especially welcome, and amongst them now we have a few Primroses, which are just peeping out from their crowns of leaves. With them we have a few roots of Gilbert's Harbinger, which is simply charming and excites the admiration of all who see it. The flowers are more abundant than in the common form, considerably larger, white or creamy with a yellow eye, quite distinct from all others, and a fine companion for any of the dark-coloured forms. It is the Primrose of the future, and it retains its character so well that it will undoubtedly form a new race of these favourite spring flowers.—*T.*

Streptosolen Jamesoni.—This pretty plant ought to find a home in every greenhouse where variety is appreciated. The colour of its Browallia-like blooms is rather uncommon at this time of the year, but it is needless for me to describe it. It should be sufficient to say that although not a free bloomer, it is well worth growing on account of the lasting qualities of its flowers, a single spike or raceme of which will continue to flower for six weeks or two months, so that a plant with three or four spikes looks very pretty for a long time. The cultivation of the plant is very simple; cuttings taken any time in spring will root as freely as Heliotropes, and as soon as they are rooted they should be potted into 3-in. pots, using equal parts of peat, leaf-soil, and loam, with a dash of sand to keep the whole open. After potting return the plants to the propagating frame or some other warm place, and gradually inure them to more air. Pot on as required, pressing the soil down rather firm. In the middle of June the plants may be placed in a cold frame, where they will grow freely until the approach of frosty weather, when they should have a light position in the greenhouse. It is necessary to keep them near the glass, as they show a decided tendency to become leggy. Treat them to an occasional dose of liquid manure, and a nice show of bloom in March and April will reward the efforts of the cultivator. I ought, perhaps, to have said that the plants should on no account be stopped after the middle of June.—*J. W. L.*

Primula obconica.—Your correspondent "J" p. 472 has not said a word too much in favour of the merits of this beautiful species. As he has just pointed out, it is far superior to the many forms of Sinensis, both for its flowers in a cut state, and when grown in pots for decorative purposes. For the past two years I have grown no other species for indoor work, and here it is a general favourite. I know of no other species of Primula which possesses such neat compact foliage, or delicately coloured blooms as is so characteristic of this plant. I do not agree with the suggested mode of increasing the stock by division, but prefer to do so by means of seeds. Seedling plants will, when established, make better plants and flowers more freely than when divided. I sow my seed in April and grow the plants on freely during the summer. In the autumn there is a good display of bloom, and after Christmas I top dress the plants with a little decayed cow manure, thereby prolonging the flowering season until midsummer. If this species would intercross with Rosea, Auricula, Sinensis, or any of the coloured species, and thus secure greater variety of colours, with its handsome foliage, such a one would prove a real acquisition. I cannot say that I have any great admiration for Primula floribunda; it is not robust enough for general cultivation.—*The Squire's Gardener.*

Wallflowers in Pots.—I have grown these spring gems for a number of years without taking anything like so much trouble with them as your correspondent "Con." My mode is as follows:—Early in April I sow the seed of a dark variety of single Wallflower of my own selection. When large enough to handle, I plant them in a bed 18 ins. apart, in poor land rather than rich. These plants in September are good bushy specimens, and are then lifted, potted in turfy loam and manure, stood at the back of a north wall on coal-ashes, until the roots have taken to the pots. They are then placed in a cold house under Marechal Niel Rose-trees. The only trouble we take with them is to water them, and they flower most profusely. Just now (March 29th) I have numbers of pots with from fifteen to twenty spikes of flower, which for scent fairly eclipses any other plant of my knowledge. It will thus be seen that artificial heat is not necessary. I look upon cool houses as the most useful structures we have. A cool house, at the present time belonging to Mr. Gilbert, at Bourn, I see noticed in your last, on p. 468. This house is managed by Mr. Gilbert personally, and is the first he ever had under his charge, so that simplicity with him has proved a success.—*R. Gilbert, Burghley.*

Spiræa (astilbe) japonica.—I see in one of the gardening periodicals that a correspondent recommends the growing of these plants in pots all through the summer previous to forcing. This plan must entail a great amount of labour, and I am quite sure there is not the slightest necessity for growing them in this way where a good rich border can be spared to plant them in. We always plant them out, and thereby save ourselves a great deal of labour, and many of our plants now are carrying thirty or forty spikes of bloom each. We do not lay down any hard and fast lines on which to proceed; but as soon as the plants have ceased blooming they are removed to a cold frame, where they are protected from frost until all danger from that source is over. They are then turned out of the pots and planted on a rich border facing south; here they remain about eighteen months, requiring very little attention, excepting an occasional watering in dry weather, keeping clear of weeds, and picking off any flowers as soon as they show. We always have two batches, and so can afford to let them have a long season to recruit their strength. When required for forcing we take them up any time as the foliage disappeared, and put them into the smallest pot we can get the roots into, they are then placed in a cold frame, and drafted into the forcing pit as required. When put in heat we place saucers of water under the pots, as no plant is more impatient of dryness at the root than this Spiræa. Once allow it to get dry, and you mar the beauty of the plant for that season, as the leaves are sure to curl up and turn brown.—*J. W. L.*

Megaseas.—The broad thick-leaved Saxifragas to which this name is applied are attractive garden plants for early-flowering, but, this season, like most other plants, are very late, and, moreover, are considerably injured by the frost. I have some large clumps of cordifolia and its variety, purpurea, which seem almost past recovery, and though they have been grown in the same position for a dozen years, they have never suffered so much before. Curiously, the handsome M. Stracheyi, which some have found more tender, has quite escaped; but it occupies a rather sheltered corner.—*M.*

Specimen Fuchsias.—The question with reference to the growing of large specimen Fuchsias in many minds resolves itself into this—the inconvenience of keeping such large monsters safely through the dormant season, which must of necessity be rather a lengthy one. In the greenhouse when out of bloom after their flowering time is past, the plants at once become unsightly objects, and require to be safely placed away out of sight altogether, until the season for reaction comes round. Where there is the convenience many keep the plants underneath the plant stage, but in most instances with large plants this becomes a difficult matter. In some establishments there is no lack of stowage room, such as good sheds, &c., where such plants can be safely and properly housed for five or six months, and where easy access can always be had for the little attenion required, such as, perhaps, an occasional watering, &c. Some of the varieties of Fuchsias can be very quickly grown into specimens compared to that of other kinds. The late William Cole, sen., about 1843, fully demonstrated this fact, for in something like nine months he produced some remarkably fine plants with which he was very successful wherever he exhibited them. This happened to be the beginning of his career as a master hand at plant growing for exhibition purposes. Some varieties are naturally of a free constitution, and can be freely pushed on, and soon make fine plants of almost any shape by constantly and judiciously stopping the young growth, and other varieties can be grown which require but little attention as regards stopping or pinching of the shoots, being of a more dense growing character. As an illustration of this I may state that I have sown seed in the month of February, and have had them in bloom at the end of June and the beginning of July, some of the plants showing bloom when only 10 ins. high, handsome specimens from 1 ft. to 2 ft. of close growth, supported by perhaps only one central stick. Some of my Fuchsia friends can verify this statement. As a matter of course if large plants be the desired object to be attained, time and space are the only considerations, the manipulating detail in their cultivation being in my estimation of an ordinary character in the hands of a skilful and painstaking grower.—*George Fry, Lewisham.*

Onion Culture.—In my opinion the quality of the soil is the first thing to look to if success is to be attained in Onion culture. A good heavy loam will grow Onions well if worked properly. Trench two spits deep, and manure heavily with cow and horse dung mixed. Put the manure below the top spit, and trench in in the winter or early spring, if possible, and subsequently a light dressing of lime, soot, and sand mixed (the sand makes it spread more regularly), will be beneficial. Before sowing—about the 1st of April—I tread the ground, rake it level, mark out the beds, and sow in rows 9 ins. apart, returning the soil back to the rows with the back of the rake; then I get some quicklime, soot, and sand mixed, sprinkle it along the rows, and pat the rows gently over. I consider that the top dressing after sowing is of more benefit than gallons of poisons put underneath, especially in heavy and open loamy soils. Light soils should be very heavily manured with cow dung, and must also be trench dug. To grow large Onions on a light soil plenty of water must be given to the beds. I do not approve of a light and open soil for Onions, but where it cannot be avoided there a constant supply of moisture must be kept up. I sow the Onions here thinly, and do not thin them out except when used for table, and I gather bushels of good sized and clean bulbs. The ground here is yellow loam on the heavy side, and I do not hesitate to say that old dark loamy soil will grow Onions equally as well as new or fresh soil. Also to grow them always on the same piece, and find the crop always improves. Nourishment and trenching are what I believe essential to success.—*J. L.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Most of the plants desired to be increased by propagation, both foliage and flowering should now be sufficiently forward and quite ready for potting off, and let this be done without further delay: pot off singly into small 60's, afterwards placing them in good warm quarters where they may readily start—after being disturbed—after which those that may require cooler treatment, must be removed accordingly to more airy situations to encourage a sturdy growth. Should it be necessary to place them in cold frames, let them be sparingly ventilated for a time, and matted up at night; Salvias, Eupatorium, Libonias, and such like, may thus be treated.

Look to the stock of Solanums and keep them growing, so that they may be well advanced preparatory to planting out. Callas, which have been forced, will now be going out of flower, let the stools be placed anywhere where they can be kept well watered, because being an aquatic (or rather delighting in the treatment), they must not be allowed to suffer for want of water. The stock of Fuchsias should now be well advanced; where sufficient cuttings have not already been obtained, put them in without further delay; let the old plants be liberally treated, so far as heat and moisture is concerned, preparatory to receiving another shift, after which cooler treatment will suffice.

The Zonal Pelargoniums which have been in the Peach-houses, and which have made a good start, we are now putting on the greenhouse stage by themselves; by this means they can be better attended to than if mixed with other stuff.

Our stock of Chrysanthemums potted off a short time since, have made a good start, and have had the points pinched out of them. This will give us numerous breaks, and lay the foundation for a good stool; they are now freely ventilated, and we shall, within a day or two, place them in the cold frames. We have removed all bedding Pelargoniums from the vineries, as they had become well established; and, moreover, they were getting in the way of the necessary operations to the Vines. All bulbs, such as Tulips, Hyacinths, and Narcissus will now come on sufficiently fast in frames facing the south, and be more satisfactory than if placed in heat. Attend to the bringing forward of Azaleas, as may be required, for decorative purposes.

THE FORCING HOUSES.

Little can be added to last week's calendar with regard to the work, both with the Vines and Peach trees, only be careful that there is no neglect. In the early vinery, if the Grapes have begun to stone, maintain a steady temperature of 68° by night, 75° by day, running to 85° with sun heat; while the cold winds prevail ventilate cautiously for fear of rust, damage in this respect is frequently caused at this season of the year by the ventilators not being opened early enough in the morning, the sun now having great power, the temperature rises very rapidly, and then six inches or more is put on at once with rust as a consequence.

Let the thinning of the fruit on the Peach trees be carried on as soon as it can be discerned which are likely to be the most perfect and best placed. In the late houses disbud and heel in as soon as sufficiently advanced, for these are operations which must not be neglected, or great damage will be done both to the crop and to next season's wood. As the Strawberries go over, let the shelves be renewed from batches from the other houses; should the red spider have made its appearance upon those which have fruited before placing others where they have been, have the sash bars and shelves well washed with soapy water, and give all a good syringing after, as one cannot hope for good Strawberries if the plants are infested with spider.

Attend to the Melons and Cucumbers as previously advised, and if any young plants have filled their pots with roots, and they are not required for planting at once, let them have a good shift that they may be kept growing. It will be advisable now that the French Beans should be grown in cooler quarters, the Pine stoves and Cucumber houses are too hot; we are now putting ours on the stages in the Peach houses, here they will receive abundant syringing so very necessary to keep them clean, and also the lower temperature will give us better pods and prolonged gatherings; as to varieties, we find none equal to the old Pale Dun for spring work, but for autumn and winter, we rely solely upon Osborne's Forcing, which although rather small in the pod is very persistent in fruiting in midwinter.

THE KITCHEN GARDEN.

But for some heavy rains which we have had, we should have made good progress in this department. Should it hold fine, we hope to finish Potato-planting this week. The ground is in capital condition, consequently planting proceeds apace. The small seeds which we sowed on the 11th of the month are nearly all up; the nets are left on as a protection against the birds, and it also greatly helps to break the wind from the plants. Savoys, Broccoli (Autumn), Cauliflower, Brussels Sprouts, Couve Tronchuda, and so on, are in full row.

We have also sown what herbs it was necessary, such as Sage, Thyme, and Savory; by sowing a packet of each annually, a good stock is easily kept. Parsley we sowed as advised last week, and we also put in half a dozen drills of early Beet-root, deferring the sowing of the main crop for another fortnight or more. We also made, on Friday last, another sowing of Peas, including Telephone, Satisfaction, and Duke of Albany; the last-named did well with us last season. At the same time we put in a couple of rows of Broad Beans, and we have yet a sowing of Windsor to make. Having prepared specially a square of ground for Asparagus, we marked out the beds, and instead of waiting to put out plants, we have sown seed in drills, four in each bed, 1 ft. apart, as an experiment, the result of which I hope at some future day to give to the readers of THE GARDENING WORLD.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Orchid Calendar: Potting Calanthes.—The present is a very good time to pot all these, although in some places, no doubt, the varieties of C. vestita and C. Veitchii have been ready for the operation, and have been attended to. C. Turneri, the varieties of C. Regnieri, and some of the other newer varieties are not so early in their flowering and growing, and it is not well to re-pot any of these Calanthes long before their growing time. Where it is considered convenient to pot all together, it is better to keep the vestitas until now than to re-pot those not ready with them earlier. However, where attention can be given to each in their turn, they may be re-potted as soon as the young growths are seen to be coming well on. Those who grow these plants will get admirable results by potting them in almost any material, while others seem not to be able to do them to perfection no matter what care they may take with them. The chief points to be observed to ensure success, are to re-pot at the proper time, to water sparingly until the new roots are taking hold, and afterwards, liberally, and to give plenty of moist heat, and in a good light situation in a shaded house until the bulbs are fully made.

Some who have had but poor success with these plants when grown in pots and on the stages have grown them to perfection by placing them in Orchid pans, and suspending them near the glass. Whenever they are not doing well, it should be considered that there must be, in most cases, a remedy available, as they are very easy plants to manage when once the proper way is hit upon. In the matter of potting material for Calanthes various mixtures are recommended. For my part I have had the best results with that composed of two-thirds turfy yellow loam, and the rest made up of equal parts of broken charcoal, dried cow-dung, and sphagnum moss. This is a good mixture which admits of and retains the weak liquid manure, which gives such a help to these plants when growing.

In potting, the extra large bulbs can be put singly in 6-in. pots, three or more smaller in 8-in., and the little ones which it is required to keep in stores. The same mixture as that recommended for the Calanthes does well for most of the strong growing terrestrial Orchids such as Phajus, Calanthes of the veratrifolia section, &c., or where the loam cannot be got of a good fibry quality peat should be used, with a sprinkling of leaf mould added. There is no doubt that a little help from a safe and mild manure is of great service to terrestrial Orchids, but if great care is not exercised in using it and giving it of an uniformly low strength it is better to leave it alone. Shade is very essential to

most terrestrial evergreen Orchids such as Phajus, and whereas bright sunlight stunts them; a position in a shady part of a healthy warm house often causes them to grow to a large size. It is advisable from henceforth to keep the fires well in check, to give air freely, and to shade carefully when the sun is strong.

The Temperatures for the Month of April should be:—Warm or East Indian house: 65° to 70° by day, 60° at night. Cattleya or Intermediate house: 60° to 65° by day, 55° at night. Cool or Odontoglossum house: 55° to 60° by day, 50° at night.—*James O'Brien.*

Cattleya Trianæ.—There is a variety of this now in flower at the Queen's Road Nursery, Cheltenham, which is quite distinct from any C. Trianæ I have seen. The flower is 7 ins. in diameter, sepals and petals almost white, the latter 2½ ins. wide, and at the extreme end they are blotched and streaked with rose in a very pleasing manner. The lip is well formed, being of a dark purple with the usual yellow throat. When I first saw the plant I doubted whether this colouring in the petals would remain constant; but on looking at it more closely, I saw that the plant was well established or rooted, and the bulb bearing the two flowers coloured exactly alike was also strong and matured. Mr. Cypher's large Cattleya-house seems to be answering admirably, as the well-grown plants therein show for themselves. One very fine of specimen C. Mossiæ with thirty-six flower-sheaths, still occupies a place although sold; this plant, a year ago, was an imported piece. Lovers of Lycaste Skinneri would now, at the same place, find numbers of very choice varieties ranging in colour from almost white to the deepest shade of red. —*T. Simcoe.*

Dendrobium Wardianum.—A splendid variety of this grand Orchid is now in flower in the small but choice collection of A. Humphreys, Esq., Holly Mount, Hornsey Lane, Highgate. A small plant was purchased about two years ago, and it is now only in a 6-in. pot, but has made several fine bulbs, the one now in flower being 4 ft. in length, and bears thirty magnificent blooms. Mr. Reynold, the gardener in charge, believes this Orchid can be much better grown in small pots than large ones.

Sale of Flowering Orchids.—A particularly choice lot of flowering Orchids were brought together at Messrs. Protheroe & Morris's, 67 & 68, Cheapside, on Tuesday March 30th, and a good company assembled to compete for them. Among the most most rare were Dendrobium nobile pulcherrimum, with almost white flowers, and crimson throat to the labellum; the pure white Lycaste Skinneri alba, with four fine flowers; Odontoglossum nævium majus (true), and O. Pescatorei Vervaetianum, which last brought forth a bid of 48 guineas.

FLORICULTURE.

The Dahlia.—It is said, by those who propagate Dahlias largely, that many of the roots put into bottom-heat for the production of shoots from which to make cuttings are breaking up badly: and, further, that the losses of ground roots during the winter has been unusually heavy. Probably the severe winter had something to do with this; but a fungus which developed itself last summer, and especially in the latter part of the season—more.

It is thought that Dahlias will be in large demand in the spring, probably owing to losses through the frost.

Amateurs who have a few Dahlia roots and want to get sure cuttings, should put them to work as soon as they can make up a hot-bed, if they have no propagating house. Young growths will come much more quickly now than at an earlier period of the year, and as soon as they are from 3 ins. to 4 ins. long, they can be taken off and put into pots or light sandy soil, several in a pot, pressing the soil firmly about them, and then returning them to heat, where they will soon root; and afterwards should be potted off singly into thumb pots—again put into heat until they have somewhat established themselves, then they need to be hardened off. What the propagator should particularly guard against, is drawing the young plants in excessive heat, for then they are apt to become spindly and weakly, and do not produce good flowers; what he should aim at, is to have the plants stocky and sturdy: as hard and wiry as possible.

Pot roots of Dahlias need not be started into growth so soon, they do not require so much heat as spring propagated plants, and will come on more gradually. All the plants that are to be planted out to flower, whether they be early struck cuttings or pot roots, should be potted on into larger pots during April, so that they may grow into strong specimens to put out the first week in June, taking care to keep them dwarf, healthy, and clean.

Seed of Dahlias can be sown now in a brisk bottom heat. If it is a hot-bed, care must be taken that the heat is not too fierce. We have known amateurs completely roast up their seedlings by having them in too high a temperature. Prick off the seedlings into store-pots as soon as possible, pot them singly into thumb pots, and grow them on into size, as soon as possible, in order to have them strong for planting out to flower. —*R. D.*

Auriculas.—The Auricula cultivator who is calculating on being able to show a few plants on April 20th, is much more sanguine of his ability to do so than he was a fortnight ago. As soon as the weather mercifully changed, the Auriculas appeared to leap up responsive to it. They may be said to be galloping along; but whether they can be had in bloom by the 20th remains to be seen. I do not think I ever saw plants grow faster in so short a time, and they are very strong also; and it is wonderful what they will do in the way of development when their time comes, provided, also, that is a kindly time—warm, sunny and genial. I think, unless during the early part of the month the plants had the advantage of a little artificial heat, some of the green edges will be late in developing, and only the best weather will help them. With me such sterling Auriculas as George Lightbody, Lancashire Hero, Alexander Meiklejohn, Richard Headly, and Acme will be late, and I fear they will not be in by the 20th, and if attempts be made to hasten them by keeping them close, injury is done to the plants; so it is best to let them have a free circulation of air, so long as it is soft and kindly, trusting to nature to do the rest Besides, keeping the plants close causes them to become drawn, and greatly helps the development of green-fly.—*R. D.*

HORTICULTURAL SOCIETIES.

Crystal Palace.—*March 26th* and *27th.*—The horticultural season at the Sydenham Palace was opened on Friday last with a spring show of bulbs and miscellaneous plants, which occupied the whole of the centre transept, and were arranged in the usual way, namely, on high tables. The exhibits required less space than has been customary at this show; but the season has had its effects upon indoor as well as outdoor plants, and the competition has not been very brisk at any of the London shows at present. The Hyacinths were good, but not of remarkable merit, for though the colours were clear and the bells well developed, the spikes were mostly rather deficient in size; and Tulips, though bright, were somewhat weakly. Perhaps the most satisfactory exhibits in these classes were the Lilies of the Valley from Messrs. H. Williams & Sons, Finchley, which were some of the finest specimens that we have seen for sometime, the crowns had been carefully selected, the spikes were long and stout with large pure white bells, and accompanied by sufficient foliage to give the plants a beautiful appearance. Auriculas were not represented, and Cinerarias were very poor, only one exhibitor staging a dozen plants, which were amply honoured with the second prize awarded for them. Mignonette was also rather scarce, the best being the standard tree Mignonette from Mr. A. Cuff, gardener to R. R. Hyatt, Esq., Leigham Court Road, Streatham. Cyclamens came from the St. George's Nursery Company, and Mr. W. Clay, Kingston, the plants being admirably grown, and flowering freely. Messrs. J. Laing & Co., Forest Hill, had a handsome group of miscellaneous plants comprising some choice Orchids, Imantophyllums, and foliage plants. Three were selected for certificates, namely, Cattleya Lawrenciana, Imantophyllum Mrs. Laing, and Begonia Gloire de Sceaux, the two former have been noted at previous shows; the Begonia has dark green leaves, and pink flowers very freely produced. A handsome group of Roses in pots from Messrs. Paul & Son, Cheshunt, were exceedingly attractive; the foliage plants from Mr. F. Bause, South Norwood, and the Daffodils from Mr. T. S. Ware and Messrs. Barr & Son formed similarly attractive groups for all of which special prizes were awarded. There was a good attendance of visitors on the two days, especially on Saturday.

Flower Show at the Royal Aquarium, Wesminster.—*March 30th* and *31st.*—The first of the series of Floral Exhibitions arranged to be held here this season under the superintendence of Mr. Richard Dean, was held on Tuesday and Wednesday, and considering the shortness of the notice given to exhibitors, the result was an entire success, and such as we may reasonably hope will lead to further developments in the same direction. The schedule was a model of simplicity, and well calculated to bring about the desired result—a pleasing display of spring flowers, composed in the main of bold effective groups, rather than small classes of a greater variety of subjects; and the gorgeous banks of Daffodils and Cyclamens, especially with the Hyacinths, Tulips, Cinerarias, &c., as seen from the galleries, left little to be desired from a picturesque point of view.

Without going too closely into detail, we may remark that from a cultural point of view the Cyclamens were the best things staged, and certainly the group of fifty large specimens from the St. George's Nursery Co., were such as we have seldom seen surpassed. Mr. J. Wiggins' first prize collection of twelve was also made up of first-rate examples. The class for fifty Hyacinths was also a good one, though the flowers had lost some of their lustre; and here the first and second prizes respectively went to Mr. H. R. Wright, of Lee, and Messrs. H. Williams & Sons, Forters Green. The Tulips also lacked somewhat in brilliancy, and in this competition the last-named exhibitors changed places. The exhibitors of collections of cut Daffodils comprised such extensive growers as Mr. T. S. Ware, Messrs. Barr & Son, and Messrs. Collins Brothers & Gabriel, and the last-named firm with an admirable group secured the first prize. The Narcissus classes were poor, owing to the bad weather, which also had such a damaging effect on the Hyacinths and Tulips. Messrs. H. Williams & Sons won a first prize for a capital group of market plants, and another for Lilies of the Valley of unusually fine quality. Messrs. James Carter & Co., easily took the first prize for fifty Cinerarias; and among subjects of a miscellaneous character may be mentioned a pretty little group of hardy spring flowers from Mr. A. Dean, Bedfont, and some cut blooms of single zonal Pelargoniums of inimitable quality from Messrs. H. Cannell & Sons.

Obituary.

We regret to record the death, on March 26th, at Rough Bank, Sheffield, of Mr. John Simonite, inh is 86th year. Mr. Simonite, who was the father of Mr. Ben. Simonite, the well-known raiser and cultivator of florists' flowers, and himself a raiser and cultivator more than half-a-century ago, caught a chill about three weeks ago, which brought on bronchitis, from which he never rallied. In florists' flower circles much sympathy will be felt for Mr. Ben. Simonite, who had his father's assistance in his garden up to the commencement of the illness, which resulted in his death.

By the death of Mr. T. B. Cutts, which took place recently at his residence, Malvern House, Mapperley Road, Nottingham; the Nottingham and Notts Horticultural Society (of which he was president), and the St. Ann's Floral and Horticultural Society, have lost a liberal and enthusiastic supporter. Mr. Cutts was an ardent lover of plants, and especially of Orchids, of which he possessed a fine collection, and took a warm interest in all local horticultural movements; of a highly generous and benevolent disposition, and largely interested in the staple trade of lace manufacturing, he was universally respected by his fellow townsmen who, to the number of over 2,000, attended at his funeral.

QUESTIONS AND ANSWERS.

Growth on Lawn.—*J. D.:* The unwelcome plant on your lawn is a lichen, often called Rags, Hazel Crottles or Lungwort; its name is Sticta pulmonaria. It generally grows on tree trunks or amongst roots of bushes. We know of no remedy against it. If there is not too much it might be removed with a small sharp knife and burnt.—W. G. S.

Gourds.—*L.M.:* Sow the seeds this month in gentle heat, grow the young plants on near the glass until about the end of May, when late frosts may not be expected, and then plant them out-of-doors the same as Vegetable Marrows. If you have no heat, sow the seeds in May under a handlight.

Shading Greenhouse.—*L. M.:* If you do not wish to go to the expense of blinds and rollers, the best plan would be to use Williams' Eureka Shading mixture, which is put on the glass outside with a brush, and will not come off unless rubbed off when wet. Being white, instead of pale green, it softens the light and answers admirably.

Fumigation.—*L. M.:* Yes, to cleanse them of dead insects. If any are in flower, you must, of course, wet the blooms as little as possible.

Amaryllis and Lilium.—*L. M.:* The Amaryllis are late generally this season, but should be showing signs of flowering now. Put them in a warm pit or greenhouse, water sparingly until the roots get active, and then more liberally. The flowers will be produced before the leaves. If the roots of the Lilium auratum are sound, they will come along naturally and in due time. There is nothing gained by hurrying them.

Black Currant disease.—*W. H. M.:* The disease is known as "Double-bud," and its cause is a small mite. The only remedy is severe pruning, especially in the Autumn, taking care to burn all the affected shoots.

Briars.—*W. H. M.:* Leave them as they are, and bud on the original stock. If you adopt the other plan, you will not be able to bud them this season.

VINES SCORCHED.—*A. M.:* Judging from the appearance of the leaves, we should suppose that you have been keeping the atmosphere too warm and moist, and the bright sun has caught them when they have been bathed, as it were, in dew—hence the scorching. The remedy will be found in giving more air, and especially early in the morning, to dry the leaves before the sun comes out strong. A slight shading will do no harm until the leaves gain in texture. The pruning had nothing to do with it.

ORCHIDS.—*Tyke:* 1, *Orchids* by Mr. Lewis Castle (which can be obtained from our publisher), for 1*s.* 1*d.* Burbidge's *Cool Orchids* (Bogue). *Orchids for Amateur's* (Bazaar Office, Strand). 2, You will find a good list, and much useful information concerning the best kinds of orchids to begin with, in our number for September 6th, 1884.

HARDY FERNS.—*J. W. L:* There are very few cheap illustrated books on Hardy Ferns, but Johnson's *British Ferns* (3/6), published at 171, Fleet Street, will perhaps meet your requirements.

NAMES OF PLANTS.—*R. H. A. G.:* 1, Polyanthus Narcissus "Pearl"; 2 and 3, Narcissus Telemonius plenus, this variety often varies, some having perfect trumpets, while others are broken; 4, Too much decayed for identification, it may be Telemonius plenus, or Lobularis plenus; 5, N. tortuosus. *M. M.:* Chionanthus retusus, a capital shrub for forcing. *A. M.:* A variety of Juniperus virginiana.

COMMUNICATIONS RECEIVED.—W. B.—H. W. W.—J. N.—J. J. N.—T. W. S.—E. P.—G. F. W.—J. D.—C. T.—T. B. W.—Argus—J. G.—B. & Son.

TRADE CATALOGUES RECEIVED.

M. CUTHBERTSON, Public Park Nursery, Rothesay, N.B.—Selected Garden and Flower Seeds.

CHARLES TURNER, Slough.—General Spring Catalogue of Plants.

VICCARS, COLLYER, & Co., Central Hall, Leicester.—General Catalogue of Seeds and Plants.

LONDON SEED TRADE.

March 31st, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a more active demand for Agricultural Seeds generally, with no change in values. Red Clover still plentiful, and the quantity of English Seed now coming forward is greatly in excess of what was expected. White and Alsike are firm at late quotations. Trefoil still very cheap, and almost entirely neglected. Spring Tares dearer. Rye Grasses meet with fair demand, and prices continue very low. Rape in good request at increased rates, and this article is likely to advance in value. No change to report in Bird Seeds.

COVENT GARDEN MARKET.

April 1st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes, per lb.	2 6	8 0	Pears ... per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	1 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0	3 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 8		Onions, per bushel	5 0	6 0
Cabbages .... per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 6	3 6
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

POTATOS.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acacia mimosa, French per bunch	1 0	1 6	Pelargoniums, per 12 sprays	1 0	1 6
Anemone, French, 12b.	3 0	6 0	— scarlet, 12 sprays	0 8	1 0
Arum Lilies, 12 blms.	4 0	8 0	Primula, double, bun.	0 9	1 6
Azalea, 12 sprays	0 6	1 0	Primulas, Chinese, bun	0 4	0 6
Bouvardias, per bun.	0 6	1 0	Roman Hyacinths, 12 sprays	0 6	1 0
Camellias, 12 blooms.	1 6	6 0	Roses (coloured)	4 0	9 0
Carnations, 12 blooms	1 0	3 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea ,,	2 0	3 6
Daffodils, per bunch	0 3	1 6	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.			Tulips, 12 blooms	0 9	1 0
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9
Marguerites, 12 bun.	4 0	8 0			
Mignonette, 12 bun.	4 0	12 0			
Narciss, 12 bunches	4 0	8 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	10 0	15 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.	6 0	9 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bouvardias, per dozen	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Narciss, per dozen	8 0	12 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Daffodils, per dozen	9 0	12 0	Pelargoniums, doz.	18 0	24 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen	12 0	15 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots	6 0	9 0
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 6			

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NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, APRIL 13th.
MEETINGS of the NARCISSUS COMMITTEE at 11.30 a.m., and 2 p.m.
THIRD PROMENADE SHOW and small Band of the Royal Horse Guards, from Half-past Three o'clock p.m. Admission 2s. 6d.
N.B.—Entrance for Fellows and the Public, North-east Orchard House, Exhibition Road; and Exhibitors' Entrance, East side of Royal Albert Hall.

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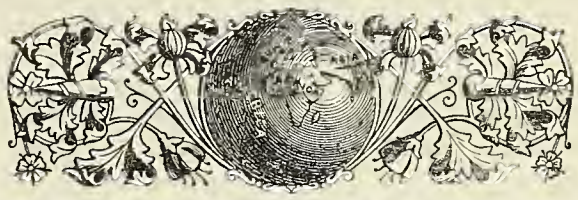


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 10, 1886.

TOBACCO.—Doubtless to gardeners, who have long been familiar with the Tobacco plant as a decorative element in sub-tropical gardening, there must seem much that is amusing in the proposal almost gravely put to pull, or endeavour to pull, agriculture out of its present depressed state by the culture of Tobacco. Apart from any other considerations, it seems a very odd suggestion that is now made to devote the land to the growth of a crop which, let it be ever so valuable pecuniarily, is not food, cannot benefit the myriads wanting food, and offers but little in any way that can create wealth or promote national prosperity. With the economic or even moral aspects of the project we have here little to do, although such aspects must receive full attention in the proper place. But we have now to deal only with the cultural aspects of the suggestion; and here the experience which gardeners have obtained through years of cultivation of the Tobacco plant may stand us in good stead.

To many of our readers, no doubt, the proposal to embark on a large, indeed, national scale in Tobacco cultivation as a field crop reads about as practical as would be one to raise fields of Balsams, Castor Oils, or similar tender plants. Even in gardens we have always found it needful to afford Tobacco plants high cultivation, warm corners, and sheltered spots, and even with all this care and protection the plants have been but fair, with no special effect to boast of. What would be the condition of a large expanse of Tobacco plants devoid of shelter and fully exposed to all the winds and storms of the season we can well imagine; and whilst in specially warm quiet summers the plants may not be materially prejudiced, yet it is certain that during cold stormy summers they would suffer very appreciably, and broken stalks and torn or damaged leaves would at once represent heavy loss.

Now, in our habitual yet small way in rearing Tobacco plants, we have sown under glass and usually in gentle warmth. The seed is exceedingly small, and as the plant is of a truly tropical nature, it is obvious that seed sown in any fashion, however carefully, in an open field must suffer, indeed, would in most cases, if so exposed, either perish or else germinate too late and too slowly to give a profitable plant. Of course it would not be possible to grow the plants densely, hence it may not prove absolutely impracticable to raise many thousands of plants in frames in the spring, and then plant or dibble them from the frames to the open ground when the plants are strong and the weather favourable. Still, it is obvious that where several acres are grown an enormous quantity of plants would be required, and the labour of planting so many out would not be trifling. Then, unless grown thickly, and that can hardly be practicable, it is certain that each plant would need some form of support, and that would again add very materially to the cost of cultivation, both in the price of stakes and the additional labour required to utilise them. Still farther, all labour must be manual, and that would be costly, whilst the ground must have been deeply worked and heavily manured.

Finally, assuming that a good plant is obtained, the cost of drying and of manufacturing the leaves would be great, even in the event—not by any means certain—that manufacturing processes, which would produce an article capable fairly of competing with foreign Tobacco, could be created. We could do many things in this country that just now is not possible, simply because our climate is not favourable. Were it favourable, so far from waiting upon providence to send us a deliverer from our troubles in the shape of Tobacco plants, we should long since have grown our own bulbs, grass and flower seeds, Raisins and Currants, and myriads of things which, if we will have them, we must perforce obtain from other climes.

With the natural warmth and delightful climatic conditions enjoyed elsewhere engrafted upon our more rugged and changeable weather, what would not be possible to the English people? Yet it would seem as if what wealth and prosperity the nation enjoys had grown up rather in spite of than with the aid of climate. In reverting again to this question of Tobacco culture, it is curious to find that whilst gardeners have been growing plants for years in gardens ostensibly for the production of leaves to be dried and used for fumigating purposes and really for decorative purposes, yet, in few cases is this home-grown Tobacco thus employed because the manufactured paper and rag sold so largely in the trade is found to be much more efficacious; indeed, something stronger than mere Tobacco seems to be needed for the destruction of aphides, as, without doubt, other elements than nicotine enter into the manufacture of our chief fumigating preparations. Assuming, however, that it is desirable for this attempt to grow our own Tobacco to be made, and, farther, that it can be conducted profitably, we find in it a crop that is exactly suited for small holdings and allotments, as in such case the growth of an acre or an half an acre, conducted by a small owner or tenant, personally supervised, and with the aid of some glass, would be just the thing to suit his needs and requirements.

Tobacco is such a diverse crop from that of ordinary vegetables, that high cultivation and manuring to produce strong plants would be not less profitable for the succeeding vegetable crop, whether of Potatos, Peas, or Cabbages; and thus the rotation, if the term is fairly applicable, would be favourable all round. Whilst the little cultivators aided by a greenhouse or a few frames could raise several thousands of plants under glass, and thus plant his acre of Tobacco, it would be the duty of some other person or body to act the part of collector and manufacturer, thus relieving the grower of all farther responsibility with regard to his Tobacco crop, and in that way, assuming, of course, the result all round was favourable, then it would be equally profitable. We cannot, however, look hopefully upon a proposition made in the amateurish atmosphere of the House of Lords, because wide knowledge of the difficulties which surround the cultivation of semi-tropical plants here lead to conclusions anything but sanguine in character. The Government has promised a fair trial, and we shall watch the result with great interest.

GARDENING MISCELLANY.

Meetings for Next Week.—*Monday* evening at 7.30, the general committee of the National Chrysanthemum Society, at the "Old Four Swans," Bishopsgate Street, E.C. — *Tuesday*, Royal Horticultural Society: fruit and floral committees at 11 a.m. —*Wednesday*, Royal Botanic Society's Second Spring Show. — *Wednesday* evening, at eight o'clock, the Birmingham and Midland Counties Gardeners' Mutual Improvement Society, subject: "A Fifty Years Retrospect of Horticulture."—Sheffield and Hallamshire Gardeners' Mutual Improvement Society, at 7.30 p.m., Subject: "Cultivation of the Calceolaria."

Daffodils from Ireland.—Mr. W. Baylor Hartland, of Cork, has favoured us with some fine blooms of two forms of Narcissus ajax var. Princeps, the largest of which Mr. Hartland classes with the wide trumpet and petal section; and the other with the Tuscan Bonnet Class. The latter is inseparable from the former, except in its perianth segments, which are of a deeper yellow colour; a circumstance which may, however, be due to situation. The first-named is a handsome flower in the style of Horsfieldi, but both are good things.

Pears from the Cape.—For two or three years past Messrs. Webber & Co., of Covent Garden, have been engaged in the laudable enterprise of encouraging the importation of Pears from the Cape to succeed the home supply, and have so far succeeded in teaching the Colonial growers how to pack the fruits, that they have this season received several very fine consignments, and now have on hand some handsome samples of Glou Morceau, as fresh and perfect as our own fruits in November. The season commenced with Louise Bonne and Beurré Superfin. These were followed by Duchesse d'Angoulême, and now by Glou Morceau, the best samples of which are realizing from 12*s*. to 15*s*. per dozen wholesale, and seconds from 6*s*. to 8*s*. At first the system of packing adopted by the Cape exporters left much to be desired, but such is not the case now, the fruits after their long journey turning out as fresh and plump as they were when gathered.

Todea Barbara.—In the Royal Horticultural Society's garden at Chiswick, there is now a remarkable display of this distinct and interesting Fern, and so large a number has probably never been seen in England before. It produces its large fronds from a short thick irregular stem 2 ft. to 3 ft. high, and as much in diameter, but these dimensions are occasionally exceeded, and one extraordinary example has just been received at South Kensington, which is said to weigh upwards of two tons. Specimens have been obtained before weighing from half a ton to one ton, but as far as we know the Kensington stem is unique as regards weight. At Chiswick, the old orchard house is appropriated to these and other tree Ferns, and quite a tropical scene is presented by the numerous handsome stems of Dicksonia and Cyathea, the majority of which are bearing fine crowns of fronds, and others are developing freely. They are intended for the Indian and Colonial Exhibition, as a portion of the illustrative vegetation to which special houses will be then devoted.

The National Chrysanthemum Society.—It has been suggested that the time has arrived when the valued services that Mr. William Holmes has rendered to the National Chrysanthemum Society in his capacity of hon. secretary should be acknowledged by presenting him with a testimonial worthy of the society; and a committee has been formed, with Mr. N. Davis as honorary secretary, to carry out this object. The success of the society is in a great measure due to the unwearied efforts of Mr. Holmes and to the disinterested zeal at all times evinced by him on its behalf. There is, therefore, strong justification for inviting all members, as well as others interested directly or indirectly in the work of the society, to subscribe to the fund, and we trust that the response will be a liberal one.

Everlasting Peas.—We frequently hear persons complain that they experience difficulty in getting the seeds to germinate. This is by no means an individual experience. As a rule, the seeds should not be more than a year old, as they appear to lose their germinating power somewhat quickly. We have adopted with success the following practice:—We soak the seeds in water for twelve hours—say from 9 a.m. to 9 p.m., then they are taken out and laid on a piece of paper all night, and sown twelve hours afterwards. They rarely fail to grow when so treated, provided they are not too old. The scarce and distinct Lathyrus Drummondi can be raised in this way without difficulty.

Useful Late Potatos.—At a meeting of the Fruit and Vegetable Committee of the Royal Horticultural Society, held at Chiswick on March 30th, Mr. George Bunyard in the chair—present Messrs. J. Burnett, W. Miller, S. Ford, G. T. Miles, and G. Norman—First Class Certificates were awarded to the following varieties of Potatos, as especially useful for late work:—Chiswick Favourite (Veitch), white round, rough skin, heavy cropper, white flesh of good flavour. Bennett's Surprise (Bennett), white kidney, white flesh, good cropper, and of fine quality. King of Russets (Lye), large round, pink, with a somewhat deep eye, white flesh, rough skin, good cropper, and good quality.

ORNAMENTAL CASES OF PLANTS.

Glass cases for the culture of plants in rooms are now coming into general favour, and when well filled with a good selection of Ferns or other plants, they are extremely ornamental. Many of the Filmy Ferns succeed well in such cases, and Trichomanes radicans is an especial favourite for the purpose. Several of the Aspleniums are also well adapted for the same use, selecting the species according to the size; the dwarf A. marinum and A. trichomanes being well suited for placing near the glass, the latter ones of the viviparum type being only employed for the largest cases, or as a central plant. Adiantum Capillus-Veneris is also a good addition to the occupants, as a graceful Fern; and A. reniforme, with its curious kidney-shaped leaves, is a pretty companion for the dwarf species. Pteris serrulata is a free-growing Fern, but should not be placed in a small case.

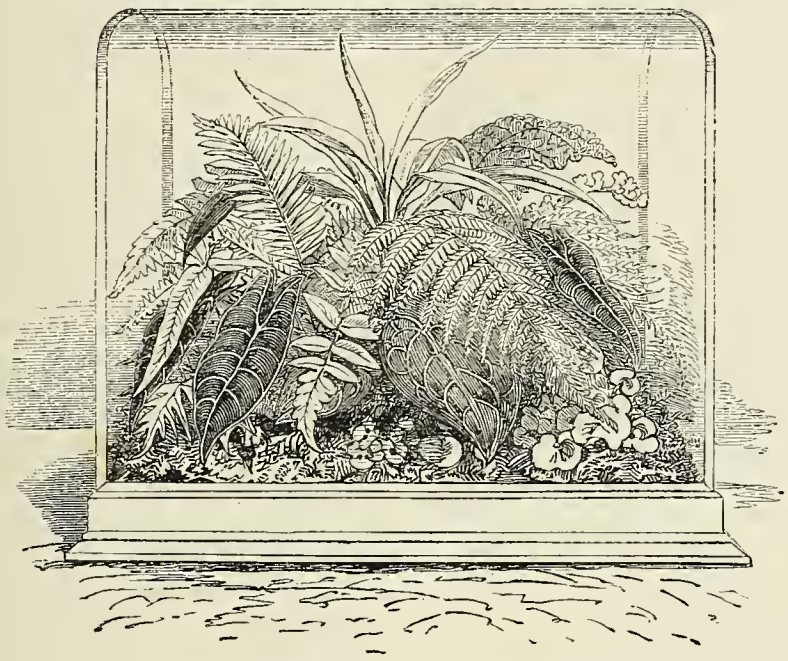
Most of the Selaginellas, the Hymenophyllums, and the Lygodiums, but especially L. scandens are well worth growing in the same way. A few narrow-leaved Dracænas may be introduced when the case has a warm position; the silver variegated Fittonia and Panicums, with any similar plants having attractive foliage can be employed effectively during the summer months, but when anything besides ferns are used, the occupants require renewal more frequently. Water should be

carefully supplied, and the case ventilated constantly, except in the winter, when much less water is needed, and the case can be kept closed for some time without injury.—*R. W.*

SOWING CINERARIAS.

All who grow plants for greenhouse decoration include some Cinerarias amongst their most useful plants, and as we are now sowing seed for the earliest batches, a few hints may be of service to my younger brethren. With the Cineraria, like most other plants, to ensure success they must be treated well from their earliest stages, and at no time must they have a check from being too dry, or the best culture in other respects will fail to produce good results. Prepare a compost of light sandy loam and leaf-mould in equal parts, run it through a fine sieve, and use the rough portions for draining the seed-pans after the crocks are placed in.

The leaf-soil must be free from pieces of mouldy wood or any impure substance of that kind, as Cinerarias are very delicate in their young state. When the pans are filled with the soil, the surface is levelled and pressed with the bottom of a pot; the seed is sown thinly and lightly covered with the finest portion of the soil. Water carefully with a fine rose-can, and place the pans in a warm frame, where they can be properly shaded. It is a good plan to cover the pans with pieces of glass, as these prevent a too rapid evaporation from the soil. When the seedlings are well above the soil, they should be transplanted into other pans, large pots, or boxes, but must be placed in cool, light, well ventilated positions; not, however, where they will be checked by cold draughts, or liable to be dried up by the sun. They are subsequently transferred into 60 pots, and then into 48's, 32's, and 24's, for we flower some in each size, though our finest specimens are obtained in the last named. A richer soil is used for these pottings, namely, more substantial loam, leaf-soil, and a little old manure. Water is freely supplied throughout the summer, as drought is injurious.—*B*



An Ornamental Plant Case for Rooms.

AUBRIETIAS.

The pretty little Aubretias suffered badly during the past winter, especially where they had a position on rather low moist soils; many of the plants turned so brown, and looked so supremely miserable, that they appeared to be quite dead. Happily, the spring weather is reviving many of them; but it is to be feared that an almost entire loss of flowers will ensue in some instances. I find that seedling plants of last summer planted out in the open ground are dead. Perhaps, it was because they had not the firm hold upon the soil that older established plants possessed; and one lesson taught by the past winter in reference to Aubrietias is, that it is well not to plant out seedlings until spring—say at the end of March.

There are two supposed species of Aubrieties, viz., deltoidea, introduced from the Levant in the beginning of 1700, and A. purpurea, from Greece, which did not put in an appearance until one hundred years afterwards. It is supposed, however, that the latter is but a variety of the first named. From time to time many seedlings have been produced, such as Campbelli, Hendersoni, græca, Eyrei, violacea, and others, generally deep in colour and large in size, and affording a pleasing variety. How useful they are for spring work is known to many; but if there is one place more than another where they can be seen to advantage, it is in that unrivalled spring garden at Belvoir Castle, where Mr. William Ingram uses them so extensively on the sunny slopes, where in early spring, sheltered from cutting winds and warmed by the sun's influence, they flower with a profusion that must be seen to be appreciated. A few years ago Mr. Ingram raised some seedlings having pink tints in the blossoms, but I am not certain if he raised anything sufficiently distinct to be employed in association with the blue forms. Still, there is much good work of this kind done at Belvoir that is rarely made known outside the domain.

Now Aubrietias are so accommodating that they will grow almost anywhere. Mr. Robinson has given an excellent description of it as "a little Alpine that will succeed on any soil, and never fails to flower abundantly; even should the cutting winds of spring shear all the verdure of the budding Weeping Willow." This vindicates its hardihood, and one excellent use to which the Aubrietias can be put is for covering rock-work, old stone walls, &c.; while they make excellent edging plants. I have alluded to the use made of them at Belvoir as carpet plants; and gardeners should take a lesson from this, and find them exceedingly useful for carpeting beds of early spring flowering bulbs. For this purpose the Aubrietias might be grown in pots, and the pots plunged in the beds in autumn or early spring, lifting them in spring and again plunging in cinder ashes during summer.

Propagation is easy enough—it can be done either by root division or by seeds. The best time to divide is after the plants have gone out of flower; planting the pieces in a bed on a shady moist spot, pressing the soil firmly about them. They soon root and grow into nice tufts by the following spring. Seeds can be sown in pans as soon as they are ripe, the same being placed in a cold frame, and when large enough be pricked off into store boxes, kept in a cold frame for a time till established, and then stood out in the open air preparatory to being planted out.

There is no common name for the Aubrietia, though it is allied to the Arabis or Wall Cress. It was named after M. Aubriets, a French botanist. But it is one of the most useful plants a gardener can grow for spring use; he can cover many a barren and naked spot with it, however open and exposed they may be, and there is a large tribe for the seedling raiser. Having now so many shades of purple, something distinct in the way of colour is required. Let the raiser of seedlings try in the direction of distinctly blue and pink shades, for they will be found very useful indeed.—*E. W.*

THE PARSNIP.

I wonder who was the first person who began to cultivate the wild Parsnip of Europe as an article of food. We are told on authority that "in Britain it is met with very generally on dry banks in a chalky soil. In its wild state the root is white, aromatic, mucilaginous, and sweet with a degree of acrimony, and particularly when old they have been known to cause vertigo. Willis relates that a whole family fell into delirium from having eaten the roots, and cattle never touch it in its wild state; but when cultivated, it is thick, fleshy, sweet, and mucilaginous. In domestic economy they are very much used, and are a highly nutritious vegetable; in times of scarcity an excellent bread has been made from the roots, and they also furnish an excellent wine, resembling the Malinsey of Madeira, and the Canaries." But who gave it the name of Parsnip? I suppose it is simply a corruption of the botanical name *Pastinaca sativa.*

Some seed catalogues give a long list of the varieties of the Parsnip; I believe in but one only. I sometimes read criticisms on Parsnips by some writers who see marked differences between certain varieties and set them down with the greatest confidence. It is so easy to create imaginary differences; if any differences exist, they are the results of good or bad cultivation. There are fine selected Parsnips, and there are those of an inferior stock, but they are not different varieties. He who sets himself resolutely to work to select a fine stock of any popular vegetable, or a distinct variety of a particular vegetable does a good work. Some go a step farther and make commercial ventures of their selections, and get an advanced price for an old friend under a new name, but they do not create a new variety by doing this, though they distinguish it with the name of one.

When I was in the wholesale seed trade thirty years ago, the common garden Parsnip was asked for under, at least, fourteen different names, according to the part of the country from which the order came, but all were served out of one bin. I remember when the Student Parsnip came out, it was said at the time to have resulted from a cross made between the wild and cultivated Parsnip by Prof. Buckman. It was sent out in packets, and at the time I was in the trade we purchased some from the original vendors, and grew it by the side of our best stocks of Parsnips, and failed to detect any appreciable difference; but there were gardeners up and down the country who wrote elaborate articles demonstrating the differences they saw—or thought they saw, which amounted to the same thing—between the old and the new. A good stock of the ordinary Hollow Crowned Parsnip gives a gardener all that he requires.

In the Isle of Guernsey Parsnips grow very fine indeed, probably owing to the fact that sea-weed is used as a manure. Thus it is that the Large Guernsey Parsnip has come to be looked upon as a distinct variety; but it is not really so. The apparant difference in the variety is all the difference between a bad and a good stock.

It was the remark of an old gardener that "the Parsnips delights in a deep rich soil;" that is the expressive method of stating that it flourishes best in such soil. It should have deeply trenched ground—3 ft. deep if possible—for the Parsnip sends its long tapering root down a considerable distance, and plenty of good manure should be worked in with it. A good Parsnip is sometimes truly spoken of as "buttery"—it is a deep rich soil that gives to the root that pleasant characteristic; and as the Parsnip takes a long time to mature, the ground should be deeply dug and manured before Christmas, and the seeds sown as soon as possible afterwards. I am in favour of sowing early in February, when the weather permits; but this season late sowing is the rule—the frost dominates, and the worker is shut out from operating with the soil. Drill sowing is better than broadcast sowing. There should be a space of from 12 ins. to 14 ins. between the drills, and the plants in the drills should be thinned out to 1 ft. apart. To have fine Parsnips, it is a good plan to dibble in the seeds, making a hole 1 ft. in depth, filling it up with choice rich potting soil, and covering the seeds ½ in. in depth. It will pay to do this under ordinary garden culture; it is of considerable importance in the case of exhibition Parsnips.

It not necessary to speak of summer culture, as the practice of keeping the bed clear of weeds and the

surface soil stirred is known and understood by all. Going on to the autumn the question arises, is it better to lift and store the roots, or allow them to remain in the open ground? I am in favour of the latter practice. I hold that they are less liable to decay; while they keep far better than when lifted and stored away in sand, or any such material. Early in the year, if the ground has to be cleared, the roots must be lifted, and stored away for use.

I suppose the Parsnip must not be included among the more aristocratic vegetables; and yet it is most nutritious and wholesome. I think it ranks next in importance to the Potato, and, therefore, it is a vegetable that should be in every cottage garden. It is better than Cabbage, and especially the bastard and, in many respects, worthless Cabbages found in many cottage gardens. The pig-stye will furnish some suitable manure; and the seed is cheap.

In Guernsey and Jersey, in some parts of France, and also in the south of England, the Parsnip is cultivated for feeding cattle. All domesticated animals feed on them with avidity, and rapidly become fat. Cows fed with them yield butter of a fine yellow colour, and as rich as that produced from the finest pastures. Horses are said to be very fond of the roots, and poultry have been found to fatten well upon them. It is said that in the case of field culture the produce of the Parsnip is heavier than that of the Carrot, and it will succeed on a somewhat stronger soil. The Jersey or Guernsey Parsnip is the one used for field culture; its distinguishing charasteristics are its size, and being larger and thicker towards the top. I have said nothing about the Turnip-rooted Parsnip, as I do not consider it worthy of general cultivation.—*Quo.*

ON PROPAGATING BEDDING PELARGONIUMS.

Had I been asked the question some years ago, undoubtedly I should have replied without hesitating that August and September were the best months in the whole year for propagating; but I have since altered my opinion somewhat, and am now inclined to think that February and March is really the best time for this work. This might appear a strange freak to those who follow contentedly the old and well-beaten track of propagating in the autumn, and without the remotest intention to deviate; but in gardening, above all other things, hard and fast rules cannot be too strictly avoided. A gardener should be guided by the weather, the locality, the resources he has to work upon, the demands made upon him, &c., more than anything else. The man who is content to follow what was practised by his great grandfather not caring to depart from old customs, but going on in a jog-trot sort of fashion, never troubling to try experiments or to find out anything new, that man will never be of great benefit to his brothers of the craft, nor will he ever make his mark in the wide world of horticulture.

In this keen age for cut flowers, and in places where some of the produce have to be sold to help to pay expenses, such as labour, fuel, &c., bedding-out is a sore drag on the garden. I should like to see it banished altogether, and the beds filled with good herbaceous plants, of which there are plenty that would not only take the place of the bedding plants as regards the adornment of the garden, but would do for cutting also. Many gardeners nowadays have to do things the quickest way, the best way, the cheapest way, and the way which has the least trouble attending it; and as long as the bedding-out system does last, why not propagate the plants at a time when they would be a drag on our hands as short as possible? I am inclined to think that spring propagation would effect this to some extent at least.

The propagating season comes in in every garden, large or small, with August and September. Whether there are only a few hundred plants required or some thousands, the cuttings are always put in about this time, either in pots or boxes, as the case may be. These are put outside or in cold frames until the approach of frost, when they are removed to shelves or stages in houses where frost can be excluded by means of artificial heat, and very often in houses which by no means are suitable for them, the cuttings being either too far from the glass, which makes them leggy, or, being too damp, causes a good many to rot off. The room these take up could be more profitably employed for wintering plants that would be useful either for supplying cut flowers or for room or conservatory decoration in the following spring and summer if the propagation were left until spring, and the appearance of our beds in the flower garden would not be marred just at the time when they are generally at their best.

In our very changeable climate, the prudent gardener, generally speaking, will not, even in the south, bed his plants out before the middle or latter end of May, and in cold exposed localities, and in the north, certainly not before the beginning of June. And as June and sometimes July are often dry months, the plants—excepting where they are well attended to with water—do not fill up the spaces allotted to them before the end of July or beginning of August, and then to set to and take cuttings, as is often the case in the middle or end of the latter month, is, in a sense, nothing more or less than destroying the pleasure which should then be derived from them, and the room which they have taken up in the houses all through the winter, the time taken up in potting, watering, planting-out, &c., have been to a great extent wasted; whereas, if the propagation were deferred until spring, all this would be avoided. The beds could be left intact until the approach of frost, when as many plants as would be deemed necessary to produce cuttings in the spring could be lifted, the long roots cut back (not the tops), and put six or seven in a 7-in. pot, or thickly planted in boxes and kept on the dry side until the turn of the year.

There need not be any fear of them damping-off, as is the case with cuttings very often; and by placing these old plants in a little heat they will very soon produce quantities of cuttings, which, if taken off and dibbled-in round the sides of pots, as close together as the size of the cuttings will admit, and put in a propagating house on shelves or stages (they do not want plunging), or in any house that is kept at about 55° to 65° at night, they will very soon root, and can then be potted off singly, as is the case with autumn-struck plants, and placed in a Vinery or Peach-house at work, or, indeed, any house that is kept a little warm. These, if they have the point pinched out of them once, will make dwarf stocky stuff by bedding-out time far superior to those lanky things which were struck in the autumn, and which have often to be laid down at bedding time to give them anything like a dwarf appearance, and which have not given them half so much trouble as those propagated in the autumn. The old plants will again be put out, and when hardened off will do well for vases, &c., which are commonly employed in flower gardens and grounds.—*Water Lily.*

HYACINTHS.

(Concluded from p. 486.)

All the varieties have been obtained from seed selected out of thousands of seedlings and by artificial crossing and impregnations, which is an occupation of very long duration, as a little bulb grown from seed requires six or seven years before it is of sufficient size to produce a good flower; and when considering that this bulb if found worthy to be grown on requires twelve to fifteen or twenty years' careful artificial propagation before a moderate stock can be had, it may not create astonishment if many times new varieties have realised large sums of money. New varieties in almost every shade of colour have been saved from year to year, showing improvement in size of spike, in size of bulb, size of bells, &c.; but it may be worth remarking that in all the different colours we have obtained improvement in size of bells with the exception of the bright scarlet-coloured sorts, which until now have always turned out with small narrow bells. If we could obtain a Hyacinth flower of a bright scarlet colour like Queen of the Hyacinths or Garibaldi, with bells as large as La Grandesse or Cloche Magnifique, what a splendid improvement it would be, and probably in the course of time we may obtain this treasure.

Between the time when double Hyacinths were most esteemed and the time when single varieties came into favour, a period of perhaps ten years, the always increasing demand was greater than the general stock could furnish, and consequently the prices of Hyacinths grew higher every year, and it was at that time a rather profitable culture. This induced a great number of farmers in the neighbourhood of Haarlem to try growing Hyacinths, which many have done with more or less success. At that time land was worth only half the price that it is at present, and the more easy-growing Hyacinths were then artificially propagated to such a large extent that the stock overgrew the demand, and during the last three years forced the market price of such sorts down to such low prices, that during the last two years thousands of Hyacinths have been exported abroad at prices below the actual cost of production, bringing great losses to the growers of this beautiful flower, while it overstocked the markets in several foreign countries where these bulbs were most used, to which poor circumstances the general depression in trade has of course contributed.

Respecting the use made of Hyacinths, I may say that the greater portion of the bulbs are being forced, and for this purpose the bulbs should be potted about the middle or end of September in 5-inch pots in rich light soil, and placed in a cold frame or under a wall, where they can be covered with wooden shutters or some similar contrivance to keep off heavy rains. In either case they should be covered a foot thick with newly fallen leaves, and being once well watered after potting they may be left for months to form their roots, when the most forward should be brought out (some repot into somewhat larger pots according to the apparent strength), and the bulbs should be placed in a gentle heat as near the glass and light as possible to prevent the flower stems rising to an unnatural height. Some care is necessary in the application of this, or the flowers will be abortive. It should not exceed 50° for the first three weeks, but afterwards may be increased gradually to 60°; and if the pots are plunged into bottom heat the same care should be observed, or the points of the roots will certainly be killed. One-third the depth of pot is fully sufficient at first, and if the heat is brisk they should not be plunged more than a few inches at any time.

When the flower stems have risen to nearly their full height, and the lower bells of their spike are beginning to expand, the plants should be removed to a lower temperature usually afforded by the greenhouse, and when the bells are fairly expanded, the plants can be taken to the sitting room or wherever their presence is desired, observing to protect them from sudden changes or cold draughts of air, and the water given to them should be moderately warm.

Instead of the usual practice of drying Hyacinths at once in the sun, I would rather recommend the method adopted in this country—namely, to place them side by side on a sunny spot of ground, and cover them with about an inch of loose earth to thoroughly ripen the bulbs by the subdued heat imparted to the earth which surrounds them. Left in this position for a fortnight they will become dry and firm, and an hour or two's sunshine will finish them properly for storing.

The multiplication of Hyacinths can artificially be done in two different ways. (1) By the bulbs being cut crosswise and sprinkled with sand to absorb any superfluous moisture that may exude from the incisions. After a time they are planted in the earth in the usual way, when the mother bulb divides itself into small bulbs. (2) By scooping out the base of the large bulbs after they have been taken out in July. After this operation it requires great attention in watching carefully the process of properly drying the wounded bulbs, because if this is not properly attended the whole bulb may become mouldy and be lost completely. The bulbs thus treated are planted in October, at which time the small offsets at the base of the bulb are partly visible already, and are then planted in the usual way, only with a slight covering of earth in a warm situation as much exposed to the heat of the sun as possible, where the small bulbs gradually develop in warm sandy soil, with the proper degree of moisture, aided by the climate, which about Haarlem appears to be so very suitable to the growth and development of this flower. (3) In the most natural way by offsets from the parent bulb, which is, however, rather slow to meet the present large demand.

The Tulips used for forcing require about similar treatment to the Hyacinths. When placed in heat they should be placed as near to the glass as possible, in order to prevent the flowers from being drawn and the flower stems should occasionally be assisted when by their quick growth they get entangled in the foliage. During the last few years Tulips have become great favourites for planting out in beds, for which thousands are annually employed, making by their very brilliant colours a very showy effect indeed. I could dwell for a considerable time upon the history of the Tulip and the very unusual speculation, or rather gambling, which took place at a former period; but in case my present paper should have met with your approbation, and might have given some little pleasure to my audience, it may induce me try another paper on these and other sorts of flower roots at some future occasion.—*Polman Mooy.*

SCOTTISH GARDENING.

Tomatos.—When so much has been written on this popular fruit (it is recognised by many as a dessert fruit), it might appear inopportune to take up space by a reference to its culture. As many have a desire in the north to have a supply of Tomatos in their own gardens with no glass to spare for such a purpose, we throw out a few hints which might be of service in attaining the desired end. The first difficulty is in raising the plants to get them strong enough at planting out time, as unless they are large and about showing flower when they are turned out, little hope of success need be entertained. In some southern districts they are as certain to produce abundantly as Potatos yield tubers, but wherever glass coverings are at command, it is preferable (even in favoured districts) to use them for Tomato growing than to trust to the seasons which have been so adverse of late years.

Our earliest recollections of Tomato growing was as follows:—About the beginning of February the seeds were sown in a mild hot-bed—a one light frame being used—potted on in the usual way so often recommended, and by steady treatment the plants were a great size by May. They were kept hardy and short jointed by allowing plenty of light and air to enter the frame; the light or lights were taken off them when the weather permitted, and when danger of frost was past. Holes were formed at the base of walls and buildings of any form, where there was warmth and shelter; turfy soil and leaf mould well mixed was placed round the roots in process of planting; one stem only was allowed to each plant—rubbing off all the laterals as soon as they appeared; as soon as the fruit were set, four to six were left to each bunch.

When the stems had grown as far as there was room to spare, they were stopped and no further growth was permitted; guano-water was freely administered when the fruit was set. When frost was feared, as sometimes is the case when September arrives, mats or other protection were placed over the plants at night and taken off during the early part of the day, the fruit thus receiving the benefit of the plants till it was desirable to cut the stems over and trim off all the foliage. The natural ropes sometimes loaded with well developed green and ripening fruit, were taken to a warm and dry room where they gradually ripened and gave nice gatherings late into the year (we have ripened them under glass hanging from the rafters as late as February), where the walls were clothed with trees and and no space available. We have grown fair Tomatos on ridges covered with slates. Plants established early in the season is the most important matter.—*M. T.*

Strawberry Plants.—Where it has been preferable (or inconvenience may have caused delay) to mulch Strawberries during spring instead of giving this important matter attention during autumn, it is now a suitable time to have such work put out of hand. Good materials for such a purpose is what one finds in the stable yard; it may be spread evenly over the surface of the soil among the fruiting plants, placing it neatly round the collars and under the foliage; the rains, which we may expect before fruiting time, will wash the litter clean. If rotten manure has been given during the past autumn or winter, it may be necessary to break its consolidated crust, levelling it neatly and leaving the surface tidy; if there has been no litter in the manure, it will be necessary to use material to keep the fruit clean.

A dusting of soot thrown into and around the stools, will dislodge slugs and act as preventives to the increase of these pests. The soot dusting may be repeated occasionally, which will act favourably on the plants. For the protection of the fruit we have found nothing superior to clean straw, and nothing inferior to mowings of Lawns. We never used the latter but once—last season—and have no wish to repeat the experiment. A good soaking of manure-water, given to Strawberries as soon as the fruit are set, tells very favourable on the produce; there is plenty of time to think of this two months hence, and it is hardly possible that watering at the roots will be necessary before flowering, as the ground is sodden at present from the frequent snowfalls. To hasten the crop in the open ground hand-lights, which may be available, can be utilized to bring forward a few dishes; narrow glass protectors (which are now sold cheaply), placed along the rows are very useful for such purposes; plants lifted with balls of roots intact, and placed on mild warmth from the hot-bed, with protection of hoops and mats, is a simple method of meeting the want of glass; we have often helped out forced crops when there has been a scarcity.—*M. T.*

USEFUL PILLAR PLANTS FOR CONSERVATORIES.

Why should we see so many pillars and rafters in greenhouses and large conservatories bare, when the space might be well occupied with plants that would lend a charm to the eye, and also prove serviceable in other respects? Pillars that support structures of this kind are not often of the most ornamental kind, and without something in flowering or foliage plants be grown upon them, they generally appear more unsightly when peeping out here and there amongst pot-plants. There are many varieties of plants suitable for covering these eye-sores, and when the plants are not in bloom the foliage is there for a relief. A very useful plant for this purpose is

Mitraria coccinea.—It makes good strong sucker shoots from the bottom, and bears an orange-scarlet tubular flower, which shows to advantage when grown as a pillar plant.

Thibaudia acuminata.—A free-growing and blooming plant, the flowers being produced in clusters from all the points, the colour dark crimson, tipped with a greenish white; foliage a bright dark green; a most desirable plant.

Acacia affinis is both handsome in foliage and flower.

Kennedya monophylla makes a very pretty plant, and during the season it is flowering with its lovely spikes of purple Pea-shaped flowers it is the admiration of all who see it.

Abutilons, in variety, are quick-growing, and give plenty of flowers, and should certainly be used in large structures.

Plumbago capense, with its starch-blue Phlox-like blossoms, is a very profuse flowering subject in the autumn, and one of the most easily managed plants.

Habrothamnus elegans is certainly not to be despised; it is an excellent plant for this purpose, and with a little management may be made to yield flowers all the year through.

Swainsonas may also be added to the list. Should the eye prefer a little relief from green foliage to coloured or variegated, better plants than

Cobæa scandens variegata or *Lonicera aurea-reticulata* cannot be used, and both are easily grown.

There are many other kinds of plants that are suitable for this purpose, viz., Fuchsias (the strong-growing sorts), Ivy-leaved Pelargoniums (single and double varieties), Heliotropes, &c. All greenhouse climbers may be used, but as climbers are apt to grow very rapid, and on this account get out of bounds, they become troublesome. Some objection may be made to furnishing these pillars, &c. because the plants cannot be planted out, but all the plants I have named may be grown easily in pots for this purpose. Another objection is that the plants are subject to attacks of green-fly, and thus make everything about them dirty as well, and that conservatories must never be smoked, being in too close proximity to the dwelling-house; but even this objection can be overcome by occasionally using a dressing of Fir-tree oil at the strength recommended for killing green-fly.—*W. G.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Few plants are more generally valued for greenhouses in small establishments than Pelargoniums, or Geraniums as they are popularly but erroneously termed. They are useful for so many purposes, they flower so freely, and are so easily grown that it can be readily understood how they have obtained such a firm hold on public favour. For culture in pots they are appreciated at all times of the year, and in the winter, when flowering plants are never too abundant, the single and double zonal varieties prove most welcome. Then, for baskets or pots suspended in the conservatory or greenhouse, the beautiful Ivy-leaf varieties are charming, and so many handsome forms have now been obtained that an admirable collection can be formed of these alone, in several distinct and bright shades of colour, the double varieties being exceedingly useful for cutting as they stand so well, and are naturally well adapted for association with other flowers.

In the same way, several of the old Cape species and varieties can be used, and where a supply of lovely flowers is required over a long period, nothing can surpass Rollisson's Unique, with its large soft leaves and dense globular trusses of warm crimson flowers. During the summer we have an abundance of zonals to select from; but as there is usually a good display of them out of doors at that time, we also like to have a good stock of the show, decorative, and fancy varieties, which make so distinct a break from the others. The typical show varieties of the florists, with their finely-proportioned and rounded flowers, are beautiful; but some of the best are unsatisfactory as garden plants, being weakly in habit and flowering sparsely.

The decorative and regal sorts which have come into favour of late years as market plants, are, however, quite different as regards strength of constitution, growing strongly and flowering profusely. In consequence, they are well worth the attention of amateurs who can only afford to give their space and care to plants of undoubted merit. Any of those mentioned may be potted now, employing for the stronger-growing sorts the best loam that can be procured, with one-fourth of well-decayed manure, or the same quantity of leaf-mould for the Ivy-leaf varieties, and a little sand to keep the compost moderately open.

Whenever the winter-flowering zonals are grown in quantity, the present is a capital time to put in the cuttings, as if well treated and grown on liberally during the summer, plants of a useful size will be secured for autumn and winter. Place the cuttings in light sandy loam and leaf-soil, and they will root readily if kept moderately close, but not too warm for a few days. The best way is to insert the cuttings singly in small 60 or thumb-size pots, transferring them, when well rooted, in 48's, using a stiffer and richer soil at this potting than is advised for the cuttings.

THE VEGETABLE GARDEN.

Proceed with sowing seeds of Peas, Beans, Onions, Lettuces, and vegetable crops generally; the early Potato planting should also be now completed as quickly as possible, for the soil is in good condition for anything. Onions must be sown in an open position, and the ground well firmed; indeed, if convenient, it should be rolled after the seed is sown, for in loose soil solid well-keeping bulbs will never be obtained. Where Sea Kale has been forced, it should now be hardened, and planted out of doors in rich well-prepared soil, as it will need a clear year's growth to recover its strength for another season's forcing. With liberal treatment, Sea Kale can be grown and forced every alternate season for several years; but this cannot be done if it does not make vigorous growth in the period for recuperation. Plenty of manure should be forked into the soil, and the plants may be placed in lines about 3 ft. apart.

This is also a good time for sowing Parsnip seed, and as these vegetables are much valued by many persons, a portion of the kitchen garden may be usefully occupied by them. The soil should be deeply dug, and free from stones or hard lumps, as these spoil the shape of the roots; and the seeds should be sown thinly in rows 18 ins. or 20 ins. apart. Mustard and Cress can now be now sown frequently in pans or boxes, and placed under the stage of the greenhouse.—*Scolytus.*

Preparing Soil for Seeds.—Much outdoor seed-sowing will now be going on, and all who are commencing this important operation would be acting wisely if they adopt a few precautions. Experienced gardeners do not need any warnings in these matters, but young hands are occasionally forgetful, or so anxious to get the work forward that they do not perform it so carefully as necessary. Soil for all small flower and vegetable seeds should be well prepared before they are sown—that is, it should be thoroughly broken down and raked fine on the surface. It should also be moist without being wet, but it should be rather in the latter state than excessively dry, though either extreme is bad. The seeds should never be covered deeply; a light sprinkling is sufficient for all small seeds, and the larger ones may be covered about their own depth. Another hint worthy of attention is "sow thinly." Not only is a great quantity of seed wasted by thick sowing, but the plants produced are greatly weakened by being crowded together, and even if some be pulled out this is often done too late to remedy the evil. Most seeds succeed best on a moderately firm surface, but for some like Onions it is absolutely essential, and should be rolled both before and after sowing. For some crops—indeed, most vegetable crops except those which are sown in beds for after transplanting—drills are best, from 6 ins. to 18 ins. apart,

according to the nature of the crop. Flower seeds, except for margins or lines, are better in circular or oval patches, to form clumps in the border amongst the permanent occupants.—*E. A. E.*

THE CARNATION AND PICOTEE.*

At last the lovers of these two popular flowers are favoured with a treatise on their history, characteristics, culture, &c., by one who can claim to write with authority, for he has put on record the results of a long and matured experience and ripe judgment. In a short introduction, Mr. Dodwell states that "during many years, and of late in increasing numbers, I have had repeated applications to detail the treatment, characteristics, and the points or elements supposed to constitute value in the Carnation and Picotee regarded as subjects for the show table or decorative purposes." Opportunity has recently been afforded him to collect, reprint, and issue such of his papers as appeared most to meet this requirement, and the result was the issuing of four monthly parts, now gathered together in a small, elegant, and exhaustive treatise, that we are sure will be gladly welcomed by cultivators of the Carnation and Picotee all over the country. It is dedicated to the promoters and supporters of the Carnation and Picotee Union at Oxford, comprising almost all the leading cultivators and raisers of the day.

Let us sketch an outline of the work of a master hand. The book deals first with the history of the Carnation as delivered to the Carnation and Picotee Society by W. Shirley Hibberd, in 1881. Then its management is dealt with in a series of monthly directions as exhaustive as they are intelligently set forth. Then follow chapters on such topics as what constitutes excellence, dressing the flowers, why do Carnations run? seedling raising, how to save seed, and diseases of the Carnations—chapters which sum up and put into concrete form a vast amount of observation and experience, to be gained only by a life-long knowledge of the flower. Then follows "scraps" of a practical and suggestive character, such as on packing plants and flowers, preparing flowers for exhibition, flower-boxes for exhibition, &c., so making the treatise a text-book for young beginners, and all set forth in an encouraging and kindly sympathetic tone, closing with an exhaustive descriptive list of Carnations and Picotees of all classes, with much interesting historical information thrown in. Who is better fitted to write such a book than the veteran cultivator and raiser who has given fifty years of his life to the study of his favourite flower?

From such a useful and authoritative book one could take many extracts. Here is one which fully illustrates the generous spirit in which Mr. Dodwell would have schedules of prizes framed so as to impart as wide an interest as possible to the competition. He remarks on p. 85, "it is needless to say the cardinal rule will be the bringing together the largest possible number of competitors on equitable terms. To do this, the first requisite will be the *date* of exhibition. This should be the average day of full bloom of the largest number of cultivators within the area concerned. Then follow the terms of the competition and the amount of the several prizes. The late Mr. George Glenny laid it down as a rule for all special exhibitions, that there should be '*few classes and many prizes*'—an axiom I heartily endorse. Limit the number of flowers in collections required to be produced to the power of the cultivators of smaller stocks, remembering the measure of strength of the whole is the power of the weaker, and see that the amount or values of the several prizes are divided by very fine lines only, and be so extended, as that seven-eights of the competitors (I would prefer to say every meritorious competitor) share in the awards. Nothing is more inequitable, nothing so surely provokes greed, and kindles heart-burnings and discontent, than the practice of large sums to one, two, or three competitors, number one seizing fifty per cent. of the whole, and leaving a distinct majority out in the cold. It is an unmixed evil, injuring alike those to whom it appears to give and those from which it withholds. Therefore, I recommend to my friends the good old rule, that the greatest good to the greatest number should be their aim."

The principles herein laid down, Mr. Dodwell applies at the Oxford Exhibition, held in his grounds at the Stanley Road; no exhibitor had an undue preponderance of First Prizes; they were evenly regulated in regard to the amount, and no exhibitor was sent empty away, and yet it was a very fine and extensive show of flowers.

The scrap on "Packing Plants" can be read by not a few nurserymen with advantage. Packing, *i. e.*, the sending of plants from a nursery is too often both slovenly and imperfectly done; the plants reach the purchaser in bad condition, and how can they be expected to grow and flower well afterwards. Mr. Dodwell prefaces his information by stating that the safe period for the removal of plants in the autumn, any time before Christmas is preferable to a later date; and then he gives the following directions:—"Take the plant from the parent stool, permitting all loose soil to fall from the root, draw the foliage carefully together, and place upon a bed of loose well picked, dry moss, cover the root with a little half-decayed damp cocoa-fibre, roll in paper, tie, and pack compactly, so that injury from concussion cannot arise, and a journey of many day's duration will do no harm. Very different results may be expected to ensue, should the moss, plants, and soil be sodden with wet. Plants so treated should be washed, both root and foliage, and be allowed to drain nearly dry before potting. I regard it as a cardinal necessity, that plants subjected to change should from collar to end of root, be in a soil precisely of the same condition, for which reason I have never favoured transmission in pots."

* The Carnation and Picotee, its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. London: Groombridge. Derby: W. Bacon.

THE SHOW PELARGONIUM.

Of the many kinds of greenhouse plants now in cultivation, it may safely be asserted that the Pelargonium is the most universally admired, its endless varieties, the beauty of its flowers, wealth of foliage and long continuance of bloom, rendering it so attractive, that it is always sought after as an ornament to the conservatory, the table, or the window. Therefore, every amateur should possess a few of the many varieties now in cultivation, and a few hints on the cultivation of this fine plant may be useful in spreading a knowledge of its main cultural requirements.

To insure success in the cultivation of Pelargoniums, they should have a greenhouse situated in a southern aspect, where it receives plenty of light and the full power of the sun, and they should at all times be kept as near the glass as possible. The best time for propagating them is the month of July, as the wood is then firm and ripe. Crown cuttings (that is to say, side shoots) are always preferable, as they strike more readily and make better plants. They may be cut to about 4 in. in length, the lower leaves be removed, and a clean cut made close under a joint. The cuttings should then be inserted in a thumb pot in a compost of fibrous loam and silver sand, sifted through a medium sized sieve, they should be pressed rather firm in the soil, placed in the house, and kept close until they have struck root, when they should be carefully cleaned the surface of the soil rubbed over with the finger and well watered, they will then soon start into growth. When the pots become nicely filled with roots, they should be shifted into large 60's in the same compost as before with the addition of one fourth of well decayed manure. Pot firm and keep close for a few days as before, then admit air freely, and when the roots have struck through into the new soil, the plants should be removed to a nice open position out of doors.

Keep them well stopped to encourage a dwarf and bushy habit, and as soon as they are large enough they must be again shifted, this time into large 48's or the strongest in 32's, which size will be large enough to flower them in for ordinary purposes. The compost used should be three parts of yellow loam, one part of well decayed manure, and a good sprinkling of sharp grit or sand. Pot very firm and supply them with plenty of water during dry weather; about the end of September they should be well cleaned and taken into the greenhouse, and whenever green-fly appears fumigate with as little delay as possible, choosing a still evening for the purpose. During winter the greatest care must be taken when watering to keep the foliage dry; the spout of the watering can should be kept close down to the pot, for if a leaf gets wetted it is sure to decay. They should receive an abundance of air during favourable weather, and no more fire-heat than is absolutely necessary as it only creates green-fly. When the bright days of spring appear an occasional syringing will be very beneficial, and they will require more frequent waterings. As soon as the bloom can be seen, they may have a little weak liquid manure about twice a week, increasing the strength as the flowers develop, or they may have a top dressing of artificial manure. Clay's Fertiliser is one of the most suitable manures for that purpose; one teaspoonful to a 48 sized pot applied once in three weeks will be sufficient. As the plants increase in size they should be neatly tied out to stakes, and sufficient room be allowed each plant to admit of a free circulation of light and air all round them.—*E. Benton, Junr.*

HARDY SPRING FLOWERS.

Golden yellow is so dominant a hue in the early spring, that it is difficult to find flowers in great abundance capable of condoning this tendency. Just now that the Daffodil season is at its height, we find gardens flooded with the various shades of yellow which mark all the Narcissi tribe so strongly, and whilst welcoming the pure white of the Poeticus section as a relief, could much more readily rejoice over the addition of some reds and blues to the Daffodils were such variations of colour possible. There can be no doubt but that this exceeding sameness of hue does militate against the wider popularity of Daffodils, of all kinds, and even their most enthusiastic admirers may well turn from their cultivation at times to some other flower with satisfaction. As an easily raised tribe of plants, few can better counteract the monotony of the Daffodil than the fine border section of the Primula family, known as Fancy Polyanthuses; amongst these, whilst finding also white and yellows in abundance, all have rich colours in reds, roses, purples, crimsons, &c., and strong plants give a great wealth of bloom, just at the time when yellow Daffodils are in bloom also though, perhaps, enduring longer.

But whilst with the latter flowers we have to wait whilst bulbs increase, with the Polyanthus we have but to sow seed now and hundreds of plants, strong and full of bloom, will be our reward at this time next year; and if it be desired to quicken this season of bloom it is but to sow also seed of the rich coloured Primroses (now so plentiful), and an early mouth of bloom is added. Few who have not grown this class of early spring flowers, can realize how much of wondrous beauty can thus be obtained from a couple of packets of seed, an expenditure now of a few shillings, giving as many pounds worth of plants in twelve months, and beauty that cannot well be measured by pecuniary considerations. Seed sown now in pans or shallow boxes and placed in a frame will very soon give plenty of strong plants, and may be transplanted into some spare and rather shaded piece of ground, as soon as the plants are strong enough. These occasionally watered to keep them growing, will make big plants to transplant into beds or borders, or wherever desirable during the autumn. Under the favourable conditions sometimes found, such plants will bloom all through the winter, and give a beautiful display of flowers during the spring months.—*D.*

CACTUS DAHLIAS.

The accompanying illustration of the fine new yellow Cactus Dahlia, Lady E. Dyke, is inserted in our pages for the double purpose of bringing under the notice of our readers a good novelty, worthy of the attention of those who admire these highly decorative autumn flowers; and of illustrating the modern method of arranging the flowers for exhibition, as adopted with such great advantage by Mr. Cannell and other extensive exhibitors at the metropolitan exhibitions, not only in the case of the section now for convenience called "Cactus Dahlias," but also with the Singles and Pompons.

The Cactus Dahlias are all attractive, though some sorts, of course, like Juarezii, Constance, and Mrs. Hawkins, have become the most popular, having been some time in cultivation. In the new variety, Lady E. Dyke, we have a decorative sort of the first water, a free growing plant, bearing bright yellow flowers, of a most neat and pleasing form, and which is included among Mr. Cannell's novelties for the present season. Of the superiority of the plan of showing these flowers in bunches, as indicated, over the old lumpy style, we need say nothing, so forcibly does it commend itself to all who appreciate good taste in such matters.

THE APPLE, MYTHICAL AND HISTORICAL.

In his most interesting book on *Fruits and Fruit Trees*, Mr. Leo. Grindon says of the Apple :—"No one ever tires of the Apple. It is to fruits in general what good wheaten bread is to other accustomed fruits ; while it satisfies, it never clogs. There is no time of life, either when the Apple becomes a superfluity, or is no longer suitable for aliment. As for boys and girls in fair health, for them the Apple would almost seem to have been primarily created. There is a period in the life of children when they are hungry all over, voracious at every pore, eat they must and will, flying to cakes and mischievous sweets, candies and confections, unless judiciously supplied with what is really wholesome. Bread is deficient in savour; fruit fully ripened and of simple kinds is the happy medium, and in no shape is it better for them than that of the Apple." A high medical authority on hygienics, states : "Apples should be eaten raw up to 3 p.m., and cooked after, and then they lie easy on the stomach." And other medical authorities are found strongly advising that greasy foods should be to a large extent, withheld from children, and fresh fruit be given freely with such things as oatmeal porridge and whole meal bread.

The Apple has a remarkable history ; this fruit has figured largely in mythology. But as Mr. Grindon observes :—"Not Apples to be eaten were those in the mind of the donor of the famous fable of Hippomenes and Atalanta, where the maiden loses the race through stopping to gather the too seductive 'poma aurea' ; nor were they veritable Apples in the picture of the golden fruit of the Hesperides, in that beautiful story of the three chaste young ladies far away in the west, who kept them safe from intrusion and curiosity." "No wonder again, that painters of the Temptation of Eve, sustained by *Paradise Lost*, should employ the Apple to represent the fruit of the Tree of Knowledge ; and in the authorised version of the Old Testament, whatever the Hebrews understood by *tappúach*, we read upon six occasions of 'Apples' and the 'Apple tree.' Not one of the scripture references carries illusion to the Apple of the English orchard. That the ancient Hebrew ever saw or knew anything of Apples of any kind, is in the highest degree improbable. The Hebrew word simply denotes something fragrant. The Quince, the Citron, the Apricot, have all in turn been suggested as the fruit meant."

"The Apple," states Mr. R. Folkard in his book on *Plant Lore, &c.*, "was sacred to Venus, who is often represented with the fruit in her hand. The Thebans worshipped Hercules under the name of Melius, and offered Apples at his altar, the custom having according to tradition originated as follows :—The river Asopus being once so swollen as to prevent some youths from bringing across it a sheep destined to be sacrificed to Hercules, one of them recollected that the Apple was called by the same name Mêlon. In this emergency, therefore, it was determined to offer an Apple with four little sticks stuck in it to resemble legs as a substitute for a sheep, and it being deemed that the sacrifice was acceptable, the Apple was thenceforth devoted to Hercules. The God Apollo was sometimes represented with the Apple in his hand. The Saxons highly prized the Apple, and in many towns established a separate market for the fruit." The following sentence from their Coronation Benediction shows with what importance it was regarded :—" May the Almighty bless thee with the blessing of heaven above, and the mountains and valleys with the blessings of the deep below, with the blessings of Grapes and Apples. Bless, O Lord, the courage of this Prince, and prosper the work of his hands, and by thy blessing may this land be filled with Apples, with the fruit and dew of heaven, from the top of the ancient mountains, from the Apples of the eternal hills, from the fruits of the earth and its fullness."

Cactus Dahlia, Lady E. Dyke: flowers yellow.

The native countries of the Apple cannot be said to be certainly known. According to De Candolle, it appeared to be most truly indigenous in the district lying between Trebizond and Ghilan, North Persia. He believes it to be a native also of the mountains of South-west India, and of Europe in general, excepting the extreme north, Britain included. Karl Koch, on the other hand, whose views and opinions are never to be treated lightly, while he allows the Asiatic claim, considers that the Apple is only naturalized in Europe, though the introduction may have taken place in prehistoric times. That it existed in Europe at that remote period is proved by the remains of Apples found in the Swiss Lake-dwellings. Mr. Loudon considered that it was in all probability brought over by the Romans, to whom twenty-two varieties at least were known in Pliny's time. By other authorities it has been considered an indigenous tree, or at all events familiar to the ancient Britons. Dr. Hogg, in a work on the Apple, published some years ago, considered it to be an indigenous tree, or at all events familiar to the ancient Britons. In the ancient British or Celtic language, it is called Abhal or Abhall ; in Gallic, Avall ; in Cornish, Avil or Aval ; and in Armoric, Avall or Afall—words derived from the Gallic or pure Celtic, for a round body or ball.

That the Apple was known before the Norman conquest there are numerous instances to prove, it being mentioned by William of Malmesbury in 973, who says that King Edgar lay down under the shade of a Wild Apple tree, while hunting.

We have evidence that Apples were cultivated in orchards at an early date, records as far back as the tenth century confirm this. In a bull of Pope Alexander III., A.D. 1175, is mentioned "the town of twining with all lands, *orchards*, meadows, &c." Again, in a charter relating to a grant of land by King John to the priory of Lanthony, near Gloucester, occurs the following, "to the church at Herdsley, with twelve acres of land and an *orchard*. In the early part of the thirteenth century a large cider manufactory existed at Richmond, in Yorkshire.

The earliest varieties of the Apple of which we find any mention appear to be the Pearmain and Costard, the former was cultivated in Norfolk as early as the year 1200, for we find in Blomefield's *History of Norfolk*, that 200 Pearmains, and 400 hogsheads of cider of Pearmain was paid into the Exchequer yearly at the feast of St. Michael for a tenure of land. Of the latter, the Costard Apple, we find in the fruiterer's bills of Edward the First, in 1292, mention is made of "Pomo Costard" (the Costard Apple of the present day) which was sold at that time for "a shilling a hundred." Dr. Hogg, in his *Fruit Manual*, says, "The Costard is one of our oldest English Apples. The true Costard is now rarely to be met with, but at an early period it must have been extensively grown, for the retailers of it were called Costardmongers, an appellation now transferred into costermongers. It is mentioned by William Lawson, in 1597, who, in his quaint style, says, 'Of your Apple trees you shall find difference in growth. A good Pipping will grow large, and a Costard tree stood them on the north side of your other Apples, thus being placed, the least will give shelter to the rest, and the greatest will shroud their fellows.'"

According to Stow, carp and pepins were brought to England by Mascal, who wrote on fruit trees in 1572. Tusdorf in 1573, mentioned in his list of fruits, "Apples of all sorts." In Parkinson, 1629, we find a list of fifty-nine sorts, with "twenty sorts of Sweetings, and none good."

Hartup, a writer of the Seventeenth Century mentioned the case of a pomologist, who about his time (1652) possessed 200 different varieties, and

himself believed that 500 distinct kinds were in cultivation.

The orchards of Herefordshire were considerably increased, not only in number but in extent, by the introduction of a quantity of the best cider Apples of France, by Lord Scudamore, the British ambassador at the French court, in the reign of Charles II. The celebrated John Ray, in 1688, was informed that there were seventy-eight sorts grown in the London nurseries. Miller, Abercrombie, and others, enumerate and describe many kinds, and Forsyth, in 1806, describes 176 kinds. In 1831, Mr. G. Lindley minutely and clearly described no less than 214. How that number increased is shown from the fact that the last edition of the Fruit Catalogue of the Royal Horticultural Society presented a list of 1,400, three-fourths of which were regarded as synonymous, or sorts scarcely worthy of being grown. Since then, by means of the horticultural press, fruit manuals, carefully compiled catalogues, and especially the Apple Congress of 1884, a great deal has been done in the way of correct nomenclature, and also in weeding out inferior sorts. And, despite our increased information, there is much in the present day to justify the remark of the late Mr. Loudon, that "Some individuals who have cultivated, fruited, or studied extensive collections of Apples, Pears, or Plums, may know at sight a considerable number of varieties; but, in general, only a very few sorts are known by one individual, and, in the great majority of cases, a gentleman's gardener can speak with confidence regarding those sorts only which are under his care. The reason of this is that the shades which distinguish varieties are so fleeting as not to be retained in memory, or only to be retained to a very limited extent. An Apple may be distinguished from twenty other Apples, all very much alike, when the whole twenty are placed together before the eye; but any one of the twenty, taken apart and delineated or described, however perfectly, will hardly present marks sufficiently distinctive to be remembered and by which it may be recognized with any degree of certainty."

"Many ancient rites and ceremonies connected with the Apple as a mystic tree are still practised in certain parts of the country, whilst others have of late become obsolete. In remote districts the farmers and peasantry in Herefordshire, Devonshire, and Cornwall still preserve the ancient custom of saluting the Apple tree on Christmas-eve. In some places the parishioners walk in procession, visiting the principal orchards in the parish. In each orchard one tree is selected as the representative of the rest; this is saluted with a certain form of words which have in them the air of an incantation, and then the tree is either sprinkled with cider or a bowl of cider is dashed against it, to ensure its bearing plentifully the ensuing year. In other places the farmer and his servants only assemble on the occasion, and after immersing cakes in cider they hang them on the Apple trees. Then they sprinkle the trees with cider, and, encircling the largest, they chant the following toast three times:—

'Here's to the old Apple tree,
Whence thou may'st bud, and whence thou may'st blow;
And whence thou may'st bear Apples enow;
Hats full! caps full!
Bushel, bushel-sacks full!
And my pockets full, too!
Huzza! huzza!'

"After this the men dance round the tree, and return to the farm-house to conclude, with copious draughts of cider, these solemn rites, which are undoubtedly relics of Paganism.

"In Sussex the custom of 'worsling' or wassailing Apple trees still exists. Formerly it took place, according to the locality, some time between Christmas-eve and Twelfth-day. The most popular wassail rhyme was similar to the above; but others were sung by the 'howlers.' At Chailey this verse is used:—

'Stand fast root, bear well top,
Pray that God send us a good howling crop;
Every twig, Apples big!
Every bow, Apples enow!
Hats full! caps full!
Full quarters, sacks full!'"

(Folkard's Plant Lore, &c.)

Other customs prevail in different parts of the country; the two foregoing will serve as examples. In fact, an immense amount of mythic lore has gathered about the fruit, a great deal of which Mr. Folkard has gathered together in his interesting book.

The Apple is a very wholesome fruit, either raw as a dessert fruit, or when baked or boiled. In Normandy the Pippins are dried whole in the sun, and in America by the same means when cut into quarters, in which state they are preserved for a considerable time. Dr. Johnson, as an instance of the nutritious qualities of this fruit, tells us that he knew a clergyman of limited income who brought up a large family fed chiefly on Apple dumplings. Apropos of Apple dumplings, an old gardener has just become a pensioner of the Gardeners' Royal Benevolent Institution, whose grandmother was the cottager to whom King George the Third expressed his wonder how the Apple got into the dumpling!—*R. D.*

SOOT AND THE ONION MAGGOT.

A CORRESPONDENT signing himself "Con.," writing on this subject at p. 490, says he has no wish to cast any doubt on my statements, and that he "must say at once that he cannot agree with me, as his experience of the use of soot would not justify him in doing so." Furthermore, he says, that "he is not so narrow-minded as to think that any fixed remedy or method can be set down as a rule for everyone to go by," adding, by way of confirming this inconsistent statement, that he "should be just as ready to believe that one kind of medicine would cure every patient that suffered from the same disease, when most people's experience leads them to the contrary (?)" It is indisputably bad logic on the part of "Con" to say that he is not so narrow-minded (I do not dispute the correctness of the adjective) as to think any "fixed remedy" or method can be set down as a rule for everyone to go by, because there are "fixed remedies" which are had recourse to by all practical gardeners for certain diseases, and which they use in a greater or lesser degree, according to the circumstances surrounding each individual case; and with regard to your correspondent's illogical reference to the same kind of medicine curing every patient that suffered from one and the same disease, I would remind him that it is but taking a common-sense view of the matter to assume that every duly qualified medical practitioner would administer the same kind of medicine in every case for the same kind of pronounced disease, varying the quantity and strength of the same according to the age and condition of the individual patients.

Though the above illustrations were evidently given by your correspondent with the view of supporting his own theory and unsuccessful experience of the use of soot as an antidote for the Onion-maggot, they only go, if they go for anything, to prove to the contrary, viz., that the ingredient used by your correspondent was either bad, insufficient in quantity, or that the method of its application to the soil was wrong, or all three together. This is about the sum total of your correspondent's failure, and the letter shows conclusively enough that he had not tried soot in "every possible way" with the view of eradicating the Onion-maggot. And I would here remind your correspondent that in his anxiety to support the views of "W. C." in reference to the use of closet manure for the Onion crop, that his advocacy of its use is somewhat inconsistent with the description he gives a few lines higher up in the same column, of the crop of Onions that he himself secured from his garden. I may here be permitted to inform "Con.," that I have no wish to either prove his or any other gardener's practice to be wrong, nor to convert them to my way of thinking, but simply, as stated in a previous communication, to show those who are "willing" to succeed in eradicating the Onion maggot, how they may do so (see pp. 358 and 394).

Although your correspondent "fails to see that the same remedy (soot) can be expected to apply to all soils and climates," if he refers to pp. 394 and 426, he will see that it is not only "expected to apply," but that it actually succeeds when applied in widely different soils and climates, as testified by Mr. G. Baskett, in the neighbourhood of Bournemouth, on the one side, and Mr. R. Stevens, in the county of Northumberland on the other. In both these cases practical results, and the publication of their respective names and addresses, justify the assumption that the soot had been judiciously applied, and that the other cultural details were skilfully carried out and that their statements are absolutely correct. In conclusion, I may as well tell "Con.," that it is in order to prevent him, or anybody else, from casting any doubt on the correctness of any statements that I make, that I invariably attach my name and address to my communications; as by so doing, I afford not only my own men, but also my friends and neighbours who are in the habit of visiting these gardens, an opportunity of verifying my statements. Hence it is that I consider it necessary for anyone making a statement, if borne out by practical results, but the correctness of which might, nevertheless be questioned by inexperienced readers, to give his name and address, and equally desirable is it, that those who endeavour to disprove such statements should attach their names and addresses, as by doing so they would give more or less weight to what they have to say.—*H. W. Ward, Longford Castle, Salisbury.*

DISCUSSIONS on garden pests, such as that on soot and the Onion maggot, should prove very interesting, if carried on in a friendly spirit, and each confines himself to his own practice. I hope when it is felt that the Onion maggot has been worried enough, contributors will take to other garden pests and serve them the same. For several seasons I have endeavoured to find something that will exterminate the Onion maggots. My line of attack is as follows:—My bed will be on rather heavy soil, with no dung put in at the time of sowing the seed. I dress the bed with well charred rubbish from the rubbish yard, this is well scarified into the soil with an iron rake; drills are drawn, and these dusted with dry wood ashes before sowing; then after the seed is sown we dust again with wood ashes. As soon as the Onions are observed to be well up, a canvas bag is partially filled with dry soot and fresh slacked lime in equal parts, and by slightly jerking the bag a good dusting is given (I need not say do not face the wind), this dusting is kept up until the ground is covered, and carried out twice a week. Every fortnight we sow on the bed two quarts of gas lime, and at the beginning of June I dress the bed with one bushel of fresh slacked lime, this is immediately watered in with 200 gallons of sewage; next morning again dusted with soot and lime. I should mention that the bed in question is three rods, and that the above soot and liming, &c., is continued until the Onions are the size of walnuts; the bed is hoed as often as possible. Occasionally it had some good soakings from sewage water; with all this we made it a rule to examine the bed once a week and carefully lift any attacked with maggots, of which we found many—sometimes many dozens. I should add that I had a good crop of Onions, and as hot as possible in flavour; these were not thinned. Now as to soot being an infallible remedy I may say that it does not show that it has been such in my practice, although it has proved valuable against other pests. Adjoining the bed in question I had autumn sown Queen Onions, which were not attacked by maggot. I have tried various experiments with a view to bring about a crop of Onions from autumn sown seeds, to take the place of our spring sown ones. I have sown a variety as the Queen, which should keep good till the following May, when the true Queen is again ready. But after all my pains I have found that I have not the Queen at all, but another variety, growing about 12 ins. in circumference, and which goes wrong soon after being stored. Nothing is more provoking than to find one has been supplied with seeds under a wrong name, especially when one has an object in view.—*R. Hall, Fox Warren, Cobham.*

THE discussion on the subject of soot and the Onion maggot has elicited from your correspondent, "Con," a statement to the effect that soot will not prevent the ravages of the Onion maggot. Your correspondent says that he has tried soot in every possible way, so I take it for granted that he tried the method recommended by Mr. Ward, on p. 358. In that case, though in both instances the soot was administered in the same way, the result has been totally different. Thus it proves, as other records have done, that one thing may be effectual in one locality, but ineffectual in others. Theory tells us that old gardens are more conducive to the ravages of this pest than new ones; but Mr. Ward is of opinion that the maggot is to be found more abundantly in new soils. According to my experience, the maggot is as plentiful in old garden soils as in new ones, and, certainly, such is the case in this part of Surrey. Upon these sandy soils, the effects of last summer's drought was recently felt, consequently the maggot was predominant. In the garden (which is many years old) from which I write, we secured a good sound crop of Onions, for this destructive pest did not make its appearance; and this fact is more singular

when I mention that another bed, situate within 200 yds. of mine, was totally wrecked. Here are two instances, and soot was not used in either, though I am an advocate of soot and fowl-house manure, believing it to be an invaluable fertiliser for the Onion bed. High culture and a fast growing season will considerably prevent the ravages of this destructive pest.—*C. G., Dorking.*

FRUITS, FLOWERS & VEGETABLES.

Early Rhubarb.—Two years ago the gardening press was largely used for advertising a variety of Rhubarb called "The Paragon." I obtained just half-a-dozen roots for trial; the first year of planting of course we could not give a fair judgment on its earliness or quality; but this year having it planted at one end of a row of Champagne, I am enabled to give it a fair and impartial opinion. I have this day measured the longest stalk, and find it 4 ins. long; while I am the fortunate possessor of about half an acre, on which the largest of the stalks would average 12 ins. in length. I look upon Paragon as quite twelve days later than the true Champagne. The raiser of Paragon Rhubarb, cannot possibly have seen Champagne (true), or otherwise he would not think so highly of Paragon. I have tried Royal Sovereign Rhubarb and St. Martin's Rhubarb, in fact all the varieties in the Market, and find none equal to Champagne. I may here note that my stock was obtained from the raiser—the late Mr. Hawk, a market gardener of Deptford. Mr. Bunyard obtained a First Class Certificate for this variety, I think last year at Kensington.—*R. Gilbert, Burghley.*

Out-Door Chrysanthemums at present.—Some time ago I referred at some length in your columns and your contemporaries to the great utility of these for cutting purposes, and how on a prepared border, especially against a south wall, really fine blooms can be produced. For such a purpose I have my cuttings now well rooted and hardened off in the open air, in boxes, for the past ten days. To avoid any check, I mean to transplant into the prepared border some day of the coming week. Some of them are seedlings of my own, from seed received last year from Marseilles. I remember that the champion prizetaker, Mr. Molyneux stated to one of his interviewers he felt as proud of his fine out-door Chrysanthemums as those that won cups for him. The mistake too often made is that many think any time for planting, and any rough-and-ready treatment good enough, and failure results. I bury several loads of the richest farm yard manure beneath the borders.—*W. J. Murphy, Clonmel.*

Wintering Lobelias.—I venture to give you a few details of my method of treating Lobelias for stock, and which has never failed to give plenty of cuttings. I put in a batch of cuttings at bedding-out time in the usual way, pot them into thumbs as soon as possible, and place them in a cool frame kept close. As soon as ready, I shift them into 54's, returning to the same position until rooted through, when they are gradually hardened off and the lights removed altogether until the frost approaches sufficiently severe to affect them. All this time the flowers are cut off, which induces the formation of hardy sturdy growth. In November or December (according to the weather), I move them from the cold frames to a temperate house on a shelf near the glass, and as early in January as I like, I have pots full of nice hardy cuttings to begin propagating from. I have tried other methods some of which have appeared in your columns, but have found none to succeed equal to this.—*J. H. Witty, Highgate, N.*

May I add yet another method of treating the Lobelia, for saving a stock, namely, the plan of saving a little seed from selected plants, and sprinkling a little on some border, where convenient, towards the end of July, when fine young plants may be lifted in good condition for wintering. Some may say that a good stock will not be kept true by these means, but most of the plants will be coming into flower, so that those can be selected that are good; the remainder may be potted up into sixties, put into a cold frame for a week or two, then taken into a house where the temperature ranges at about 50°; they will then give a fine display of blue on till Christmas, which, I hold, is better than the plan practised by many, of growing them on in pots through the summer, and keeping them pinched in.—*G. Baskett.*

Ellam's Early Dwarf Cabbage.—I should like to say a few words in favour of a Cabbage which I believe is not half so well known as it deserves to be, namely, Ellam's Early Dwarf, which, coming in as it does fully a month or more before any other sort that I am acquainted with, and being of that size so desirable for a gentleman's table, should certainly be widely grown. After a winter like the past, those who can now cut nice solid hearts, the size of a breakfast cup, have indeed an acquisition. I may state that I commenced to cut the above variety on March the 8th, although the east winds retarded their growth to a great extent. I can now cut, not a few, but a dozen of fine solid heads.—*G. Baskett, The Gardens, Elm Croft, Parkstone, Dorset.*

Marechal Niel Rose.—At the residence of Mr. Spink, Broomgrove Road, Sheffield, there is to be seen one of the most vigorous young trees it has ever been my lot to behold. This Rose was struck by its owner about three years ago. Two years last autumn it was potted into an 8-in. pot, and afterwards plunged into a border which had been prepared for a vine. It put out two or three fine shoots the first season, reaching the roof (which is 11 ft. high), and extending the greater part of the length (which is 18 ft.). These growths produced a fine lot of bloom twelve months ago. After flowering, a top-dressing was given, which covered the pot. This, I have no doubt, encouraged the roots to leave the pot, and extend into the border. Last year it broke into growth freely, which covered the whole of the roof, and part of the sides, and is now producing about 500 splendid blooms and buds in various stages of development, some in clusters of four, and many shoots have two and three. I might also mention that this is not the first Marechal Niel Rose which Mr. Spink has grown so successfully. At a previous residence, he had a tree which was treated in much the same way, which produced 1,500 blooms in one season, after three years' growth. During the period mentioned, Mr. Spink was much troubled by the mildew on the young growths, which destroyed many of the buds; but this he soon found out, by experience, was caused by opening the ventilators at the top of the house. Having discovered this, he was careful to keep the top ventilators closed, and the mildew disappeared. In the present greenhouse, at one end, which is set apart for the Rose, there is no top ventilation provided (here it is quite free from that pest), but ample ventilation is given from the side ventilator. Mr. Spink does not believe in turning the Roses out of their pots to plant them, and his idea is strengthened by the experience of an amateur friend, to whom he gave a good strong plant. The amateur employed a jobbing gardener to plant it for him. The Rose was turned out of the pot, the soil shaken off, and the roots all carefully spread out in the new soil; but this fine Rose refused to grow after such treatment. Mr. Spink does not give all his attention to the Rose tree. He also has a partiality for several other subjects, amongst them Vines, which are vigorous and healthy, showing abundance of fruit. Under the shade of the Vines there are some good examples of Azaleas, flowering freely. He is also trying his hand with a few newly imported Orchids, which are breaking freely, and producing roots. These are objects of great interest, and will be carefully watched by Mr. Spink, who is one of those amateurs who will succeed.—*J. Walker.*

The Culture of Carrots.—As Onions and how to grow them has been a subject of discussion in your columns lately, I think I shall not be out of place in sending you a few remarks on the culture of Carrots, as this vegetable also is very liable to injury by wireworm, &c., and in some places it is as difficult to get a good crop of as of Onions. I have no doubt but that all gardeners have no difficulty in securing a crop who are favoured with a deep light sandy soil, but the case is different with many of your readers whose soil is heavy. To grow Carrots with any degree of success, the best soil is light deep sandy loam, and it should always be trenched two spits deep. Let the soil be ever so deep and suitable for Carrots always trench dig if you wish to be successful, and dress the ground with good cow and horse-manure mixed, but if the soil is heavy use no cow-manure at all. At sowing time, from the middle to the end of April for the main crop, point over the ground with a fork, rake it level, mark off the beds, and draw out the rows 1 ft. apart to give them plenty of light and air between them; this is one of the secrets of success. Cover in with the back of the rake, then get some lime or soot, and double the quantity of sand, mix all three well together, and sprinkle it along, patting the bed gently all over. When the young Carrots have grown about 1 in. high, thin out to 1 in. from plant to plant; Carrots should never be allowed to grow higher before being thinned out. One very important point is to disturb the young plants left as little as possible. I sow here cleaned seed thinly, and only thin out where they grow unequally. Keep the Carrot beds well watered in dry weather, as success follows constant and steady growth. If any of your readers should find any difficulty in obtaining a crop of Carrots, let them give my plan a trial. *J. L.*

The Primula Conference.—Now that the weather has changed the promise of a successful exhibition of Primulas has very greatly improved, and amateurs, as well as professional growers, are anxious to make it a great success. This I have no doubt it will be, if all persons interested in the Primula will do what they can. It is not given to every one to make an exhibition of scores of distinct species, but many persons could exhibit one, two, or half-a-dozen, and any interesting or curious forms of the common Primrose might be both interesting and instructive. Notice of intention to exhibit, and also the nature of the exhibit should be sent to Mr. Barron, Royal Horticultural Society, South Kensington, S.W., at least a week before the exhibition. The dates are April 20th and 21st. The National Auricula exhibition is to be held at the same date, the 20th only, but the Primula Conference committee would be glad if exhibitors would kindly leave their plants for the two days. It may remove some misunderstanding if I may be permitted to say that the prizes offered for Auriculas are freely open for anyone who will come forward and win them. The society is supported by the voluntary contributions of admirers of the Auricula, and the subscribers think it best to leave the classes open, except so far that there are classes for large and small growers, so that exhibitors must choose whether they will exhibit as a large or small grower; entries must be sent to Mr. Barron as above. I shall be pleased to send schedules to intending exhibitors.—*Jas. Douglas, Hon Sec.*

Management of Cucumbers and Melons.—Cucumber and Melon growers should see at once that their hot-beds, made a month or two ago, are of a proper degree of heat. This should be particularly attended to at this season, for these plants will not yield fine fruits, nor a plentiful crop, if the beds are devoid of a proper degree of heat. Therefore, when you perceive the heat of the beds has much decreased, let it be renewed as soon as possible. This must be done by adding a lining of fresh dung to the sides of the beds. This will greatly enliven the heat, by which means the plants will be preserved in a growing state, and the fruit will set freely, and grow to a handsome size. Air should be admitted to the plants every day. This is done by raising the upper ends of the lights a little, observing to raise them more or less in proportion to the temperature of the heat in the beds, and according to the state of the weather. Let mats be thrown over the lights every evening about sunset, and taken off again in the morning as soon as the sun shines fully on the glass. Water the plants occasionally; the Cucumbers will require it often—that is, provided there be a good heat in the beds, and the weather is mild and sunny, when a moderate watering once a week will be requisite. Melons should also be watered moderately at times, for they will require it occasionally; but when these plants are about setting their fruit they should be watered very sparingly, as much humidity would retard the setting of the flowers. Let all decayed and damaged leaves be taken off as soon as they appear on the plants, either Cucumbers or Melons; also let all decayed male flowers be taken away, sparing always a sufficiency of the fresh blossoms for the purpose of impregnation. Impregnate or set the young fruit of Cucumbers and Melons with the farina of the male blossom, and in a few days after they will begin to swell, and, in the case of Cucumbers, in about a fortnight or so, according to the state of growth of the plants, they will have grown to a proper size for cutting.—*T. Griffiths, Woolley Park, Wakefield.*

Tabernæmontana coronaria.—During the past year or two I have been growing a good stock of the double variety of this plant, as the flowers are much liked for all kinds of decoration; and it is extremely

useful owing to the long period during which it continues in bloom. We are cutting from our plants all the year round, as by a succession of batches it is not difficult to have some in flower at all seasons. The plants are grown in the warmest part of the stove, and are liberally supplied with water and liquid manure. We grow them in peat, loam, and leaf-soil, and have the pots well drained.—*W. S.*

Potato Planting. — The severe weather has delayed planting of all kinds, but it is quite soon enough for putting in the out-door varieties now, and probably in some districts the soil is scarcely in its best condition yet. For the earliest crops, gardeners have to depend upon those grown in frames, and very acceptable are a few dishes of a good early variety, obtained by the protection of frames. We are just commencing to plant now, and for the earliest crops we rely upon Veitch's Improved Ashleaf, with Myatt's Prolific, but the former is preferred by employers, though the latter is more productive. For second early, we grow Covent Garden Perfection amongst the kidney varieties, and Sutton's Early Regent in the rounds, both of which have given satisfaction with me, on a good medium texture soil. The best main crop Potatos with us, are Paterson's Victoria and Reading Russet, with a few of Vicar of Laleham and Dunbar Regent to fill up; Victoria does not succeed with all, but we have it prolific, and of good quality.—*G., Surrey.*

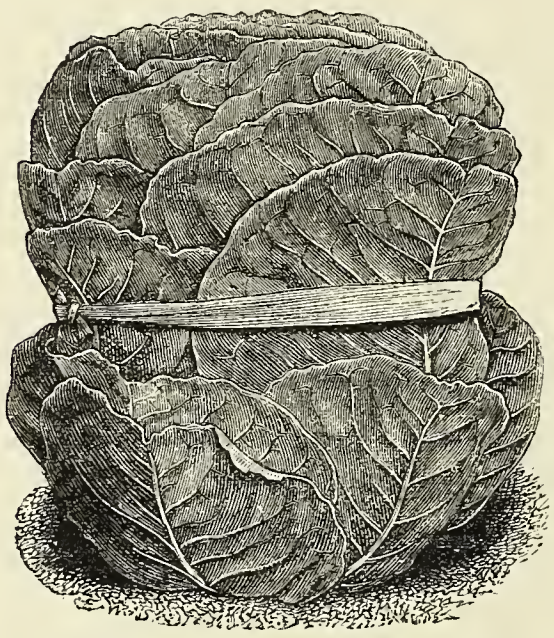
LETTUCES.

We are now at the season for sowing Lettuces in the open air, and it may be safely assumed that protected from birds it is perfectly safe to sow in the open thinly, if in shallow drills all the better, and in thinning out the plants leave them to turn in without further moving. There can be little doubt but that we neglect the cultivation of Lettuces appreciably for summer use. Almost always it is possible to purchase freely in the market up to midsummer, but after that time good Lettuces fall off materially, yet it seems as if just as the hot weather begins the supply of Lettuces fall off, although salading and Lettuces are amongst the very best of salads, they seem the more acceptable when the weather is hot than at other times. Oddly enough, English people seem to prefer feeding on meats, and other heating diets during hot weather, rather than upon salads and fruits with an abundance of fresh vegetables, probably because habit is stronger than hygenic wisdom. It is true that something must be said on behalf of the exceeding changeableness of our climate, which renders any rigid adherence to one particular form of food difficult, but as a rule we rarely permit ourselves to be driven to the consumption of more cooling diet until some exceeding stress of heat has made the partaking of ordinary food insupportable.

The chief objection to the wide culture of Lettuces in hot weather lies in the general tendency the plant shows to bolt off to seed prematurely, and thus render a large breadth useless, and the loss considerable. The best correctives of that tendency are to be found in the selection of good average standing kinds, and sowing where the plants are to stand, and turn in without further disturbance. Perhaps much may also be due to depth and quality of soil, but then it is assumed that all who grow Lettuces for market, or even for home consumption largely, thoroughly realise the importance of sowing only where the soil is capable of carrying out the crop fully even when ordinary summer heat and drought prevails. In one respect there is no reason for lack of edible Lettuce. We have an ample stock of kinds suitable for all seasons and purposes; indeed, the common complaint is that we have far too many, and yet it will probably be found that there is hardly a kind in trade that is not favoured by someone in excess of others, so that one person's selection will assuredly differ from that of some other grower, and it is hardly probable that these diverse selections result from arbitrary caprice, but much more likely arise from diverse soils, and positions suiting some sorts of Lettuce better than others. If there are any who still think we have too many kinds they may take comfort from the fact that not a few are diverse only in name, the old Paris White Cos, especially, having many appellations.

Of kinds for present sowing naturally the white Cos must figure prominently, because the very best summer Lettuce we have. There was formerly a strain of this sort known as the Alexandra, that stood longer during hot weather before bolting than any other, and I believe it was pretty much the same as the Kingsholm, assuming that these sorts really are diverse stocks from the Paris White Cos. Certainly the Alexandra strain which I grew was so. Then a very fine crisp tender Lettuce in the summer is the old Nonsuch, sometimes met with under other designations. It is a long-leaved spreading Lettuce, but as it approaches maturity the leaves gather up in an interesting and compact way, and very fine close heads are formed. Those who want specially fine samples for exhibition will find this kind worthy of attention. The best summer Cabbage Lettuces are the White Chauvigny, a large firm white kind that stands long before running to seed; the early and somewhat erect Longstander; and the large purplish coloured kind, Model. These give bulk, crisp quality, and good keeping properties in greater excellence than most others.

Of winter kinds and the White Cos strains need for that season some protection—the best are Hardy White Cos, Hardy Acme Green Cos, and the black-seeded Bath Cos, three first-rate sorts that can hardly be excelled for winter culture. The best hardy winter Cabbage kinds are Hammersmith, All the Year Round, and Grand Admiral. These latter sorts should be grown upon either rounded beds or sloping ones, for those lying flat are too retentive of moisture, and excessive moisture about the plants seems more productive of harm than even severe dry frost. In enclosed gardens where there are walls and warm borders, and dry deeply



A good type of the Bath Cos Lettuce.

moved soil, there should be no difficulty whatever in having a plentiful supply of Lettuces through the winter, but the production of good crops through the winter in open fields is far more difficult, and severely tests the capacity of the grower during hard seasons.—*A. D.*

The Gardeners' Calendar.

THE PLANT HOUSES.

The occupants of the stove should now all have made a good start, and will consequently need more space, or distorted foliage will result. Young plants required for table decoration—Dracænas and the like—if to be well furnished must now be looked to; place an inverted pot on the stage amongst the other plants, and upon this let such plants be placed, so that they may be above the rest, and if, as they should be, nicely furnished, they will add to rather than detract from the effect; and also by getting more light, as in the case of Crotons they will become much brighter in colour. Look well after insect pests, and see that they do not become established upon any favourite plant, which is very apt to be the case now that work is so pressing all round. Do not be afraid of the syringe, but ply it freely, but not through too coarse a spray, and damp down very frequently; front air will be hardly necessary in this structure yet—a light shading is far preferable.

Where Campanula calycanthema is grown in pots (and it ought to be grown everywhere for greenhouse staging) it will be necessary to give them their final shift into 32's, as with warmer weather they are freely-growing; if this operation is longer delayed the flower-spike is stunted, and it does not branch so freely, and consequently there is far less bloom than there should be. Staged with Balsams, Pelargoniums, and such like, they add greatly to the effect, and, better than all, they are grand for cutting, and being inside, flower well in advance of those outside. It will be well now to look to the stock of pot Carnations, neat stakes will be required to be placed to the weaker-growing kinds, which will be throwing up their spikes, or they are apt to be broken and spoiled; take off the "grass" for propagating as soon as firm enough, so as to get the young plants as strong as possible before autumn. Where pinks are used for forcing, "grass" should be put in at once. Look well to the stock of tuberous Begonias, and let them all be brought from under the stages; those that are started should be potted before they become too far advanced, and the same remark applies to Caladiums.

THE FORCING HOUSES.

It will be advisable to give the vineries all round a thorough good soaking of water; let that given to the early and succession houses be much warmer than is given to the late houses, and according to the growth so may be given artificial manure, according to fancy—we prefer to use guano. The Lady Downe's vinery should now be closed and treated as others were; syringe the rods two or three times a day, and if cold winds prevail, have the pipes warmed in the morning; of course with the advent of April the vines must be expected to start, and if not properly attended to many of the clusters of bloom will be injured, and the crop to a great extent spoiled. Let the looping down of the succession houses be carried on till completed, when let all remain until the fruit is set, when the laterals may be tied into position as thinning of the crop goes on. The Muscats are now needing attention in the way of disbudding and stopping, which must be done at once; syringing of the vines will also be discontinued, damping down being sufficient.

Keep the wood in the early Peach-house tied-in, and the laterals pinched to a pair of leaves. Syringe the trees freely twice a day, making the most of sun-heat by closing the house early in the afternoon. Look out for green or black fly, and fumigate immediately or it will spread very rapidly; if not effectual at once, repeat on alternate nights until there is no trace; generally the third dose is quite enough for even black fly. Melons are now making a free growth, and must have daily attention to keep them in order. Cucumbers will now require much harder stopping, so as to get as many fruits as possible down; if they are allowed to grow too freely they soon become over-run.

Let the stock of Tomatos be looked to, and see that sufficient are potted off. When well established, remove all those required for planting out of doors to the cold frames.

THE KITCHEN GARDEN.

The weather still remains unsettled, so that we have not made as much progress as we desired with planting of Potatos; however, with a little patience, we hope to be in time yet. To-day (5th) we are busy both with the Potatos and autumn-sown Onions, which have, within the past few days, quite recovered from the effects of the easterly winds. We grow the White, Italian and Brown Globe varieties. Asparagus beds have been raked down and put straight, and now we hope soon to see the "grass" make its appearance. Should any of the small seeds fail, lose no time in making another sowing.

Autumn-sown Cauliflower will now be better planted out. If the alleys between the Asparagus were well manured this will be a good place for them, as they will be sheltered from the winds, and soon make a start. Make successional sowings of Spinach according to demand; our winter bed is now giving us some good dishes, which are much relished. Our square of late Broccoli is also giving some very nice heads, particularly the Leamington. If, by any means, the Sea Kale is not yet planted, lose no time in getting it in. Endeavour as speedily as possible to dig all vacant plots, so that all may be tidy and clean. The ground allotted to Celery should now be marked out and the trenches prepared, at least for the early crop, remembering that to grow it well it must be liberally treated. The early Peas should now have the soil drawn to them and be staked, which will afford shelter from the winds.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Fumigating Orchid-Houses.—To keep green-fly and thrip out of Orchid-houses is an object of the first importance with all careful and skillful cultivators. For the former there has hitherto been only one safe remedy, that of regular light fumigations with the best Tobacco rag or paper. In the case of thrips, dipping in Tobacco-water and sponging have been found the only safe methods of dealing with them, and troublesome, tedious and unpleasant are both operations at the best. On the continent, in some collections, a different method has been employed, and we are informed with great success. Instead of filling the houses with smoke, they are filled with Tobacco-vapour by means of a shallow saucepan filled with water and Tobacco paper, and kept steaming over a sharp fire. The vapour thus distributed is, if anything, more pungent than smoke, and keeping the fire up to its work is an even more disagreeable operation than ordinary fumigating.

It will be welcome news to many, therefore, to know that a better plan than any of the above has been discovered and very successfully proved by Mr. E. H. Adcock, Mount Adon Park, S.E., who has a very choice collection of Orchids, which he prizes all the more that he can now bid defiance to the natural pests of his favourites, and besides save a vast amount of time which was formerly taken up with spouging. Mr. Adcock simply puts half-a-pint of Tobacco-juice into the evaporating troughs on his hot-water pipes at night, and assures us that no thrip can stand against it, let alone green-fly; but it is desirable early next morning to admit a little air to the house to clear out any remains of the vapour that may be left and so render the house unpleasant. This simple plan being successful in the case of Orchids, there is no reason why it should not be followed in the case of plant and fruit-houses generally, and we should be pleased if some of our readers would try it and let us know with what result.

Orchids at Misarden Park.—In the compact collection of E. A. Leatham, Esq., M.P., under the skilful management of Mr. F. Excell, who is particularly successful in growing many plants generally supposed to be hot-house subjects in the intermediate house, many good things are in bloom, among which the following may be noted as having all been grown together in one house:—Cattleya Trianæ, a fine variety with thirteen blooms; Phalænopsis Schilleriana, with twenty-six very large blooms; Cattleya Mossiæ, a superb mass, which will be a fine sight soon, it has thirty-six flower-sheaths; Vanda suavis (Rollisson's var.), two spikes of eighteen blooms; Vanda suavis (Veitch's var.), three spikes of eleven blooms each, and several smaller; Dendrobium thyrsiflorum, with eight fine spikes; D. albo-sanguineum, with several spikes; Oncidium Marshalianum, a splendid variety; O. concolor, with four spikes; Cymbidium Lowianum, one spike having fourteen fine flowers; Cypripedium villosum, with twelve blooms; C. insigne variety, with twelve blooms. These fine things, aided by the other minor beauties, incontestibly prove that the Orchids do their share at least towards the beauty and interest of the Misarden garden.

Oncidium Marshallianum.—These are grand in the collection of John Day, Esq., High Cross, Tottenham this season, one of the plants having borne 130 of its fine bright yellow flowers on one large branched spike, and others are almost as good. So grown and flowered this is one of the very finest of Orchids. O. sarcodes also is grandly in flower, together with many other good and interesting things.

Odontoglossum odoratum albidum.—A fine inflorescence of a plant which might well be distinguished by this name comes from F. W. Moore, Esq., of the Glasnevin Botanic Gardens, Dublin. It is no doubt identical with the plant named by Lindley, O. nævium majus, which name, however, is incorrect and misleading, as there is no botanical feature to connect it with the true O. nævium, or disconnect it from the major forms of the variable O. odoratum. Nevertheless, the plant is very beautiful and desirable. Its flowers, which are white spotted with dark crimson, are in form and fragrance identical with the upright growing large-flowered form of odoratum, known in gardens as gloriosum, and different in texture and everything else from O. nævium.—*J. O'B.*

THE FIRST FLOWER SHOW IN THE SCILLY ISLANDS.

This was held on Tuesday, 30th March, in the Infant School, St. Mary's, Scilly, under the auspices of the "Scilly Island Bulb and Flower Association," of which the president is T. Algernon Dorrien-Smith, Esq.; the secretary, Mr. Clement W. Mumford; and the treasurer, Mr. William R. Mumford. The exhibition to these islanders was one of unusual interest, the exhibits consisting mainly of well-grown Daffodils, of which the three groups were well represented. The competition for the numerous prizes was very keen, and the inhabitants of the little town of St. Mary's took a lively interest in the show. The prizes, which were distinguished by ribbons—1st blue, 2nd pink, 3rd yellow—were easily spotted, and gave occasion for many friendly congratulations, not only by the visitors but the exhibitors amongst themselves. The weather being somewhat stormy, the off-islanders could not put in an appearance on the first or second day; but on Thursday the storm abated, and some few additional exhibits came in and were awarded prizes according to merit. The exhibition of 1887, it is expected, will be double or triple the size of 1886, and speculation is rife as to where accommodation can be had. Each exhibitor will want more space, and there will be many additional competitors.

One end of the room was occupied by Mr. T. A. Dorrien-Smith's exhibits, consisting of upwards of 160 varieties of Narcissus, tastefully arranged on a groundwork of green moss; and as the exhibitors generally may adopt this mode of staging their flowers in 1887, it is not unreasonable to expect that even our metropolitan Daffodil shows will be put in the shade, as enterprise is one of the characteristics of the natives of Scilly, and it is very likely that some of the growers from these islands will come up to one of the April Daffodil shows to take notes. Under the circumstances, the London exhibitors will do well to make good preparations for 1887, so as to maintain their honours. The prize of the day was £5, offered by the Earl of Mount-Edgcumbe for the best exhibit of marketable flowers. This was carried off by Mr. W. P. Mumford, with an assortment of fifty varieties of Daffodils. The same prize will be offered in 1887, and possibly others, as many who visit these islands and enjoy the hospitality of Mr. T. A. Dorrien-Smith may desire to follow the noble example of the Earl of Mount Edgcumbe.

The following prizes were given by the association:—Narcissus spurius, 1st, W. P. Mumford. N. maximus, 1st, W. P. Mumford. N. Emperor, 1st, W. P. Mumford; 2nd, F. Woodcock; 3rd, Hugh Watts. N. Empress, 1st, W. P. Mumford; 2nd, G. Woodcock; 3rd. F. Woodcock. N. Rugilobus, 1st, J. C. Tonkin; 2nd, W. M. Gluyas; 3rd, F. W. Banfield and W. P. Mumford equal. N. princeps, 1st, W. P. Mumford; 2nd, J. E. Hooper; 3rd, J. C. Tonkin. N. obvallaris, 1st, W. Barnes; 2nd, E. W. Banfield; 3rd, W. Trevellick. N. pallidus præcox, J. E. Hooper (only prize). N. odorus, 1st, Hugh Watts; 2nd, E. W, Banfield; 3rd, W. M. Gluyas and W. P. Mumford equal. N. telemonius plenus (large double yellow Daffodil), 1st, W. P. Mumford; 2nd, W. Barnes; 3rd, W. M. Gluyas.

N. incomparabilis varieties, 1st, J. C. Tonkin; 2nd, W. P. Mumford; 3rd, Hugh Watts. N. incomparabilis Sir Watkin, 1st, W. P. Mumford; 2nd, W. M. Gluyas; 3rd, Hugh Watts. N. incomparabilis Stella, 1st, R. Mumford; 2nd, J. E. Hooper; 3rd, W. P. Mumford. N. incomparabilis cynosure, 1st, Hugh Watts; 2nd, F. Woodcock; 3rd, W. Trevellick, N. incomparabilis double, 1st, R. Mumford; 2nd, E. W. Banfield; 3rd, F. Woodcock. N. incomparabilis Orange Phœnix, 1st, W. P. Mumford; 2nd, R. Mumford and W. Trevellick equal; 3rd, E. W. Banfield and W. M. Gluyas equal. N. incomparabilis Sulphur Kroon, 1st, R. Mumford; 2nd, W. P. Mumford; 3rd, F. Watts and W. Trevellick equal.

N. Polyanthus Grand Soleil d'Or, 1st, W. Trevellick; 2nd, R. Mumford; 3rd, W. P. Mumford. N. Polyanthus Scilly White (ochroleuca), 1st, W. Trevellick; 2nd, W. P. Mumford; 3rd, R. Mumford. N. Polyanthus gloriosus, 1st, F. Watts; 2nd, M. Watts; 3rd, W. P. Mumford. N. Polyanthus Grand Monarque, 1st, W. Barnes; 2nd, W. M. Gluyas; 3rd, J. C. Tonkin; commended, W. Trevellick, H. Watts, J. E. Hooper, and F. Woodcock. N. Polyanthus Jaune Supreme, 1st, W. M. Gluyas; 2nd, E. W. Banfield; 3rd, M. Watts. N. Polyanthus Staten General, 1st, F. Woodcock; 2nd, T. Mumford; 3rd, W. M. Gluyas. N. Polyanthus Bazleman major, 2nd, W. P. Mumford. N. Polyanthus Paper white, 1st, R. Mumford; 2nd, W. P. Mumford; 3rd, W. Barnes.

N. poeticus ornatus, 1st, W. M. Gluyas; 2nd, E. W. Banfield; 3rd, R. Mumford. Polyanthus (any variety), 1st, T. Mumford; 2nd, H. Watts; 3rd, W. Trevellick. N. Trumpet (any variety), 1st, W. Trevellick; 2nd, H. Watts; 3rd, W. P. Mumford. N. Burbidge, 1st, J. E. Hooper; 2nd, W. P. Mumford.

The best three bunches of marketable flowers, prize by Mr. Jacob, salesman, Covent Garden, 1st, R. Mumford; 2nd, W. Trevellick; 3rd, W. H. George.

The best three bunches of marketable flowers, prize by Mr. Peter Barr, 1st, R. Mumford; 2nd and 3rd, E. W. Banfield.

The best three bunches of marketable flowers, prize by the association, 1st, Wallflowers, W. P. Mumford; 2nd, Primroses, Thomas Mumford; 3rd, Snowdrops, J. C. Tonkin.

In August there will be an exhibition of dry Narcissus bulbs grown on the Scilly Islands, of the most marketable sorts, when T. Algernon Dorrien-Smith, Esq., will give a prize of £10, and again, in 1887, a prize of £25.

The judges were Mr. Vallance, Tresco Abbey Gardens, and Mr. Peter Barr, London.

HORTICULTURAL SOCIETIES.

Shropshire Horticultural.—*April 1st.*—The annual spring show of this society was held in the Music Hall, and the large hall was well filled. There was a magnificent display of flowers; the Azaleas, Hyacinths, and Roses being especially worthy of the high encomiums passed on them. In the open class for twenty-four plants in flower, Mr, J. Purser, gardener to J. Watson, Esq., M.P., was first; Mr. E. Shepperd, gardener to the Misses Bannerman, second; and Mr. R. Milner, gardener to the Rev. J. D. Corbett, a good third. For eighteen Hyacinths, Mr. E. Murrell, Portland Nursery, Shrewsbury, won premier honours with a fine lot, that included fine examples of Solfaterre, King of the Blues, President Lincoln, Cavaignac, and La Grandesse. Messrs. W. Pritchard and Sons, Frankwell Nursery Shrewsbury, were a good second, Lord Macaulay, King of the Blues, and Von Schiller being very fine in their stand; Mr. J. Lambert, gardener to Col. Wingfield, was first in the class for twelve Hyacinths; and Mr, F. Morris, gardener to Mr. J. Laing, second. For four pyramidal Azaleas, Messrs. W. Pritchard & Sons were first with fine plants, 4 ft. to 5 ft. in height and well flowered; the second going to Mrs. Juson, with smaller plants, but better sorts than the first prize; Mr. J. Lambert was third. Cinerarias were compact, medium-sized plants, well flowered, the prizes going to Mr. W. Rudge, gardener to Mr. Slaney Eyton, and the Rev. J. D. Corbett. The best Dielytras came from the Misses Bannerman, Messrs. W. Pritchard & Sons being second. In the class for six Spiræas the first prize went to Mr. T. Slaney Eyton, and the second to the Misses Bannerman. For three Callas, Messrs. Jones & Sons were first with well-flowered specimens, and the same exhibitors took both the prizes for Lily of the Valley in pots. Messrs. James Dickson & Sons, of Chester, were the only exhibitors of twenty-four pots of early spring flowers, which attracted much attention, and, indeed, was one of the features of the show. Narcissus Empress and Sir Watkin, Primula rosea pulcherrima, Trillium grandiflorum, Muscari botryoides cœrulea, and the lovely Chionidoxa Lucillæ (or Glory of the Snow) being especially fine. For twenty-four hardy plants in flower, Messrs. Pritchard & Sons won both the first and second prizes; Messrs. Jones & Sons being third. Messrs. Perkins & Sons, of Coventry, were first for a beautiful ball-room bouquet; and Mr. E. Murrell, second. For a bridal bouquet, Messrs. Perkins & Sons, again secured the first prize; and Messrs. Jones & Sons, the second. Cut Roses, Mr. E. Murrel, first; the Misses Bannerman, second. A special certificate of merit was awarded to Mr. E. Murrell for a bright and showy bank of flowers, which included very good Azaleas in variety, Hyacinths, Tulips, Roses, &c.—these well deserved a more substantial recognition. Special prizes were given to Mr. A. Myers, for thirty-six trusses of cut Zonal Pelargoniums; to Messrs. Jones & Sons, for three boxes of Zonals in flower, and fine Lily of the Valley, in pots; to Mr. J. Lambert, gardener to Colonel Wingfield, for two boxes of cut flowers; and to Mr. Milner, gardener to the Rev. J. D. Corbett, for twenty vars. of Daffodils.

Royal Caledonian Horticultural.—*April 7th and 8th.*—The spring flower show of this Society was held as usual in the Waverley Market, and though there was a slight falling-off in the entries, the general effect was not greatly below the corresponding show of last year. As usual, the space round the band stand was occupied with Rhododendrons, in the competition for which Messrs. R. B. Laird & Sons, Edinburgh, had it all their own way. The Azaleas were a good show,

and the formal-looking cone-shaped methods of training are giving way to freer and more natural growths, while a number of new colours are introduced. A large collection of Cinerarias and Dielytras gave a pleasing variety, while of course the commoner spring flowers were present in some force. Of the different kinds of Narcissus there was not a large show, but Tulips were in comparatively good condition, and in some instances the bloom and colour was very satisfactory. The Hyacinth attracted a large amount of attention, the display being a good average one. Among nurserymen, the Messrs. Laird took the first place with a large table of plants arrauged for effect. The grouping was very tasteful and harmonious. To a large extent the flowers consisted of Azaleas fringed and interspersed with Ferns, Heaths and Lilies. Beside it was the amateurs' table, much smaller, but yet very pretty. Mr. Grossart, Oswald Road, always carries off the honours in this department, and on this occasion showed a number of pretty Orchids. Messrs. T. Methveu & Son had a very attractive table, of which a distinctive feature was the display of Japanese maples. Messrs. Ireland & Thomson exhibited a selection of Conifers; and Messrs. Dickson & Company had an attractively arranged table of plants at the eastern end of the Market. A pleasing feature of it was the grouping of small plants round the table, so as to hide the pink cloth with which the tables are fringed. The colour is often a most unsuitable one, and on some of the tables forms a disagreeable contrast to the floral display, so that it would be a good idea were exhibitors to arrange the large tables from the floor upwards, and altogether cover the upholstery. A very pretty little table of hardy and half-hardy plants was that shown by Mr. Sinclair, East Linton, also at the lower part of the hall. Messrs. James Dickson & Co. had a good show of spring flowers, and Messrs. J. & A. Seth had an attractive table of hothouse plants very tastefully arranged. Of recent years several nurserymen have given considerable attention to the cultivation of the small hardy plants, and of these there was a capital display. The best table was that of Mr. Robertson Munro, who had a good assortment of Primulas, Auriculas, and Polyanthus. Among the Orchids, Messrs. Thomson & Sons, Clovenfords, showed a hybrid which they value at 150 guineas, and which has recently obtained two certificates, also the new Lawrenceana. There was a small but attractive collection of cut Roses and Rhododendron trusses, some fine bouquets, and a little fruit.

COVENT GARDEN MARKET.

April 8th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes, per lb.	2 6	8 0	Pears ..per dozen	12 0	15 0
New Grapes ..per lb.	4 0	5 0	Strawberries ..per lb.	4 0	8 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	1 0				

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0	3 6	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 8		Onions, per bushel	5 0	6 0
Cabbages ....per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 6	3 6
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 6	2 6
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

POTATOS.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Acacia mimosa, French per bunch	1 0	1 6	Pelargoniums, per 12 sprays	1 0	1 6
Anemone, French, 12 b.	3 0	6 0	— scarlet, 12 sprays	0 8	1 0
Arum Lilies, 12 blms.	4 0	8 0	Primula, double, bun.	0 9	1 6
Azalea, 12 sprays	0 6	1 0	Primulas, Chinese, bun	0 4	0 6
Bouvardias, per bun.	0 6	1 0	Roman Hyacinths, 12 sprays	0 6	1 0
Camellias, 12 blooms.	1 6	6 0	Roses (coloured)	4 0	9 0
Carnations, 12 blooms	1 0	3 0	Roses (indoors), doz.	1 0	3 0
Cyclamen, 12 blooms.	0 4	0 6	Roses, Tea ,,	2 0	3 6
Daffodils, per bunch	0 3	1 6	Roses, red, French ,,	2 0	4 0
Epiphyllums, 12 blms.	0 6	1 0	Snowdrops, doz. bun.	1 0	3 0
Eucharis, per dozen	4 0	6 0	Tuberoses, per dozen.	1 6	2 6
Gardenias, 12 blooms.			Tulips, 12 blooms	0 9	1 0
Heliotropes, 12 sprays	0 6	1 0	Violet, 12 bunches	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	— Czar, French, per bunch	1 6	2 6
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9
Marguerites, 12 bun.	4 0	8 0			
Mignonette, 12 bun.	4 0	12 0			
Narciss, 12 bunches	4 0	8 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	10 0	15 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.	6 0	9 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots or clumps, doz.	18 0	30 0
Bonvardias, per dozen	9 0	18 0	Marguerites, per doz.	9 0	12 0
Cineraria, per dozen	10 0	12 0	Mignonette, per doz.	8 0	12 0
Cyclamens, per dozen	12 0	24 0	Narciss, per dozen	8 0	12 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Daffodils, per dozen	9 0	12 0	Pelargoniums, doz.	18 0	24 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
— viridis, per dozen	12 0	24 0	Primula, single, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen	12 0	15 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots	6 0	9 0
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 6			

QUESTIONS AND ANSWERS.

SMALL CONSERVATORY.—*W. K. G.*: There are several good and useful little heating apparatuses now to be obtained, that are quite powerful enough to maintain the temperature indicated, and moderate in cost. Consult our advertising columns. If you have the gas laid on to your house, a small gas-heating apparatus would give the least tronble.

MUSHROOMS.—*Agaric*: Beds made in the open air or in an open-fronted shed in a north aspect, yield better and fine Mushrooms through the summer months than those in a Mushroom-house proper.

WATERCRESS.—*J. C. B.*: It is not absolutely necessary to have a running brook, or a brook of any kind, to grow Watercresses in, as good supplies can be readily obtained from a good rich moist border. Sow the seeds at once in rows, with a shallow drill between each row, into which water can be poured at frequent intervals during dry weather. If you don't want a large supply, sow a row or two at a time in succession, and keep thinning the plants in the rows as you gather the crops.

COTTAGE GARDENING.—*Scotus*: There are several useful manuals of the sort you describe. Paxton's *Cottage Gardener's Calendar* (41, Wellington Street, W.C.); and *Cottage Gardening*, by E. W. Badger (Houlston & Sons), are admirable and cheap little works for distributing among the class they were written for.

NAMES OF PLANTS.—*Tyke*: Maxillaria tenuifolia. *Jason*: Odontoglossum crispum, commonly called Alexandræ. A very fair variety. *Scotus*: 1, Odontoglossum odoratum; 2, O. luteo-purpureum; 3, Cattleya citrina.

COMMUNICATIONS RECEIVED.—J. H.—W. B. H.—G. F. W.—E. B., Junr. (many thanks).—H. W.—W. P.—H. C.—W. W. H.—R. G.—P. E.—J. Brown.—Constance.—P. B.

TRADE CATALOGUES RECEIVED.

R. B. LAIRD & SONS, 17, South Frederick Street, Edinburgh.—Descriptive Priced List of Florists' Flowers and Greenhouse Plants.

J. W. MANNING, Reading, Mass., U.S.A.—Descriptive catalogue of Hardy, Ornamental, Deciduous, and Evergreen Trees, Shrubs, and Herbaceous Plants.

LONDON SEED TRADE.

Aprtl 7th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a small attendance at to-day's market, with a slow demand for seeds. Prices all round continue unchanged, and are now so low that dealers are trying to hold over should this season's demand not exhaust supplies. Medium English Red offers on easier terms. English and Italian Rye Grass is dearer, the demand having considerably reduced stocks. Perennial Rye Grass unchanged. Bird Seeds still in moderate reqnest at rates current last week.

S. SHEPPERSON, FLORIST and SEEDSMAN, Prospect House, Belper, Derbyshire, begs to inform the Readers of this Paper that he is prepared to execute Orders for the following Plants, all of which are of the very finest possible strains that money can buy; they are all grown on the Derbyshire hills, and are therefore very hardy and strong. All Carriage Free for Cash with orders.

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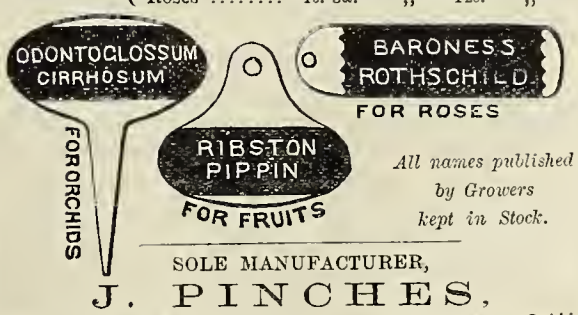

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Orchid Show.

BIRMINGHAM BOTANICAL & HORTICULTURAL SOCIETY.—£150 in prizes. For Schedules apply to W. B. LATHAM, Curator, at the Gardens, Edgbaston.

ROYAL AQUARIUM, WESTMINSTER.—In consequence of an extension of time for holding the Exhibition by the Kennel Club, in June next, the Rose Show announced for June 25th and 26th, is unavoidably withdrawn, and the Strawberry Show and Fête, on July 2nd and 3rd, is for the same reason postponed until July 9th and 10th.—RICHARD DEAN, Superintendent of Exhibitions, Ealing, W.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.—FLORAL MEETING at the Town Hall, Manchester, on Tuesday the 27th inst.

THE GRAND NATIONAL Horticultural Exhibition of 1886, will open at the Gardens on the 11th June. Schedules may be had from the undersigned.

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NATIONAL AURICULA SOCIETY'S SHOW in the Conservatory, on Tuesday next, April 20th, open to Fellows and their orders at Twelve o'clock, and the Public at One o'clock. Small Band of the Royal Horse Guards, by permission of Colonel D. Milne Home, from Half-past Three. Admission 2*s.* 6*d.*

N.B.—Entrances North-east Orchard House; and Exhibitors' Entrance, East side of Royal Albert Hall.

A PRIMULA CONFERENCE, for the reading of papers and discussion, will be held on Wednesday, April 21st, and programmes and all particulars can be had on application to the Secretary, South Kensington.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 17, 1886.

THE PRIMULA CONFERENCE.—In conjunction with the Annual Southern Exhibition of the National Auricula Society there will be held at South Kensington, on Tuesday and Wednesday next, what has been termed a Primula Conference. Except for the fact that Auriculas and Polyanthuses are garden varieties of the Primula family, it cannot be said that there is much in common between the growers, fanciers or florists who favour these, and the botanist who proposes to make this conference a sort of Primula festival. The latter has little sympathy with florists or their flowers, but rather prefers the original species in all their native beauty and simplicity. The former equally sees in wild and unimproved species just so much material upon which he thinks the florists' powers might be wisely and usefully expended. In the one case to "improve" is to destroy; in the other the lacking improvement signifies an uncultivated and unregenerate race. Whilst there may be some association, therefore, between the singu-

larly perfect forms of the Primula family found in florists' Auriculas and Polyanthuses and in the botanists' rugged and quaint Primulaceæ, there is also much that is incongruous, for in the one case points and outlines govern everything, in the other these things are abominations.

Most probably we shall see the botanist turn from the contemplation of perfect thrums, paste, edgings, and outlines with sorrowful feelings, whilst the florists will turn from the botanical specimens of the Primula race with contempt; and yet it must be admitted that but for the botanist the florist would be having but a poor time of it. It is true that in Primula veris, the common Cowslip, and in Primula acaulis, the Primrose of our woods, we have material for which we have to thank no one. But turning to the Auricula, at least we must admit that here is to be found good reason for gratitude; and we may say as much for those beautiful Japanese (Sieboldi) and Chinese forms so decorative in our greenhouses during the winter. Why in the vast Primula family our florists have stopped short at some three or four of its members it is not easy to understand; but such beautiful kinds as purpurea, obconica, grandiflora, Abysynica, and some others surely offer material upon which florists may expend their skill in broadening, deepening, varying, and generally of improving, if not in the botanists' sense, at least in a garden or florists' way; and to objections to this so-called improvement of Primulaceæ, it must be submitted that those so operated upon have proved of wonderful value for garden purposes, and hence have become singularly popular. Take the Chinese Primrose for example; what grand and singularly beautiful developments has that produced, what beauties for our greenhouses in winter, and what capital marketable material. The development of double strains has proved of great service; and this Primrose retains still the pride of place in being at once the most easily cultivated and most prolific of greenhouse winter flowers.

The Auricula signifies a wondrously beautiful, if, in some respects, a rather delicate, section of the Primula family. What strange and curious markings are found in the show section, what rich colours in the Alpines, what singular beauty in the coarse hardy border kinds. Why do some revel in a coating of powder—dusty millers in reality—whilst others are as free from the flowery grains as if grown in a pond? Then, why have some white paste, others a rich gold centre, and others, again, a miserable centre, that is neither one or the other? Polyanthuses, again, exhibit Primulas in very varied and popular form, the florist finding in his gold-laced section singularly refined markings, that in high-class flowers are perfection. But for the flower border in early spring, just where the gold-laced kinds would be poor indeed, the rich-hued and many-coloured fancy kinds are gay and beautiful. Here, perhaps, we owe something to our native Flora, as certainly we do when we reach the lowly but lovely Primrose—perhaps the most popular, if not the most widely-growing of Primulas. Were all the forms found in Alpine, Himalayan, Cashmerian, or Japanese climes brought together in number and variety, yet would they lack in the beauty and attractiveness that may just now be found in any good bed of garden Primroses. If it be characteristic of the botanist to glorify the original species from far distant lands, even though lacking elegance and attractiveness, it is equally the nature of the florist—perhaps, we may say, of the gardener—that he should exalt, and, indeed, find more delight in the varied garden forms which have grown up under his own eyes, and probably are the product of his own hands.

It is not without interest we find that just as the florists are charged with cramping and limiting floral beauty, they, on the other hand, retort that their action has led to floral developments in flowers once thought utopian. If we take the Auricula for example, it must not be assumed that in the hundreds of years which have passed since Primula Auricula was first operated upon for its improvement, only the show kinds, with their wondrous combinations and perfect markings, have resulted. Myriads of seedling plants, cast aside as out of the range of the object in view, have been productive of exceeding beauties in our gardens, and these, again, have been the parents of other and finer forms. From out of these, in some measure, have come the double kinds; so, also, must have come all the charming Alpines, and not least, all those huge and quaint flowers which will thrive in garden borders as freely as weeds. The pretty laced section of the Auricula affords a good example of what has been done in the generations which have passed away since the first true florist grew Auriculas. This section is of more modern origin, and has hardly yet found its way to the affections of the older school of Auricula fanciers.

But those who are engaged in the growth and selection of laced forms find, as all Auricula growers have found, that to one seedling producing flowers which approach their ideal there are myriads which are a long way removed from it, and yet these almost always possess some merits. Perchance, in the estimation of those who care for hardy garden flowers without regard to florists' points, they are very beautiful, and esteemed as valuable elements in garden decoration. The same surely may be said of the Polyanthus, for our gardens now may be rich and beautiful with all sorts and kinds of these, evolved through many years by the patience of the florist from out of crude materials. It matters not, indeed, to whatever section of garden plants we turn, the same thing presents itself, and in a thousand ways almost has the work of the florist served to bless and to beautify. Whilst wishing, therefore, to give all honour to the plant introducer, the toiling botanical collector who has so abundantly enriched our Flora with many foreign productions, let us also reserve a place in the temple of garden fame for the patient, earnest men who have evolved for us and posterity so much beauty from the crude elements thus provided.

GARDENING MISCELLANY.

Royal Aquarium, Westminster.—We are requested to state that owing to an extension of the time for holding the exhibition of the Kennel Club in June, and also owing to the whole of the building being required for the purpose, the great artistic Rose show, fixed for June 25th and 26th, is unavoidably withdrawn; and from the same reason the Strawberry show and fête, announced for July 2nd and 3rd, is postponed until July 9th and 10th.

Presentation to a Gardener.—On his leaving Headfort Gardens, last week, to take charge of those of Lord St. Oswald, at Nostell Priory, Yorkshire, Mr. W. J. Ireland was presented with a gold watch by a few friends and fellow *employés* at Headfort, as a small token of their esteem and regard. Returning thanks for the compliment paid him, Mr. Ireland said he should always remember with feelings of pleasure the time he had spent in Ireland.

National Chrysanthemum Society—A General Committee Meeting of this Society was held at the Old Four Swans, Bishopsgate Street, on Monday last the 12th inst., the President, Mr. Sanderson, being in the chair; amongst those present were Messrs. R. Ballantyne, E. C. Jukes, R. Dean, N. Davis, G. Stevens, G. S. Addison, J. Wright, and C. H. Payne. The Secretary, Mr. Holmes, stated that he had received applications from two Chrysanthemum Societies to become affiliated with this Society, and it was resolved that the applications of the Dartford District Chrysanthemum Society, and the Henfield (Sussex) Chrysanthemum Society be accepted. Some correspondence which had taken place between the Hon. Secretary and Mr. Fitzherbert upon the definition of the term "large flowering varieties," which appeared in some schedules of Chrysanthemum Societies was read, and some discussion took place, from which it appeared that the custom of the N. C. S. now is to include in the term large flowers all varieties save Pompons. Twelve new members were elected at this meeting, thus bringing the roll up to 322.

The Primula Conference.—As already stated the conference will be held on Wednesday, the 21st inst., in the Albert Hall. The chair will be taken at noon punctually by John T. D. Llewelyn, Esq., Penllergare, Swansea. The following papers will be read, and discussion invited thereon. The first in order is that by Mr. Shirley Hibberd, "On the origin and history of the Florist Auricula." Second, "In what direction should efforts be made with the view of improving the Florist's flowers belonging to the genus Primula." Mr. Barlow has been unable to prepare a paper on this subject, but the Rev. F. D. Horner has kindly consented to take his place. Mr. J. G. Baker, of the Royal Herbarium, Kew, will next discourse on "The nomenclature of the Alpine Primulas." While to Dr Masters has been committed the important subject of "Root structure and mode of growth as affording indications of the probable best culture."

Dutch Bulbs in America.—The Gold Medal offered by the Dutch Bulb growers for competition at the Pennsylvania Horticultural Society's Exhibition, held on March 18th, was won by Messrs. D. Fergusson & Sons. The competition was for fifty varieties, and the winning spikes were described as being very good.

The Curatorship of Kew Gardens.—We regret to hear that owing to continued ill-health, Mr. John Smith has resigned his post as Curator of the Royal Gardens, Kew, an appointment which he has held for twenty-two years, with great credit to himself, and much to the advantage of the gardens under his charge. Mr. Smith it will be remembered was gardener to the Duke of Northumberland, at Syon House, at the time of his appointment to Kew, where he succeeded another Mr. John Smith, the eminent pteridologist, who is still among us. Before going to Kew, Mr. Smith proved himself a skilful cultivator of tropical plants and fruits, and during his tenure of office as curator carried out many great improvements in the gardens. May his successor prove as amiable a man and as able a gardener.

English Seeds at the Cape.—At the recent exhibition held at Port Elizabeth, South Africa, Messrs. James Carter & Co., of High Holborn, were awarded a silver medal for a stand which a correspondent informs us was a very interesting exhibit, well worthy of this great firm, which has attained a name in the colonies equal to that which it bears at home.

The Age of Seeds and Double Flowers.—We have just come across an extract from a number of the *American Agriculturist*, in which mention is made of fine specimens of Balsams produced from seed several years old. It is a kind of tradition of the seed trade that Balsam and Melon seeds will germinate when several years old, and many old gardeners, and probably not a few younger ones, hold the opinion that the long-keeping of the seed is one secret of success, and in the case of the Balsam operates to produce double flowers. We have heard old gardeners say that the best flowers are on Balsams produced when the seed is between four and seven years old; and it is also said that Stock seed and Wallflower seed when two years old will produce better double flowers than when one year old only. Our American contemporary states "that the annuals may be treated in the very best manner, and that when left for seeds, only a few seeds be allowed to remain on each plant; that when ripe and sown, they may be put into the most fertile and best prepared ground, and yet they will certainly deteriorate from year to year when grown from seed of the preceding year. The reason is obvious, the double flower is a monstrosity—is a disease—the essential organs of the flower, those which in the natural state of the plant should have produced the seed, are wanting, being converted into more protecting organs or leaves. But that monstrosity is just what we desire, and the best and surest way to continue it in perennial and biennial plants, is

to propagate by cuttings, layers, or grafting, instead of in the natural way, the plants so severed from the mother plant and brought to form a new plant retaining the desired double flowers." What do our readers say to this?

The Effects of the Frost on the Eucalyptus.—It has been deadly. Many a fine specimen 15 ft. to 20 ft. high, growing in the suburbs of London has been hopelessly killed, and now present a very sorry appearance. The Eucalypti are pictorial trees, of a handsome and distinct character making a rapid growth, and soon growing into size. No doubt many will plant again. It may be fairly assumed that they will be cut down by frost once in five or six years, but that matters but little for they are at their handsomest and most picturesque size when three and four years old.

Grass Seed Contracts.—We understand that the contract for supplying Grass seeds to the Royal parks has been obtained by Messrs. Rayubird, Caldecott, Bawtree, Dowling & Co., of Basingstoke; and for the present year Messrs. Carter, Page & Co., London Wall, E.C., will supply the Metropolitan Board of Works.

The Scottish Pansy Society's forty-second annual competition will take place in the Odd Fellow's Hall, Forest Road, Edinburgh, on Friday, June 18th.

Chrysanthemum Shows. — The Ancient Society of York Florists will hold its annual exhibition and musical fête on November 17th, 18th, and 19th. The Pudsey and District Chrysanthemum Society's second show is fixed for November 20th, and that of the Tadcaster and District Society on December 1st.

Carter's "Practical Gardener."—Messrs. James Carter & Co. have just issued a new edition (the 12th) of their *Practical Gardener*, a most useful guide to amateurs, so well known now as to require no praise from us to recommend it.

A New Insecticide.—Professor A. H. Church has recently directed attention to a new insecticide. The preparation in question is essentially a complete and permanent emulsion, in which has been incorporated a large quantity of such oily liquids (including certain kinds of paraffin oil) as destroy the insect pests of plants. Hitherto the rough methods in use for preparing such emulsions have failed to effect the perfect distribution of the oily matter in the wash, and, in consequence, oily drops of sensible size have spotted and injured the leaves and tender shoots of the plants. The sample exhibited contained two-thirds of its bulk of the above named oils, along with other useful ingredients. On dilution with water no separation of the oils takes place. For very tender and succulent plants half an ounce of the emulsion in a gallon of rain water forms a syringing wash, which proves fatal to green fly, red spider, brown-scale, and even mealy-bug, without inflicting any injury to the flowers or foliage of the plants to which it is applied. The proportion may be increased in the case of more robust plants—even 4 oz. to 1 gal. may in some cases be used, though much weaker solutions are in the great majority of cases perfectly effective. The plants if at all delicate should be syringed with fresh water two hours after the insecticide has been applied. By appropriate chemical methods various substances may be introduced into the emulsion in order to meet special requirements of gardeners and hop-growers. For instance, sulphur in a free state, and yet in a perfectly soluble form, has been added to some of the preparations, and proves to be an efficient preventive and cure of mildew in roses.

COAL DUST AS MANURE.

General as the belief has previously been that coal dust and coal ashes was worthless rubbish, and of no possible good in the garden or field where vegetables are cultivated, and would be better hauled away to fill up an unsightly hole somewhere or repair the roads with, seems at last has been proved a common error.

Of course it was admitted that its mechanical action only upon heavy clayey soils might be as beneficial as so much coarse river sand would be, yet it was very doubtful if it possessed any other value. And I confess that for many years I entertained a similar opinion, and would have willingly allowed anyone to have removed it as a nuisance glad to get rid of. Although we may long remain mistaken about many matters, sooner or later "time discloses all things," and even the virtue of coal dust and ashes has at last been discovered, and made known to all good men.

Late experiments have proved to me that either on light friable loam or sandy land, even as sandy as much of New Jersey soil is, it is one of the best fertilizers I ever used. Wherever it was freely applied, either in the vegetable or flower garden, its beneficial effects were remarkable. Carrots, Turnips and Parsnips seemed to delight in it; while Peas Beans, Salsafy and Beets appeared to glory in it: and for such like things as Potatos, Onions and Tomatoes, why they, "like Pardoe's pig, grew fat and big" among it. And, talk of the flowers, that tasted it, oh, "such beauties they did grow," and did indeed "astonish the Browns" when passing by.—*W. T. Harding, in American Gardeners' Monthly.*

PERSIAN RANUNCULUS.

At one time the varieties of Ranunculus were as numerous as those of the Chrysanthemum are now, and the flower occupied almost as much public attention as "the queen of autumn," but of late years the brilliantly coloured Asiatic Crow's-foot has been greatly neglected, and it is only in a few old gardens that it is seen grown in quantity and perfection. It is difficult to account for this neglect, except on the ground of the change of fashion, and also, perhaps, because more easily grown plants have taken their place for spring and summer bedding. The old florists gave very elaborate directions for the culture of the Ranunculus, as they did for

Persian Ranunculus.

many other flowers; but it is by no means necessary to follow all the minute details they deemed essential, and attention to a few matters will enable anyone to succeed with them.

The most important point is to provide a thoroughly well-worked soil, consisting of rich free loam, to which a good dressing of old manure has been applied and well incorporated with it, or, as some prefer, a layer of manure is placed at a depth of 9 ins. or 10 ins., the soil over this, and a top-dressing of manure above the roots. The position should be a moist one, and when the plants are growing water must be supplied liberally, as any tendency to drought causes much injury to the plants, and stunts the flowers. Various times are advised for planting, some advocating autumn, others February, and still others March. The last-named is the month we usually choose, when the weather is favourable; but this season we delayed the planting until the present month, for it is useless to attempt placing such tender plants as these out while the ground is frozen, or there is a chance of severe frost.

The roots are placed in drills about 2 ins. below the surface, and a little sand is dusted round them before covering with the soil. The surface is firmed with the back of a spade, and a light top-dressing of old manure is then spread over. If the bed has an exposed position, a few rods bent over it will support some shading material when the sun is very hot; but in moderately shaded positions this is not needed, a few light sticks only being required to secure the flowers to. The varieties can be had in many colours—yellow, orange, scarlet, crimson, rose, and black; all are beautiful, and I should much like to see them become favourites again.—*R. T.*

PROPAGATING BY CUTTINGS.

The art of increasing stocks of plants by means of cuttings is an old one, but its development has been slow as regards its application to the more difficult classes of plants, such as Cape Heaths and New Holland plants. Indeed, the propagating of these and other similarly intractable subjects is even now somewhat of a sealed art, almost exclusively possessed by that important personage in every complete nursery establishment—the professional propagator. Fortunately, most of the subjects with which the forester ordinarily has to deal are easy of management, and require the use of no very special facilities in the way of propagating houses and other adjuncts which are indispensable when the operations include a wide range of subjects.

The rationale of the process is based on the inherent power of almost any part of a plant to form roots and establish itself, when by accident or intention it is detached from the parent stem. This vital power is possessed in a much larger degree by some plants than by others; many have it in such a high degree, that their roots, stems, branches, leaves, and flower stems, if chopped up, will in favourable circumstances form independent plants. Incidentally it may be remarked here that there are many curious evidences of imperfect possession of this latent vital force, which are, to say the least, puzzling. It is an easy matter, for instance, to induce the leaf of a Cucumber to emit roots and live for a time, perhaps as long as the average duration of the life of the parent plant, which is annual. But it is impossible to induce it to send forth a stem; it is imperfect in this respect, that, while it can develop the descending axis or the roots, it does not possess the power to produce the ascending axis or stem, and consequently no plant in the complete sense can result from the process. In the genus Begonia, and many others, on the other hand, the leaves may be chopped up into small bits, each of which has the power, under favourable conditions, of establishing itself as a perfect plant. But this power of reproduction from the leaves alone is given only to comparatively few classes of plants, and such as have it are outside the line of the forester's walk in general. The more woody and arborescent the plant may be, it is generally found that the process of reproduction by cuttings becomes more difficult. In a general way, also, the more dense and hard the texture of the wood of any subject is, the difficulty is correspondingly increased.

The first process that takes place after a cutting is made and planted is the formation of a Callus, or a ring of granular matter at its base. Without this there can be no production of root fibres. This Callus is elaborated from the true sap, that which is descending from the upper extremities, and is charged with matter in the right chemical condition to repair waste, heal wounds, and add to the structure of the plant. It cannot be formed by the sap in flow, that is, the ascending sap. Yet this idea is conveyed by many who write and have written on the subject, especially in giving directions respecting the proper time to select and make cuttings. The crude sap drawn direct from the soil cannot of itself contribute to the formation of roots or any other organ, till it is chemically changed by the action of the constituents of the atmosphere, which change takes place chiefly in the leaves, but also more or less in every herbaceous part of the plant. It is only at or near the end of the season of growth that this process of elaboration if perfected; and it is only therefore then in a general way—with regard to woody or hard-wooded plants—that the work of propagation by cuttings may properly be engaged in; but the sooner thereafter they are made and planted, the greater are the chances of success. This consideration is of the utmost importance, and it applies more generally and with greater force to deciduous than to evergreen trees and shrubs. Many of the latter class may indeed be propagated from very immature or partially ripened cuttings, if they are protected from the exhausting effects of the atmosphere by means of glass, and are shaded from the direct rays of the sun. But cuttings of deciduous trees and shrubs as a rule, except they are ripe and contain a full amount of fully elaborated true sap, will die under the experiment, no matter what precautions may have been taken to prevent that result. I have run the risk of being tedious over this point, rather than be misunderstood by the inexperienced, as it has the most important bearing on the proper choice of cuttings and the time

when production by this means may be most successfully prosecuted.

Respecting the choice of cuttings, having in the preceding paragraph endeavoured to impress on my readers the necessity that they should be ripe, or at least in that stage of maturity in which they contain in abundance the matter without which they cannot develop roots, it is only further requisite on this point to indicate several other important particulars, observation of which will contribute to success.

As a rule, side shoots are superior to leading ones, because they are usually more solid or firm and short-jointed. The best are those which from their position have enjoyed the largest amount of light throughout the season ; hence the recommendation which we often see in books, that they should be selected from the lowest branches, or those that sweep the ground, is not always to be relied upon, because such branches are always more or less overshadowed by those above them, resulting in a flabby foliage, and weak ill-conditioned wood. There can be no rule laid down for the length of cuttings that would be applicable to those of all kinds of trees and shrubs. But if there is no stem required to stand above ground, as in the case of Gooseberry and Currant, cuttings, any length from 6 ins. to 9 ins., may be deemed generally convenient. Much stress is laid by some on the desirability of having a small portion of the older wood attached to the base of each cutting ; but provided the young wood is thoroughly hard and ripe, I have never been able to convince myself that it was of much importance, in so far as deciduous cuttings are concerned. Hollow-stemmed subjects, such as the Honeysuckles and Lycesteria, are, however, exceptions, which may or should be selected with a base of the two-year-old wood attached, because the older wood is more solid, and consequently less liable to be injured by accumulations of moisture in the tube.

Evergreen cuttings, such as those of Coniferæ generally, Hollies, and Arbutus, should always be selected with a heel or small section of the old wood at the base. Laurels and other easily increased evergreens may be selected with or without such a heel as is found most convenient. All Coniferæ and other evergreens that are naturally of pyramidal habit must be selected with perfect terminal buds or leaders, otherwise it will be difficult to re-establish them, and care should be taken to avoid injury to the leading buds either in the making or the planting of them.

In the making of cuttings it is a sound rule to square the base clean and smooth over close to a bud or joint with a sharp knife. It is far from essential or necessary, I admit, to do so in every case. There are some subjects with which the forester has ordinarily to deal that will strike roots from any part of the stem freely, even without incision of any kind, if they are merely stuck into the ground right or wrong end up. The Willow and the Poplar are familiar examples of this accommodating description, but they are comparatively few, and will succeed none the worse that they are treated according to the rule laid down. Deciduous cuttings, and diffuse or bushy-growing evergreens, may have their central buds cut out or not according to circumstances.

The subsequent treatment of cuttings begins with the necessity of preventing their exposure for any length of time to the atmosphere after they are made. Neglect of this is often the cause of very serious failure. If they cannot be at once planted in the beds or positions they are finally to occupy, let them be tied together according to their sorts in small bundles, and covered up with soil or sand or sawdust, and kept moist till convenience permits of their being planted. Evergreens suffer most from exposure, and should be the more promptly attended to. All the more easily propagated sorts may be planted in any well-sheltered border or plot, where they will not be exposed to cold dry winds in spring, or to the sun during the meridian hours.

It is essential that the ground should be light and well drained ; if not light enough, it should be made so by means of a liberal allowance of sand being intermixed with it near the root or butt-ends of the cuttings. They should be planted by means of the spade in lines in the same way as any other kind of small nursery stock, and thickly enough to economize space, yet with sufficient room to enable them to stand undisturbed till they are fully rooted. Make them thoroughly firm in the process of planting to prevent drought reaching their butts, and plant them so that in the case of deciduous subjects there may be very little of the top visible above ground, and of evergreens only the portion of the stem having leaves attached to it. As soon as they are planted it is well to give them a slight sprinkling over with bracken, or with light stable litter, the former being the best, to protect them alike from frost and from drying winds ; this covering should be allowed to remain over them till all danger of their suffering from either contingency is past.

Coniferæ and Holly cuttings must have protection of some kind from the exhausting effects of the atmosphere. They will not endure the alternations of heat and cold and drought and wet which are inseparable from unmitigated exposure. In well-appointed nurseries, where these things are reared by thousands, there is usually a properly constructed propagating house, with heating apparatus attached, so that a little heat may be applied at will for the purpose of driving off excessive moisture, and finally, after the cuttings are well callused, to assist them in the process of rooting. But though essential to the highest success, this can be dispensed with when only small quantities are required of each sort. There are many expedients and appliances suitable for moderate operations. Hand-glasses and cold frames are excellent in their way, when placed in a suitable position, which in order to be so should be dry, and with an aspect on which the sun cannot fall during the hottest hours of the day. The frame or handlight should be filled with a suitable compost, light, sandy, and level, so that it may take water equally all over, and it should be beaten firm with a spade or brick before planting. I have found cocoa-nut fibre refuse mixed with sand the best material for this class of cuttings, and for many things that are much more difficult to do. Its equable retention of moisture and temperature, and its eminently friable condition, along with its cleanness and freedom from fungoid developments, even when it is undergoing decomposition, render it the most favourable medium in which to root cuttings which take some considerable time in the process. The frame or handlight will require to be kept close during the first few months after the cuttings are planted, merely opening them occasionally during the mornings of fine days to let off superfluous moisture. They must be protected from frost, and in spring and summer from hot sun-light, and they must be watered as often as they appear to require it, bearing in mind that drought is the greatest obstacle to success. Dead leaves and damp cuttings should never be allowed to accumulate, and the first signs of damping or fogging, which may appear among cuttings of small Coniferæ, such as Retinosporas and Biotas, should be promptly arrested by the removal of the affected parts and change of treatment. This disorder is caused by stagnation of atmosphere and superabundance of moisture, and a little more liberal ventilation, and a more sparing use of the watering-pot overhead will quickly arrest it.—*A Nurseryman in Forestry.*

ORCHIDS IN SOUTH AFRICA.

Angræcum arenatum and polystachya pubescens.—The more I see of these two pretty and fragrant Orchids growing here the more I am pleased with them. I am convinced that there are many Orchids grown in England, and estimated at a high value, that are not to be compared with these if they were well grown. The Angræcum arenatum has the habit of growth of an Aërides, and sprays of white ivory-like flowers, with curiously elongated spurs like those of Angræcum sesquipedale, but smaller. Their odour, especially in the evening, is delightful.

Polystachya pubescens has leafy pseudo-bulbs, and upright spikes of pretty golden yellow flowers with crimson lines in them ; it also is fragrant. I find them both together with a few other Epipyhtes growing near the coast, in some cases very exposed, but where there is shelter they seem more at home. The growing season begins in August and ends in March. If ever so hot during the day, there is always a cool breeze during the night, and generally some dew.

From April to October much wet prevails, and it is frequently cold, especially at night, when there are heavy dews, but no actual frost reaches the plants. Let it be ever so wet and cold during the night, about nine o'clock in the morning, with bright sun, all traces of dew or rain disappear, and find these two Orchids and some other smaller ones on four trees in particular—first the Podocarpus latifolius (native deal or yellow wood), which somewhat resembles the common Scotch Fir, but has a more branching habit like the large old Oaks at home.

It grows 50 ft. to 80 ft. high, with foliage very dense, and the big branches hanging downwards, and near the very ends the Angræcums grow as if placed there, to render it next to impossible for anyone to get them, for one cannot get out to them from the branches nor up to them from the outside. The next tree on which they are found is a Ficus (milk-wood), which bears a small edible fruit ; the third resembles a large Box tree, with very new wood and rough bark ; the fourth is the wild single Gardenia. There may be fifty other kinds of trees about, but not a trace of an Orchid growing on any of them.

The Polystachya is also found on the same trees as the Angræcums, and sometimes growing on rocks quite out in the open plain, and if some of the Orchid growers could see these two Orchids blooming in favourable situations out here, they would confess they are desirable plants for the greenhouse at home.—*James Hall, Port Elizabeth, South Africa.*

PROPAGATING HERBACEOUS PHLOXES.

The herbaceous or decussata section of Phloxes in-include all those which annually produce flowering stems from a perennial root-stock, and which do so much towards making gay our summer and autumn flower-beds. This season of gaiety may be considerably prolonged by adopting various methods in their propagation, principally, however, by cuttings and by seeds. To carry out the first-named method the young growth cuttings, which are being so freely produced from the base of the plants at the present time, may be secured, *i.e.*, taken off, when about 3 ins. to 4 ins. long, and inserted in a close frame in sandy loam ; a dung frame just losing its heat makes an excellent place for striking the cuttings. Place about eight cuttings in a 5-in. pot, and if all goes well, they will emit roots in about three weeks, when they should be gradually hardened off. Afterwards they may either be potted singly or transferred from the cutting pots to the beds in which they are destined to flower, choosing a dull close day if the latter be adopted. Few things root more readily than these, for they not only emit roots from the joint or base of the cutting, but nearly always from the sides also.

Though it is rather late in the day for advocating seed sowing of these, it is not too late for special purposes, *e.g.*, presuming one wanted a few good heads of divers coloured flowers for disposing among the Chrysanthemums and other things in the conservatory late in autumn. These late-sown Phloxes are the identical things for the purpose, so that seed may be placed in slight warmth at once, and as soon as up potted off singly in small pots, and when sufficiently strong plant them out in some good rich garden soil. Never let them suffer for want of water, for, like the Chrysanthemums, they delight in abundant moisture at the roots, and making, as the Phloxes do, a considerable number of surface roots, a few hours hot sun soon tells against them. By the middle of September they will, if liberally treated, have made good plants, and may be taken as many as are required and potted up for decorative purposes. They will repay the little trouble, and their huge panicles of flowers make a very pleasing and interesting variety when judiciously blended among other flowering and foliage plants in groups.

I have also grown some of the strongest cuttings on in pots, and, treating them after the manner of Chrysanthemums, they flower earlier than the seedlings and which bring up a good succession. Among named kinds there is an almost endless variety, some, however, are especially dwarf, and suited for pot culture by their bushy habit—the following being among the best, none exceeding 2½ ft. high :—Thomas Chisholme, Independence, The Queen, and La Candeur, all pure white ; Edith and Marie Saisson, are white, with a coloured centre ; then in bright colours we have Liervali, of a dark shiny rose, striped with white, a conspicuous variety ; Comte de Maron, rich dark purplish lilac with crimson centre ; Madame Emeraut, dark rosy salmon, very fine ; Madame Boisset, clear shiny rose, a beautiful variety ; Monsieur Thalet, clear lilac, with deeper centre ; and Monsieur Taillard, bright salmon-red. These are a few good and distinct kinds, well suited for

pots for conservatory decoration. Liquid manure may be given freely with advantage either to pot plants or to those in the open ground.—*J.*

SCOTTISH GARDENING.

The Flower Garden.—In this department one cannot suggest much for the north which is not already well advised for the south. The work of renewing beds with soil, repairing turf, sowing grass seeds, top-dressing old lawns with bone-meal, soot, &c., or with some of those preparations so suitable for the purpose, are some of the operations now demanding attention. Planting out of hardy plants for the usual purposes of bedding, may be done whenever the weather will allow it. Pansies, Sedums, Antennaria, and such like, are much run upon in the north, and as the early frosts of last September are so fresh in one's memory, we would not stand tenaciously to tender plants however well they may look during August.

Where spring and early summer bedding is popular and practised, much attention to trimming, weeding, hoeing, mowing, rolling, and sweeping will be necessary. What valuable plants Violas and Pansies are for such purposes—they are now coming into flower *en masse*. Violets, Primroses, Daisies, and many of their class are doing good service, but using such plants for forming grotesque shapes on the surface of the ground we do not think is very pleasing to many tastes. Where lawns are weedy, it is still a good time to remove the weeds, afterwards dust fine soil over the surface, and sow seed of choice lawn mixture; birds attack this as soon as it vegetates.

Bedding-out plants are always best when grown in frames or cool pits after this season, and when they are able to stand with lights off, they will then be getting forward ready for the planting season—about the end of May. It is a mistake to suppose that exposure to cold draughts and pelting rains is proper preparation, while one wishes to harden gradually partial destruction is not to be practised. Many successful bedders in cold parts keep their plants growing steadily till June before planting out.—*M. T.*

Vegetable Crops.—Where sowings of the usual crops have been made in frames or under protectors of some sort, much care must be exercised to prevent the plants from becoming drawn. There is nothing gained by a close high temperature with such subjects as are here referred to; we have good batches pricked out, and others coming on rapidly since the seasonable weather came to the rescue. To meet the difficulty with something which cannot be raised well under glass, we cleared off the snow—we have seldom much in these parts—and trenched down the frozen surface to the bottom, the fresh soil was sown with Parsnips, planted with early Potatos, and Spinach, Peas, &c. were also got in. We notice (April 9th) that Onions are through the soil, the seed was steeped in water, placed in heat a day or two, slightly dried, then thrown into rows and covered with light dry soil; at that time the weather was so severe that it seemed that the soil would not be fit for use, except by trenching down the frozen crust, as above indicated. Boxes of Onions, Leeks, and other items are being pricked out.

Potato planting is about finished, but not so in the field. Many of the leading growers on a large scale seldom plant before the end of the month, and others do the work of planting in May. On heavy land we have to cut out drills with the spade; dibbing, in such soils, holds water in a crust like an egg, which frequently rots the seed. Drills drawn, and the sets covered with such kindly material as leaf mould, old Mushroom manure, chopped turf, &c., will reward the grower for his pains—this is, of course, for early select lots. Planting out of Peas and Beans from boxes, pots, &c., pricking off all early Celery under glass, sowing main crops of Beet and Carrots, must now be pushed forward, also French Beans, Scarlet Runners and Broad Beans, and transplanting from the lots sown under glass; Chicory, Asparagus, and Seakale (these two latter do best in the north from seed sown after being steeped in water for a few days), Spinach, Turnips two or three kinds in small lots, Radish, American Cress, Chervil, and Herbs. More Broccoli should be sown, and examine all seeds to see if they have vegetated, so that a remedy for failures may yet be made. Birds and slugs will now increase their efforts so that netting and soot must be used freely.—*M. T.*

WINDOW, TABLE AND INDOOR PLANTS.

Hyacinths Indoors.—These are now getting over, and remarks about them may not be seasonable, yet I cannot refrain from stating a little of my experience about them, as it comes in on the side of economy. In the first place I must say that I fear that my views of what is beautiful in these plants would shock a grower of those stately and primly-tied large-trussed show varieties; but, nevertheless, I must candidly confess that I love the common varieties grown as those I have under my eye whilst I am writing much better than the exhibition kinds as we see them staged, and I find most of my friends (the ladies especially) are of my way of thinking.

Mine have been and still are lovely, their varied foliage and gracefully arranged spike, some of which (I tremble to tell it) are from 1 ft. to 18 ins. in height, their supports reaching only half way up their flower-spikes to allow of their curving this way or that way to break the stiff appearance which I consider so undesirable, and which is the marked feature in a professionally-grown group of them. Grown as mine are, a group of them will arrange gracefully as they grow, merely requiring a twist of the flower-pot to bring the heads into their proper places.

The sorts that I like best are all cheap sorts—viz., Grande Vedette, white; Grand Vainqueur, white; Amy, carmine; Norma, pink; Robert Steiger, bright crimson; Charles Dickens, light blue; William I., dark purple, &c. These are all singles. Groot Voorst, blush; Lord Beaconsfield, deep red; La Tour d'Auvergne, white; and Blocksberg, blue; doubles. These, with any other cheap named sorts known to be good, and eked out with some unnamed mixed ones, will make a charming and continued display if potted as soon as the dried bulbs are received, and placed under ashes or cocoa-nut fibre in the open ground, to be brought into the conservatory or dwelling-house as required, when they are well rooted and their spikes are pushing up.

Being an old exhibitor, I know well that safety in transit, uniformity in appearance when staged, and other considerations, force the growers of exhibition flowers to truss them up so unnaturally; but for plants for the house we need not follow them, as the flowers are infinitely more lovely when merely supported but yet allowed play for their natural graces.—*M. A., Camb.*

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

In preparation for the approaching bedding-out season the plants should now be hardened as much as possible, by exposing them freely to the air on fine days, and where they are placed in frames, the lights should be taken off whenever the weather is suitable, that is, free from frost. A little ventilation should be left on all night, but when there is danger of frost as is frequently the case at this time of the year, it is better to close the frames and cover them with mats, or tiffany secured at one end to a roller is more convenient, as it can be run on or off quickly. These directions specially apply to Pelargoniums, which are so largely used for summer bedding, and though these must be sturdily grown, and well hardened prior to placing them in the beds, they are soon affected by frost, and if not killed they are often so much disfigured as to be comparatively useless. In the event of Pelargoniums getting frozen, however, a hint as to the best treatment to adopt may be of service. Never allow frozen plants to be exposed to the sun, and the best plan is to water them well with a rose can, then shut them close and shade if the weather be bright. Prompt treatment of this kind has prevented severe loss on more than one occasion, and with the utmost care we may sometimes be caught napping. If Pelargoniums and other plants of that character have to be grown in a greenhouse or other structure, let them be as cool as possible consistent with safety from frost, ventilating freely as advised for the frames. Bedding Calceolarias require no artificial heat now; the more they are exposed to the air the better, whether in pots or planted out.

Tender plants of the Alternanthera, Lobelia and Iresine class can be now propagated if the stock is insufficient. Alternanthera of the paronychioides type are quickly increased by cuttings of the shoots inserted in very sandy loam and leaf-soil, and placed in a warm frame, or where large quantities are to be raised, they can be dibbled out in beds of cocoa-nut fibre refuse or light soil like that described above; but they require a temperature of 60° to 70°. Alternanthera amœna is rather more difficult to increase, but it is treated in a similar manner, as also are Iresines Lindeni and Herbsti. Lobelias are quickly increased by cuttings, and this is the best method where named sorts are grown and it is wished to produce an uniform effect in the beds; for though plants are readily raised from seed, they often come up in several shades of blue, and irregular in habit—some dwarf, and others comparatively tall. Of the named varieties L. pumila compacta is the best as a dwarf variety; Blue Stone, Blue Beauty and Blue King being of stronger growth.

For Lobelia and most other plants propagated at this time of the year, also for raising seeds, a hot-bed is indispensable, and when properly prepared, cuttings strike and seeds germinate very rapidly. If the manure heats violently when thrown together in a heap, it must be turned several times, and then made into a bed about 3 ft. deep. Upon this a frame should be placed, leaving the lights open for a few days until the rank steam and gases have escaped; then place in a layer of cocoa-nut fibre refuse about 6 ins. deep, and in this plunge the cutting or seed-pots or pans. If the bed continues hot, leave the lights open ½-in. at the back of the frame, and examine the cuttings twice or three times a day, not allowing them to become dry, but supply tepid water with a finely perforated rose-can, and shade from the sun. As soon as the cuttings are rooted, which can be seen by the growth commencing, or when the seedlings are well above the soil, remove them to a cooler position where they can be near the glass, as it is highly injurious to young plants obtained in either way to be drawn and weakened in their earliest stages. Pot them separately as soon as they are large enough; in the case of cuttings, when they have formed some good roots, and with seedlings, when they have produced their second leaves.

In such a bed as that named, not only can all the half-hardy annuals be advantageously raised for subsequent planting out when thoroughly hardened, but Cucumbers, Melons, and Vegetable Marrows are also easily obtained from seed with such assistance. For all the same advice is applicable, do not allow them to remain in the bed too long, but also be careful in removing them that a serious check is not given them.

The herbaceous or mixed border should be got in order, as many plants are now starting into growth, and the seeds of numerous annuals may be sown in the border, first preparing the soil by raking it fine, and sowing the seed thinly in patches. Any old established clumps of plants like "Michaelmas Daisies," as the tall growing Asters are popularly designated, can be divided if desired, as it is not well to occupy too much space with a few sorts, the beauty and interest of such borders being greatly increased by the variety of the plants placed in it.—*Scolytus.*

GREENHOUSE RHODODENDRONS.

This beautiful class of plants well deserves a place in all establishments where high-class cultivation is carried on. The large-flowered or bell-shaped section are particularly noted for their scent, which is deliciously fragrant, and the flowers in many cases are beautifully fringed. This section may be grown in a comparatively cool house, and when the plants attain a large size the quantity of flowers they will yield, if well managed, is very great. The only drawback this section has is the loose habit they nearly all seem to inherit, and consequently they require to be trained into bush or pyramidal form. An intermediate temperature suits them to make their growth, with plenty of light, only shading from very hot sun, but better without if the foliage can be kept from injury. When growth is complete, they must be gradually cooled down to ordinary greenhouse temperature. Large specimen plants may be treated as ordinary greenhouse subjects all through, and when the growth is mature, may be placed out of doors for a time till frost threatens.

The smaller-flowered or jasminiflorum type require rather different treatment; the same temperature suits

for growing, but afterwards they must not be treated quite as cool, in fact they always require an intermediate heat to keep them in health. This type will be flowering at nearly all seasons of the year, and are, therefore, very useful. The large-flowering varieties are nearly all spring blooming. The soil that suits these plants best is good peat and sand, and for the stronger plants a little fine loam may be added. Potting should be done very firm, and may be done either just before the plant begins to grow or after they have finished growth and set their flower buds. They should never be potted unless they really require it, as they always flower best when well pot-bound.

As this class of plants seems to be coming again into favour, I should advise those who have not yet grown them to give a few varieties a trial, and with good cultivation they will well repay the grower for the room they may occupy. The following twelve—six of each type—make a good selection for a commencement:—

Campanulated Form.—Calophyllum, large funnel-shaped, pure white flowers; Countess of Derby, very free-flowering, large bell-shaped flowers, pure white, and deliciously fragrant; Countess of Sefton, white, with a band of rosy purple; Fragrantissima, white shaded blush, large and handsome; Princess Alice, white flushed with pink, dwarf habit; Veitchianum, white, yellow at the base.

Jasminiflorum Form. — Duchess of Edinburgh, bright orange-scarlet very fine; Jasminæflora, white, very fragrant; Princess Alexandra, flowers long, pure waxy white; Princess Royal, rich rose, very fine; Pink Beauty, pink with white tube, large clusters; Taylori rich bright pink, white tube, extra fine.—*W. G.*

A FEAST OF DAFFODILS.

That this was provided at South Kensington on Tuesday last, there can be no doubt. Never before, in my opinion, have such fine and varied collections been produced. I say fine, for the development of some of the flowers was marvellous. Probably the season has suited them, for the flowers were not only fine in point of size, but they were also brilliantly coloured. In addition, there were a number of fine types of a novel character, and the Daffodil Committee had a long sitting, endeavouring, among other things, to relegate these to their proper sections. I may state that the exhibitors were: Messrs. Barr & Son, 12, King Street, Covent Garden; Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.W.; Mr. T. S. Ware, Hale Farm Nurseries, Tottenham; Mr. J. Walker, market gardener, Whitton, Middlesex; and the New Plant and Bulb Company, Lion Walk, Colchester.

It is very difficult to present to your readers a popular sketch of the Daffodil, so as to enable them to grasp the characteristics of the different sections. Undoubtedly, the most popular is that which comprises the Trumpet Daffodils; they have a saucer-shaped perianth, and a long trumpet or corolla. The greater part of the collections seen on Tuesday last, were made up of Trumpet Daffodils, and seeing that they vary in size, colour, and combinations of colours, it is no wonder they are so popular. One of the earliest of these to flower is Pallidus præcox, which is altogether white; and three other prominent members of this section seen on Tuesday, were, Albicans, Cernuus, and Cernuus pulcher; a rarer form, named Colleen Bawn, was seen in one of the collections. Of the Golden Trumpet Daffodils, there were fine examples of Emperor, Lincolnshire Yellow, Maximus, Obvallaris rugilobus, Spurius, Spurius coronatus, and Spurius Henry Irving, a very good lot. Of the two coloured Trumpet Daffodils, having the perianth white, creamy, sulphur, or yellow, and the trumpet yellow; there were Dean Herbert, Empress, a lovely variety; Horsfeldi, Lobularis, and Princeps.

Next comes a section in which the trumpet is reduced in length, being half the length of the divisions of the perianth and challice-shaped. The cups of some of these are in some cases heavily margined with gold and shades of orange, and though many of them are very attractive, I do not think they hit the popular taste to the degree that the trumpet varieties do. Some of the most popular are Incomparabilis, Leedsii, C. J. Backhouse, Glow, and John Bull; these are golden flowered. There is a giant form named Sir Watkin, which comes nearer to the trumpet section than any other. This has a sulphur perianth, broad, stout, and of the best form, and a golden cup tinged with orange. This was largely shown, and in particularly fine character, by Mr. J. Walker, who also had a very fine sport from it; the cup deep golden, and margin with rich reddish orange. Of white varieties there were Cynosure, Mrs. Syme, Mary Anderson (a lovely variety), Queen Bess, and Stella. There are several sub-sections of these; there is one known as Barr's Daffodils, with shortened challice-shaped cups, both white and golden. Then there is a group known as Leeds Daffodils, with white or Primrose-shaped cups; both include striking varieties, that need to be seen to be appreciated.

Then comes the poeticus type, of which there are a large number, and in the case of these the cup or challice is much reduced in size. The leading varieties shown on this occasion were angustifolius, ornatus, and poetarum; a few of them flower in April, but the larger part of them bloom in May.

The earliest types to flower are in all probability the Medusas Trumpet Daffodils, or, perhaps, better known as Hoop Petticoat Narciss. These have been in flower for some weeks, but on this occasion Mr. T. S. Ware had some very fine pots of the yellow and white varieties.

Of the Polyanthus Narcissus, or bunch-flowered Daffodils, little need be said, as they are well known as suitable for cultivation in pots for greenhouse decoration, a few were shown on this occasion, but Messrs. Barr & Son had the true form of Orientalis, white perianth, the cup handsomely stained with orange.

Nor must the double Trumpet Daffodils—the double Daffodils of our gardens, be overlooked. Some fine and glowing bunches of these were shown, such as Telemonius plenus, Lobularius plenus, and Cernuus flore pleno, the double white Trumpet Daffodil. Capax plenus or Queen Anne double Daffodil, is a very old and singular form, perhaps more curious than pleasing. The New Plant and Bulb Company had some curious double-flowered types in their select collection.—*R. D.*

HYBRID ANTHURIUMS.

Those who remember the introduction of Anthurium Scherzerianum from Costa Rica, and noted the smallness of its scarlet spathes, could scarcely have anticipated that in the hands of even the most skilled of plant cultivators it would have been developed into the noble proportions that we now so frequently see, both at exhibitions and in private gardens. When Mr. Ward's variety was first shown, it marked a wonderful advance in size and form, and still holds its own in the best of company. When the distinguished French traveller, M. Andre, sent home from Costa Rica that remarkably distinct and grand species, A. Andreanum, not a few growers came to the conclusion that it would supersede the old favourite, but they soon found out their mistake, for although remarkably distinct and striking in the cordate form and corrugated character of its glowing scarlet spathes, it is of a different habit of growth, and has never yet been grown into such grand specimens as A. Scherzerianum readily admits of. However, it is not every one who wants specimens for exhibition, and so A. Andreanum will be extensively grown in time for stove decoration.

It was but natural that hybridists should seize upon such a characteristic plant as the last named with a view to the production of hybrid novelties, and among the most successful experimentors in this direction must be named Mr. Bergman, the talented gardener at Ferrières, Baron Alphonse de Rothschild's princely seat near Paris. By crossing A. ornatum and A. Andreanum, Mr. Bergman obtained the distinct and showy A. Ferrierense, which in habit of growth resembles A. ornatum, while the spathe is of a bright rosy carmine colour, cordate in form, and from 5 ins. to 6 ins. across, and the spadix about 5 ins. long, white for two-thirds of its length, and the top portion fawn-yellow.

Mr. Bergman, by crossing A. Scherzerianum with its white-spathed variety, album, has also been fortunate in obtaining another striking novelty, which has been named Rothschildianum. It is decidedly intermediate in character between its parents as regards the spathe, the ground colour of which is creamy white, blotched and spotted with coral-red, while the spadix is yellow, and twisted as in A. Scherzerianum album. Being only of recent introduction into commerce, I am satisfied that these grand acquisitions have not yet been seen at their best, but their merits have been quite sufficient to obtain for them the highest awards given by the Royal Horticultural and Royal Botanic Societies. —*Plantsman.* [We should add that these fine plants were sent out by Messrs James Veitch & Sons, to whom we are indebted for the opportunity of illustrating them. A. Rothschildianum was shown in fine form at Kensington, on Tuesday, by Sir Trevor Lawrence.—Ed.]

SPRING FLOWERS AT WISLEY.

At Oakwood, Wisley, some three miles from Weybridge Heath, and in one of the pleasantest parts of the county of Surrey, Mr. G. F. Wilson, F.R.S., has established an experimental garden, which from early spring to late in autumn is of the most interesting character—a place of pilgrimage for plant lovers from all parts of the world. Mr. Wilson, who is well-known as a member of the council of the Royal Horticultural Society, and chairman of its Floral Committee, has for years been a most enthusiastic cultivator of plants, and of Lilies and hardy plants in particular, and is the happy possessor of three gardens, in which he can carry on those experiments, which for so many years have been to him such a valued source of pleasure and recreation. At Heatherbank he has a choice collection of Orchids and stove and greenhouse plants, among the former, which are admirably grown, being several subjects of interest generally to Orchid growers, not the least in importance being the beautiful Phaius tuberculosus, which he has been so successful in flowering while many others have failed with it.

At The Cottage, or rather we should say Gishurst Cottage, for the name is very familiar among gardeners, though many may not know that it is to Mr. Wilson's skill as a chemical experimentor, that they owe the introduction of that useful insecticide, Gishurst's Compound—are the orchard houses and Lily houses from which have come so many cultural triumphs. Mr. Wilson was one of the first to adopt the system of cultivating fruit trees in pots in cool houses, and we know of no more able exponent of the art. Many fashions in gardening have come and gone since the orchard houses were built at Gishurst Cottage, but their owner remains true to his first love—the gnarled old trees after many years of pruning, pinching and potting, or rather annual top-dressing—for they cannot now be easily potted—still remain as of yore, models of skilful training, full of vigour and fruitfulness. When we saw them a few days ago they were simply sheets of blossoms; a refreshing sight indeed. In the largest house, a large span-roofed structure, were the main bulk of the Lilies, grown in pots, coming away with stems of a strength and robustness that is truly surprising. Here also are quantities of good hardy plants, potted up and flowered under glass, and yielding an infinite variety of the charming flowers of spring. Hardy plants find a home in the borders here, as at Heatherbank, but to see these in perfection, we must go to Wisley.

Some eight years ago, we believe, Mr. Wilson acquired the farm at Wisley, in which he found a woody dell known as Oakwood, which struck him at once as a place made by nature for a wild garden. In the space of a few acres there is to be found a great variety of soils, from bog earth to a deep yellow loam; an undulated surface offering facilities for creating many different aspects; water for making ponds and bog-beds, and a sufficient number of trees to afford shade and shelter. Under such circumstances one cannot wonder that such an enthusiast as Mr. Wilson went to work with a will, laying out the place and planting it with the best of everything. Needless to say, it is not complete yet, but every year sees the work carried forward, and with each recurring season comes some new experience that proves of interest and importance. The first things experimented with were the Liliums, the successful open-air culture of which Mr. Wilson seems to have thoroughly mastered. He has planted the bulbs by thousands, they grow and flower magnificently, and in autumn are a sight that cannot easily be forgotten. With Lilies of all kinds, their successful treatment is reduced to a matter of shade and moisture. By planting in various positions and watching the results, Mr. Wilson has obtained a vast amount of information respecting the requirements of the different species, and we propose, on a future occasion, to go into the subject further.

At the present time the genus Primula affords the

greatest wealth of flowers, and anything finer than the masses of Primula denticulata now in bloom it is difficult to conceive. Raised in great numbers from seeds, we have here a wide range of variation in habit and colour, and all are extremely beautiful and seem to do well in any position. P. nivalis and P. rosea are growing and flowering most charmingly, sheltered from the south-west wind by being planted on a sloping bank, and somewhat protected besides by fallen Oak-leaves. P. capitata, generally a "miffy" plant, is also doing well. Of hardy yellow Primroses there are here vast numbers of seedlings, from which selections are made from time to time to plant in masses. Coloured varieties are also plentiful, the blue or bluish purple shade predominating. Most of these come from that very fine break, "Scott Wilson," and there are some most pleasing noveltics among them, one of the most striking being "Alice Wilson," the beautiful bluish purple variety certificated at South Kensington on Tuesday. Polyanthuses, Cowslips, and Oxlips are also abundant, yielding fine effects in various positions.

Daffodils in large clumps give masses of yellow, which have a wonderfully telling effect in the woodland. Many varieties have been planted, but on the occasion of our visit, N. ajax var. princeps carried the palm, in the wood, while a patch of Corbularia citrinus, sheltered with hurdles, had a charm which was all its own. Hyacinths and Scillas of sorts abound; Anemones crop up here and there in good clumps of vivid scarlet; Dog's-tooth Violets yield an abundance of beauty of another kind; the various sorts of Hepaticas on sloping banks are flowering superbly; and a host of other subjects in fewer numbers add to a display that must be seen to be thoroughly appreciated. After the long and trying winter, it is refreshing in the highest degree to note the awakening into life of so much that has long been at rest; the ground in all directions is bristling with young green shoots. Go where one will in this remarkable garden, there is something of interest to be seen. In one place, sheltered with tall gorse-plaited hurdles, may be seen some fine specimen Camellias, which have escaped unhurt; and various species of Indian Rhododendrons and Azaleas being tested for hardiness; in another part, bushes of Forsythia suspensa are simply a mass of yellow blossoms. In another direction Andromeda floribunda is represented by a grand specimen in rude health and flowering with extraordinary profusion. Then comes that charming shrub from Southern Europe, Daphne Blagayana, flowering freely, and evidently quite at home; while in various places may be seen the May-flower of North America, Epigæa repens, with its clusters of fragrant white flowers.

In the largest pond the Cape Pond Weed, Aponogeton distachyon, bears its deliciously Hawthorn-scented flowers all the year round; while its margin is planted with varieties of Iris Kæmpferi, which are just making their appearance, to flower by and bye with unwonted profusion. The rockery borders will soon be extremely gay, and even now contain many fine things in bloom. Here, on one of these, fully exposed to the sun, is the pretty Canadian Bloodwort, Sanguinaria canadensis, which is generally described as a shade-loving plant, which, like many others, will stand full sunshine if only there is sufficient moisture at the roots. But we must conclude for the present, with the hope of returning to the subject another day, for there is material enough for a volume in this truly delightful garden.

Hybrid Anthuriums: (A) Rothschildianum; (B) ferrierense.

PERPETUAL CARNATIONS.

In a recent number of the *Revue Horticole*, a very remarkable article was published on the Perpetual Carnations in their present state. But the writer says: "Where and how was the culture of the Perpetual Carnations commenced? Who is the horticulturist who first did addict himself to it? We do not know." I therefore think that it may interest horticulturists and amateurs, to be informed, and I, in consequence, send a copy of their history I published ten years ago in the journal of our horticultural society, which had not a wide circulation. According to several horticultural writers, the Carnation was cultivated more than 2,000 years ago; but we know nothing of what was practised about those times—no more in horticulture than any other science; and as it is only since the beginning of this century that the facts of nature have been studied, we can only relate what has been observed lately.

The perpetual Carnations have been created—created—at Lyon. It was M. Dalmais, gardener of M. Lacenc, a celebrated amateur and founder of the first horticultural society in Lyon, who obtained the first real constant-blooming Carnation, about forty-six years ago. He sent it out in 1844, under the name of Atim, the produce of artificial fecundation of a so-called species, known by the vulgar names of Oeillet de Mahon, or of St. Martin, because it was regularly blooming by the middle of November, fecundated by Oeilet Biohon. This first gain was successively fecundated by the Flemish Carnations, and about 1846 he obtained a great number of varieties of all colours. Mr. Schmitt, horticulturist at Lyon, followed M. Dalmais and obtained several fine varieties like Arc en Ciel, and Etoile Polaire, which were cultivated for several years, but do no more exist, having been superseded by finer varieties.

But in 1850, a disease having destroyed his collection, Mr. Schmitt abandoned that culture. Soon after, Alfouse Aligatiere, the well-known and zealous propagator, undertook the hybridization of Carnations, and in a short time obtained a great success, and dotted that series with a great many varieties, all particularly dwarf, and obtained a great improvement by creating those with stiff flower-stems, about 1866. We can thus say that Aligatiere has created a new species. He has also upset the old system of propagation—that of layering—and has proved that cuttings is the best and most reasonable method, and justified my saying, that layering is the infancy of horticultural art. Nothing, he has proved, is easier than propagating Carnations from cuttings

The best time to strike them is January and February, and the best mode is to put them in fine sand on bottom heat at about 60° to 70° of Fahrenheit, without bell-glasses, in a double spanned roof house. The cuttings must be syringed every day and the sand kept moist; they will be rooted in three or five weeks, and must be planted out in April or May, and will make fine plants to bloom in autumn; about September they can, those that have flower-buds, be potted for indoor decoration.—*Jean Sisley, Monplaisir, Lyon, in American Gardeners' Monthly.*

SOOT AND THE ONION MAGGOT.

According to the statements of several of your correspondents, it would appear that their practice in reference to this subject does not justify them in writing under the above heading, inasmuch as there is nothing analogous in their culture of the onion, and their method of using soot as an insecticide, to that set forth at p. 358 as practised in these gardens; therefore, it is hardly fair to connect their failures with a method of procedure (including the application of soot to the ground immediately before the drills are drawn, but not afterwards) which, when carried out in accordance with the cultural details given at the page indicated above, cannot be otherwise than productive of most satisfactory results. It is the observance of details, however small and trifling they may appear to be, that leads to ultimate success. I think the employment of a multiplicity of supposed remedies, such as Mr. Hall made use of (see p. 506), are not calculated to produce the desired effect. If "C. G.," of Dorking, refers to the "Question and Answer Column" (p. 477), he will see that my opinion respecting the maggot is that it is "more plentiful in old soil than in the new."

I may again point out, that I always sow my Onions in ground previously cropped with Celery, the ground being simply levelled, dug, trodden down, and surfaced—dressed with dry soot. This application not only destroys the maggot (where any exist), but also its larvæ, and otherwise renders the soil uncongenial to insects of every description during the year. As a proof of this I need only say, that in thinning and weeding plants and stirring the soil between the rows during the interval from the time the Onions are large enough to handle until they are harvested—we scarcely ever see a worm or an insect in the soil. We also surface-dress the ground prior to sowing our Carrots and planting out Lettuce plants, and occasionally puddle the roots of our Cauliflower, Cabbage, and Broccoli plants in a puddle made of soil sufficiently thick and stiff to adhere to the roots, and into which a couple of handfulls of fresh soot are stirred before transplanting the plants. This, I need hardly say, renders the roots distasteful to the attacks of insects. As you are well aware, Mr. Editor, I have for several years past advocated in the pages of the *Gardeners' Chronicle* the use of soot as a fertilizer and a purifier of the soil, &c. I mention this to show your readers that my practice in this direction does not begin with the year 1886.—*H. W. Ward.*

I much regret that your correspondent, Mr. H. W. Ward, of Longford Castle, has not accepted my remarks in the spirit in which they were written. It was certainly not my wish to give offence of any kind, and much less did I think he would doubt the effects of soot here, having no experience to guide him. I never doubted its effect in his case; I only contended that it would not eradicate the Onion maggot in this place, and that I still maintain. As to our own soot being bad, I shall be glad to hear from Mr. Ward what he considers good soot. We have obtained it from various sources, and have received it from the sweep immediately he removed it from the chimneys in the house, and never allowed it to get damp. With reference to the quantity of soot used and the manner of using it, I take no exception to Mr. Ward's remarks; but I must remind him, as regards the kind of crop we secure, that I never said, or intended to say, that we ever obtained a good clean crop. I only said that closet-manure, mixed with road-scrapings, gave us the best results—a thing not difficult to understand after an experience of the nature of the soil for upwards of ten years. I have never seen a good crop of Onions hereabouts, although there are several gardeners who would be only too glad to obtain one, and more especially as they have tried in vain from fifteen to twenty years. As to being anxious to support the views of "W. C.," I may remark that I neither know who "W. C." is, nor have I any wish to support his or anyone else's views if they are not in accord with my experience.

With reference to the statement respecting the two who succeeded, and my objection to giving their names and addresses in order to bear out my assertions, I venture to state my belief that to have done so would not have had the slightest weight in the eyes of impartial readers. If such were the case, I am afraid a very large amount of matter would be of no value that is published in gardening or any other papers. Although I do not add my name, I may say that I am not addicted to making either false or elastic statements. I know Bournemouth and its neighbourhood well, and have done so for over twenty years, and I contend that the illustration cited has not the least weight against my statement, but rather the reverse. I may add, further, that although I have a staff of men under me, I have none, nor any friends either, whom I think it desirable to convince, or who would be convinced any the more from my adding my name and address. When I write to a paper I simply state the result of my experience and observation, and leave the reading public to think as they like respecting the matter. I always base my statements on facts within my own knowledge. I have had my say, and must decline to discuss this matter any farther.—*Con.*

Gros Colmar Grape.—Fruit of this Grape is not very abundant at the shows or meetings of horticultural societies just now, but the examples of Gros Colmar, from Mr. Stephen Castle, West Lynn, at Kensington, on Tuesday, were very good for the season, being as fresh and plump as if just cut, and had evidently been both well grown and kept. It is not surprising that this Grape has found so many admirers, since it has such a handsome appearance and keeps so late.

FRUITS, FLOWERS & VEGETABLES.

Flowers in "Wild Gardens."—Though the term employed to express it is rather curious, the "wild garden" is a really attractive adjunct to any establishment if a little care is exercised in the planting and material employed. Many a bare or unsightly corner or shrubbery border can be utilised in this way, and in the spring a few flowers springing up in a natural manner are very pleasing. A slope or shallow dell can be treated the most effectively in this way, and the best plants are the early flowering bulbs, such as Crocuses, Scillas, Daffodils, and Snowdrops, with Primroses. If these are scattered freely and not too formally over the space at command, being dibbled in turf or just below the surface of soil, they will soon become established, and will give scarcely any trouble for many years beyond a light top-dressing of soil in the late autumn. We have a shaded mound adorned with these flowers now, and all my friends admire them greatly, while they afford us a considerable amount of pleasure, as they can be seen from the principal windows of the house.—*Amateur.*

Birds and Peas.—Although the severe weather experienced this year has killed many birds, we yet have far too many of the mischievous sparrow class, which have been doing us a lot of damage. They are very attentive to the newly sown Peas this season, and a number of rows were attacked so eagerly that if we had not adopted some measures quickly, our crops would have been small. We have not been troubled so much before; but we have invariably found the following plan efficacious, and it has proved so this season. At each end, and in the middle of the rows, three small sticks are placed, about 6 ins. high, and 3 ins. apart. To these, lines of black cotton are tied and stretched from end to end, and back again along each side and the centre. This simple plan only takes a few minutes to carry out, and it is more effectual than any other system I ever adopted, for the rows have not since been touched by the birds. In previous years I have tried white cotton as well, but the black is preferable.—*Surrey Gardener.*

Anemone coronaria and its Varieties.—The Anemones generally, and especially the group above named, have suffered considerably from the late severe frosts; this is especially noticeable in places where the soil is somewhat stiff and clayey. Prior to the last long spell of frost that has made the last winter a most remarkable one, our Anemones, both of the Fulgens and Coronaria type, were just pushing their flower-buds forth, and were decked with abundant foliage, but now, as though scorched by a tropical sun, the foliage is quite dead and brown, and the flower-buds, which only needed a few bright sunny days to expand them, are past recovery, and at present even the plants themselves show but little signs of life.—*J.*

Almond Tree Blossom.—Few flowering trees—except the ubiquitous Laburnum—are more extensively planted round the metropolis than the common Almond, and as the earliest to flower, it is very welcome, being one of the first indications the townsman receives that the winter has departed. These trees are flowering very abundantly this season, and rendering the shubberries quite cheerful with their soft tinted blossoms. The latter are so delicate in texture, that one would scarcely expect them to last long, but I have been surprised this season at the time they continue fresh on small branchlets severed from the tree and placed in water. We have tried some in rooms this season and they have retained their flowers for ten days, some only now beginning to fall or fade; now that flowers are so scarce, they are most useful, although they do not lend themselves readily to floral decorations.—*H.*

Spiræa japonica.—Although this plant is extensively forced, and is greatly admired when grown in pots, it is often neglected and left uncared for when planted outside. It is one of the most useful herbaceous plants we have for cutting, and nothing looks prettier than glasses made up of this beautiful flower and Maidenhair Fern fronds. It succeeds best in a moist and well manured soil, and if required for cutting, it is advisable to plant them in large beds, having the plants in rows about 2 ft. apart. The chief point in its cultivation is to see that the plants are well protected from frost from the time the crowns begin to grow until the end of May, for, if caught by the least frost, nothing

but deformed foliage and very few flowers will be the result. Straw or bracken may be used in covering, but where Spruce boughs can be obtained, they will be found preferable, as they are not blown about by the wind. Stakes 3 ft. long should be driven into the ground, and bars of wood put across, and the boughs laid on, this keeps the pressure off the foliage, is easily removed in the day time, and allow of their being covered until coming into flower. Plants that are wanted for forcing should be covered up, for if allowed to be damaged by the frost, and the leaves deformed, they will not make the amount of root growth required to develop strong and healthy crowns. Spiræas thus treated and left two years in the ground, will, when taken up to force, be quite equal if they do not surpass foreign-grown crowns.—*George Holmes, Derby.*

Choisya ternata.—What a lovely simple flower! I have heard the exclamation often. A lovely flower it certainly is, and one that might be more grown than it is at present. The flowers are produced in clusters, are pure white, and are beautifully scented; the leaves are ternate, and of a dark shining green colour. When pressed with the thumb and finger, they give off a strong aromatic smell, which is very pleasant. The plant is almost hardy, and requires very simple treatment to grow it. The cooler it can be kept the better. I have planted it out in beds in the summer-time, and then lifted it again about the middle of September. This treatment seems to suit it well, as it keeps much more sturdy. When kept standing about in pots in houses all the summer, it is apt to be attacked with red spider, which very much injures the foliage; by planting-out the plant does not get attacked with this pest. It generally flowers in the month of April, and after flowering should be cut back. When the young shoots have broken nicely it may be potted into fresh soil; reduce the ball a little, and the same size of pot will do again. If it is intended to plant it out, the operation of potting need not be gone through, but the ball reduced a little when planting. For growing in pots, loam and manure, with a good sprinkling of sharp sand, suits it well, and let the grower bear in mind that no coddling is required to bring this good old greenhouse plant to perfection.—*W. G.*

Primula obconica.—I can fully endorse all that your correspondent "J." has said in favour of Primula obconica. Allow me at the same time to say a word or two in praise of Primula verticillata, which is a pretty yellow-flowered variety, with leaves and flower-stems covered with a silvery farina. When in bloom it emits a very agreeable Cowslip-like perfume, a plant or two being enough to scent a large room. The plant does not require much attention. We simply plant it out of doors in May, giving water when required, and keeping down weeds until about the month of October, when we dig up the plants and pot them, using nice sandy loam. The plants are then put on a shelf in a cold house, where they remain until they come into bloom, which they generally do about March. The plant may be increased by division or seed, which is produced in quantity.—*J. W. L.*

Fortune's Yellow Rose.—All lovers of Roses may have their particular taste gratified in these days, seeing the great variety there is to choose from. In hybrid perpetuals we have grand form and colour, and tea-scented varieties of all colours except bright scarlet. The subject of this note is a climbing Rose, seldom seen in bloom, more especially if grown in a pot; I have seen it occupying a large amount of glass roof in a span-roofed house at Hartley Row Grange, where it blooms finely every season, and I understand it is quite a sight at Westonbirt in Gloucestershire, in much the same way; but it is not every place at which room can be found for it under glass in this way. We have had this Rose here for the last five years in a pot, and could not bloom it, though my employer wished to see it, having heard it spoken of as very pretty and novel in colour. I had not much faith in blooming it in this way, but thought I would try a fresh method of growth. It is now in a 9 in. pot, and trained round a few long sticks and has upwards of one hundred blooms and buds on it at the present time; it is so beautiful, that we think of giving it further extension, and it is worthy of being grown where Rose-buds are valued, as much as any Rose I know.—*Con.*

A Good Set of Peaches.—In the garden of T. W. Boord, Esq., M.P., at Ockenden, Uckfield, a Stirling Castle Peach has this season set some 8,000 fruits. The tree which was planted, a maiden, five years ago, covers a trellis 30 ft. by 13 ft., and is one of ten of various sorts occupying a lean-to house 160 ft. long and 12 ft. wide, and all of which are in the finest condition. The trees are planted inside, and the border at this season is deluged with water, strong drenchings of liquid manure being given after the fruits have stoned. Mr. E. George, the gardener, who may justly be proud of his trees, will of course have to thin heavily.—*D.*

Good Roses for a Cold House.—Cheshunt Hybrid is with us unrivalled for a cool house. I may say without exaggeration, that from two plants covering about six yards of trellis, we have gathered 1,000 blooms in one year; we are now gathering great quantities of bloom. No other Rose gives us so good a return for a little attention. Another good variety is Madame Berrard with apricot coloured blooms; this is thought a great deal of by my employer—and deservedly so—for it is as free-blooming as Cheshunt Hybrid, very sweet-scented, and will soon cover a large piece of trellis. The plants are budded on the briar, planted outside the house, and brought in through the front wall; the roots have an unlimited run in a good border. Niphetos we have planted inside the house; this also gives us annually a quantity of pure white but rather unweildy blooms.—*J. W. L.*

Violet Comte de Brazza.—I do not know if I have been less successful with this variety than other cultivators, but I do know that I cannot praise it so much as some people do. Perhaps the season may have had something to do with my non-success. I have had a great quantity of bloom, of good quality, having gathered twenty dozen at one picking from a single light. What I complain of is that, compared with Marie Louise and the old Neapolitan, its season is very short; our plants did not continue to bloom more than a month, whereas we have been picking from Marie Louise and Neapolitan all through the winter, and still they come, but of course in smaller quantities. Our plants of Comte de Brazza were much stronger than the other two sorts mentioned, and ought, therefore, to have bloomed much better, all being treated alike. We have Swanley White growing in the same frame, and I have not the slighest hesitation in saying they are both alike. In my opinion the old Neapolitan is yet unequalled, both for frame and also for outside in open winters.—*J. W. L.*

Onion Maggot.—If those of your readers and correspondents who are troubled with this pest, will sow their Onion seed in boxes under glass, and afterwards transplant them they will experience less trouble and have much better crops of Onions. Last year we prepared the bed in the usual way, and sowed two-thirds of it with seed, and on the same day we sowed seed in boxes of the same kinds, namely, Bedfordshire Champion and Banbury; in due time the young plants were transplanted in the other portion of the bed which was left for them. Early in June our old enemy made its appearance amongst those which had been sown, and by the end of August there were but very few left, whilst the others which were transplanted in the same bed, were almost free from their attack and made fine bulbs; those planted out, as I think, have the advantage by their roots being deeper in the ground, as I find by experience that the maggot commences its work of destruction at that portion of the plant which is not so easily reached when the roots are deep. —*J. Walker.*

Being a subscriber to THE GARDENING WORLD, I have carefully read the remarks of my brother gardeners and others on this interesting subject. I will now relate to you my experience with the pest. For three successive years I have applied lime, soot, and salt, and in the season of 1884 I lost nearly the whole of my Onions, in spite of all my efforts. Some of your correspondents have expressed their opinion that the fly lays its eggs on the tops of the green growth, and that the rain washed them down to the roots. It is my belief that the mischief is done when the ground cracks from the drought, and that then the eggs are deposited close to the roots, and you will observe that the work of destruction commences there. Having confidence in my conclusions, I set to work accordingly and broke the caked surface of the ground to prevent cracking of the soil, and as the weather was dry this had to be done as soon as the Onions were thinned, which was done very early. I afterwards procured some dust from a limestone-repaired road, which contained portions of horse excrement, and passed it through a ½-in. riddle, and scattered it thickly over the surface amongst the Onions. The process was repeated, and the third and last time the Onions were the size of a blackbird's egg, and three-parts of them were covered with the dust. After each application I watered the beds with soap-suds, which, perhaps, was only a minor factor. The source of my success was the coat of dust preventing the insect depositing the germs of its progeny in any part of the Onion-bed, and I am well pleased with the result.—*Thos. Carne, Gardener to G. B. Dewhurst, Esq., Clayton Green, near Chorley, Lancashire.*

Myosotidium nobile.—This lovely but rarely-seen Boragineous plant was shown in rare form at South Kensington, on Tuesday last, by Mr. Goldsmith, gardener to E. G. Loder, Esq., Floore, Weedon. It has the undesirable reputation of being a thoroughly "bad one to do," and Mr. Goldsmith, who has not been long at Floore, may take credit to himself for being one of the few growers who have been so fortunate as to hit-off its requirements in so satisfactory a manner. It has large cordate, succulent, glossy, bright green leaves, and small Forget-me-not like flowers, rich blue in the centre, but gradually becoming paler towards the margin. It is one of the most handsome of perennials, introduced some twenty-eight years ago from the Chatham Islands, off New Zealand, by Mr. Watson, of St. Albans, who sold the stock to the late Mr. John Standish, of Ascot. Mr. Goldsmith states that it is not quite hardy, but requires a cool frame in which it can be protected from frost. In the interest of such a lovely plant, we should be pleased if he would give us a little more detail.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

In the conservatory or other structure used for decorative purposes it will be necessary to give the plants individually more room, because at this season of the year they will be fully developed, and by being staged thinly are much better preserved in good health, added to which the thick massing of plants to produce a glare is always to be deprecated. If the plants are staged so as to receive plenty of light all round them, and the ventilation is properly attended to, they will last in flower double the time, and give far greater pleasure to all concerned. Where blinds are used for shading purposes see that they are not kept down too long, and where it can be done, let the whole of the plants receive a dewing from the jet of a syringe in the afternoon; this will be found to greatly refresh the flowers and preserve them.

Herbaceous Calceolarias will now be throwing up their spikes, and should be well attended to. Give them frequent doses of liquid manure chiefly made from cow-manure, and as a change a sprinkling of Clay's Fertiliser. The same remarks apply to the show and fancy Pelargoniums. Keep a sharp look-out for green-fly, and fumigate where necessary. That useful old plant Francoa ramosa will now require attention in the way of dividing and potting off. After potting place the plants into gentle warmth, and when fairly started remove them again to the cool frames, taking care that as the flower-spikes rise they receive head room. Look over the stock of bulbs which may have been stored away; most of them will now be starting, and should be well watered, and afterwards receive a surfacing of rich compost, or, if necessary, a re-potting. Be careful not to use pots of too large a size, it is a great mistake. Give the Belladonna Lilies plenty of water, also liquid manure occasionally to encourage a healthy growth, and when the foliage shows signs of ripening gradually withhold the supply. Keep them in cold frames well exposed to the sun, and in August they will be found most valuable for staging purposes. Sow at once the main batch of Asters.

THE FORCING HOUSES.

Abundant work will now be found in keeping the Vines and Peach-trees in proper order, for what with disbudding, stopping, tying, and thinning, constant and unceasing attention is necessary, for if neglected now no amount of after attention will repair the damage. The cold winds, with heavy storms of snow and hail, make the ventilation a source of some anxiety. The

sun having more power, makes it necessary to ventilate more freely, but rather than open the lights too much open the doors between the compartments, and so cause a freer circulation ; of course, the outer ones must be kept closed. Damp down very frequently and shut up early in the afternoon, and while the weather continues so cold and changeable, the pipes in the houses should always be kept well warmed to prevent too rapid a change in the temperature caused by the variable weather.

Where Cucumbers and Melons are grown in frames and an early start was made, the greatest care must now be taken or the plants will be lost. Keep the linings well made up, and cover up early in the evening. Ventilate sparingly, and be particularly careful not to have the lights open for any length of time together ; rather do a little each day in the way of training than run any risk. In the houses one has matters almost their own way, making the cultivation a pleasure. Our early batch of Melons are in flower, and are set about mid-day each day until the desired number of fruit start away. About four to each plant will be ample thus early, and then a second crop may be safely relied upon ; whereas, if too heavily cropped, they are sure to become dirty and not worth the trial. We have planted the second house, and they are already rooting freely. We have also cut out the winter-fruiting Cucumbers, washed, re-made the hot-bed, and planted a young set of plants which we had prepared, so that no time will be lost.

Look well to the ventilation of the Carrot and Potato frames ; remove the lights upon all favourable occasions, and damp the surface of the beds when closing of an evening, but not in the frame where tubers are being dug. Train and peg the early Vegetable Marrows as growth proceeds before becoming overcrowded.

THE KITCHEN GARDEN AND GROUNDS.

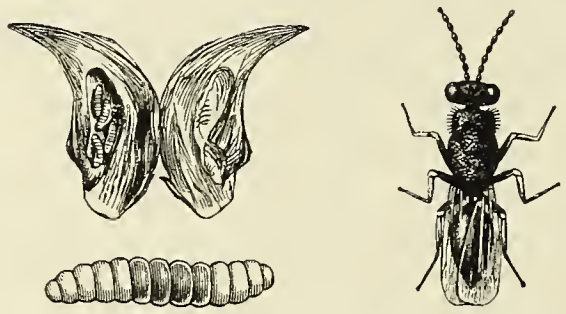
Potato planting being completed, of course releases the hands for other work which is now pressing upon us, namely, the putting of walks and verges into proper order. Let them be again well rolled before the knife is used. After edging, the walks should be well rolled, and the mowing machine be brought into use, making all smart and trim. Of course, no further delay can be permitted in the pruning of Roses, which must be now done or the bloom will not be so good as desired. Mignonette and other such annuals should now be sown in the borders where they are intended to flower, sowing good breadths rather than dot little patches about.

The early-sown Carrots are up in full row, but look rather brown from the frosts. Onions, too, are well up, and as soon as the weather will permit the Dutch hoe will be run between the rows. The soil should be drawn to the early and second planting of Cabbages if not already done ; they have suffered very much from the severe easterly winds, and are not what they ought to be. We have to-day manured and dug a patch ready for planting out the Strawberries which have been forced ; should the season be favourable they will give us some good late pickings. We hope in a day or two to make another good sowing of Peas, which will consist principally of Ne Plus Ultra, as we find that the best late Pea ; the second earlies will need sticking, previous to which the soil must be drawn to them. If not already done, let the square devoted to Scarlet Runners be well dressed and deeply dug, as the time will soon come for a sowing to be made. A good sowing of early Turnips should now be made.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Weevils in Orchids.—At the meeting of the scientific committee of the Royal Horticultural Society, April 13th, Mr. James O'Brien exhibited specimens of a species of Curculio, which had attacked and very much damaged a Cœlogyne cristata in the gardens of a correspondent. The insects are about half an inch in length, and somewhat resemble the Curculio sulcatus, which often attack Echeverias and other fleshy plants. With respect to the Weevil, the sender remarked :—"The maggot bores right through the bulbs of Cœlogyne cristata (fairly tunnels them), and then the leaves drop off. They are most ravenous ; and their work, as you will have seen by the specimens sent you, is terrible. I now find numbers of the beetles enclosed on the plants, and I conclude they are the outcome of the grubs." Mr. O'Brien said that he could testify as to the ravages of the Weevil, but that the cutting away of the pseudo-bulbs infected as recommended by him, and frequent washing with tobacco-water had been effectual in checking the evil, and saving the plants, although they were much damaged. Mr. T. P. Pascoe pronounced the Curculios to be Nassophasis foveata, belonging to the Calandra group, one of which is so destructive in granaries ; and stated that the specimen in his possession came from Ceylon.

Mr. O'Brien also exhibited an imported piece of the curious Oncidium scansor (convolvulaceum), having roots, some of which had evidently been attacked by insects in their native habitats, and might even yet contain them in some stage. He stated that too much importance could not be attached to any information on this subject, which, through the committee, could be conveyed to Orchid growers, in order that they might know their insect enemies, and how to deal with them. In the first place, he had found that great care should be exercised in examining fresh imported plants before putting them into the Orchid house, and removing any parts, such as the gall-bearing roots. On the O. scansor, exhibited as such, the course was a prudent preventative, or attempt at prevention. In all cases where insects, such as the Isosoma orchidearum (which worked such mischief on the young growths and roots of Cattleyas) were established, the only means of getting rid of the pests was by cutting off the parts affected in the earliest possible stage, and carefully burning them. Even with such careful treatment,



Isosoma orchidearum in Cattleya bud.

some of the insects would escape observation and mature ; and they should be watched for and killed before they have time to prepare for a succession.

Seasonable Hints.—It is the great object of the grower to so manage his plants that they may keep in good health and produce a good crop of flowers, but after these are secured, it is of equal importance that the plants should be so managed whilst bearing them, that their capacity for growth, and consequently for flowering next season, be not interfered with. There is no doubt that many Orchids under cultivation are floriferous to a degree injurious to themselves if they are allowed to flower every time they make the attempt, or to bear all the buds they produce when an extraordinary crop is sent forth. It is, therefore, only wise, as being the safest for the health of the plants, and consequently the best means of obtaining the greatest quantity of flowers from each in the long run, to restrict their production according to the dictates of reason, as guided by the strength of the plants or other signs.

With many Oncidiums, such as O. Marshallianum and other Orchids which produce large-branched heads of flowers, nothing of their showiness is lost by, in an early stage of the flower-spike, removing as many of the branches as may seem desirable, as the quality of the remaining flowers will be greatly improved, and the plants not pumped as they would be if suffered to bear the whole of them. Where, however, it is deemed desirable to allow such things to bear an extraordinary crop for any special purpose, it is better to wholly remove the flower-spikes next produced in an early stage to allow the plant to thoroughly regain its strength ; and such a course is especially recommendable with Oncidium varicosum, O. Marshallianum, &c., which, through the exactions made on their flowering capabilities, have, with some, got them the reputation of flowering well once only. Also, if an estimate can be made of any time of the year when from any reason the flowers would not be required, it greatly assists the plants to have the spikes which would come at that time removed.

Flowers of Orchids which are kept in a cool and well-shaded house last twice as long as those in which the sunlight is let in, and does not appreciably punish the plants ; and plants which would have lasted well in bloom for three weeks in a cool shaded house I have frequently seen destroyed in three days in a sunny one, and at the same time cause the plants bearing them to shrivel very much. While shading all the Orchid-houses according to the nature of their occupants, those in which the flowering plants are kept should be carefully attended to, and where the blinds do not meet, or where they do not reach, some permanent shading, such as that supplied by Mr. B. S. Williams, of Holloway, for putting on with a brush, should be used.—*James O'Brien.*

The New Yellow Odontoglossum Pescatorei, which was announced for sale in our last issue, and which created such a stir among orchid growers at South Kensington on Tuesday, came under the hammer at Stevens' Rooms on Wednesday afternoon, and after a spirited competition between Baron Schroder's gardener and another distinguished orchid amateur, it was knocked down to the Baron for 165 guineas ! For the same sale, the well-known room was packed with flowering orchids, an endless variety, truly, and good things realised their value. Among other notable plants sold, was a very fine specimen of Cymbidium Lowii, with ten new growths, and three spikes of flowers over 4 ft. long—41 guineas ; a variety of Odontoglossum Alexandræ, with very fine white flowers, having a few rich deep crimson spots on the petals—17½ guineas ; another large white Alexandræ, 14 guineas ; and a Lycaste Skinneri alba, with thirteen bulbs—29 guineas.

FLORICULTURE.

The Auricula Outlook.—The week or ten days preceding April 12th were of a nature considerably to damp the ardour of those who are looking for a fine display of Auriculas on the 20th inst. How could the pips expand when high and cold winds shook the glass of the houses and frames in which they are growing, and they were accompanied by heavy showers of cold rain or dull leaden skies ? There were occasional glimpses of sunshine, but they were so fitful as to have been but little or any help to the developing pips. The Rev. F. D. Horner, writing on March 20th from Kirby Lonsdale, said :—"The weather has mercifully changed, and the Auriculas with it. They are galloping along now, but to get in for the 20th of April looks as though it would be a month's hard labour. If it were not so wonderful what the Auriculas can do when the time comes really kindly I should despair. As it is I am uncertain, for all my best greens and other edges are not open enough to show the trusses. Nothing but the best of weather will suffice."

I do not know how Mr. Horner's plants look by this time, when we are within a week of the show ; but at the Royal Nursery, Slough, notwithstanding the plants have been in a long span-roofed house all the winter, helped by hot-water pipes when necessary, they are late, though probably forwarder than they are with Mr. Horner in the North. The Slough flowers have a great deal to do by the 20th in order to have a representative collection in bloom ; but to-day (Monday, the 12th) is kindly and sunny, though the north-westerly wind is cold and retarding. Not a green edge of any pretence to character was to be seen open at Slough, and I am afraid, unless Mr. Douglas's plants are well forward, there will be but a spare representation of greens at South Kensington next week.

The selfs, as is usual, were the earliest at Slough. The following will be ready by the 20th :—Clipper (Turner), a good useful dark self ; Sims' Eliza, C. J. Perry, Lord of Lorne, a variety I did not expect to see so advanced ; Lord Clyde, Mrs. Sturrock, Pizarro, one of the best dark selfs grown ; Topsy, Mrs. Smith, Vulcan, Spalding's Bessy Bell, and Turner's Sarah. Of grey edges there were a few admirable specimens of George Lightbody, that if they can be got in by the 20th will greatly strengthen the Slough collection :—Duke of Cambridge, Lancashire Hero, full of promise ; Dr. Horner, Atlas (I put this among the greys, though it is at times such a faint grey as to be nearly a green) ;

Confidence, a good free variety; Peverill of the Peak, Alexander Meiklejohn, Colonel Champneys, and the old Conqueror of Europe, in good form. Of white edges, Trail's Beauty was in good form; Read's Acme, one of the best whites, is throwing up fine trusses; Duke of Albany (Turner), a new white-edged raised at Slough and not yet distributed; and Smith's Ne Plus Ultra. There were many others hastening on into flower, but those named above were the most likely to be in by the 20th.

And then the beautiful Alpines: these also are coming on fast, but on the whole they are later than the show varieties, though they are perhaps a little quicker in getting fully expanded. But in order to have anything like the large collection of Alpines we are accustomed to see at South Kensington, from Slough, on these occasions the plants have to do a great deal. Whether or no they will be up to exhibition form by the 20th, remains to be seen. I made a note of the following varieties as exceedingly beautiful:—Evening Star, Mariner, Mr. Thompson, Vesuvius, Unique, Mr. Llewelyn, and Colonel Scott, old varieties; with Garnet and Mungo McGeorge, two new varieties of great beauty, the latter probably one of the finest varieties raised at Slough. Then there are three pretty white or cream grounds that should be in a collection, viz, Tenniel, George Lightbody, and Queen Victoria. The most charming shades of purple, violet, and mauve, are in association with the white or cream centre. I do not think I ever saw a finer lot of clean, healthy, well-grown plants, than these are at Slough at the present moment. And large as many of the plants were, but few comparatively were in 32-sized pots; a good many in 48's, and a large number in large 60's. John Ball in his fine management of Mr. Turner's Auriculas, teaches this one important lesson—do not over-pot. It is surprising what the Alpines do in small-sized pots. They appear to be grown in good yellow loam, leaf-mould, and a little decomposed manure, with sufficient sand to keep the compost open. No fancy mixtures or stimulants are employed. With a fitting compost there is constant attention, and oversight; a proper system of treatment, and pure air, and the plants do well. If anyone wishes to pay an enjoyable visit to the Royal Nursery at Slough, let them do so while the Alpine Auriculas are in flower, for they will witness a sight of an extremely instructive character, and not soon forgotten.—*R. D.*

THE NARCISSUS COMMITTEE.

A MEETING of the Narcissus Committee of the Royal Horticultural Society was held at South Kensington on Tuesday, April 13th, when a large number of specimens were exhibited, including, amongst others of special interest, seedlings from Captain Nelson and Mr. Engleheart, and a great many wild varieties of different types. There was not sufficient time to go thorougly into all the collections which were received, but the following is a brief account of what was submitted for inspection and the decisions taken:—

1. Incomparabilis, from Messrs. J. Dickson & Sons, of Chester, not known, but apparantly a form of Incomparabilis from the Pyrenees. Particulars requested of its history.
2. Nobilis, from Dr. Wallace, Colchester, collected by Mr. Maw. Deferred to another year.
3. Golden Spur, from Dr. Wallace. Correctly named.
4. A form of Pseudo-Narcissus, from Mr. H. Collins. Not considered worthy of a distinctive name.
5. Calathinus, of Redouté, from Mr. Barr. True to the figure.
6. Tom Thumb, Mr. Barr. Deferred.
7. Automedon, a good variety of Pseudo-Narcissus, from Mr. Tyerman. Name registered.
8. Henry Irving, a Spurius of Dutch origin, from Mr. Barr. Name registered.
9. Challenger, a strong-growing variety with foliage resembling Rugilobus, from Mr. Llewellyn. Name registered.
10. Pseudo-Narcissus, from Mr. Tyerman. Not considered worthy of a name.
11. Some small forms collected in the Maritime Alps, and ranging from deep yellow and lemon self-coloured shades to yellow trumpets with white periauth. From Mr. Scrase Dickins. Accepted as varieties of Minor.
12. White Ajax, from Miss Owen. Identified as Colleen Bawn.
13. Irish cerneum, from Miss Owen.
14. A small straw-coloured Daffodil, from Miss Owen. Named as Minor citrinus.
15. A flower from Mr. W. B. Hartland, similar to the last in shape and size, but white. Named as White Minor.
16. A Polyanthus Narcissus, from Mr. Archer Hind, collected in woods near Ostia. Not recognised.
17. A form of Pseudo-Narcissus, from the Rev. Mr. Wilks, described by him as the earliest, strongest, and most floriferous sort he has ever met with. Named Troilus.
18. A seedling from Tottenham Yellow, more robust in form, from Mr. Wilks.
19. A seedling from Captain Nelson, in appearance like a white Telamonius.
20. A seedling from Captain Nelson, like a pale Exquisite.
21. A seedling from Captain Nelson, of a deep gold colour.
22. A short crowned Moschatus, from Rev. Mr. Engleheart. Name registered as Niobe.
23. Some forms, single and double, found growing between Telamonius plenus and wild Pseudo-Narcissus, which had been planted in concentric rings round the stems of trees, showing strong evidence of being hybrid seedlings between the two (Rev. Mr. Engleheart).
24. Specimens of Pseudo-Narcissus of various forms and colours, from Rev. C. Wolley Dod.
25. Corbularia nivalis, from Mr. Corder, true; Triandrus pulchellus, and some other forms of Triandrus.
26. A collection of forms of Spurius from Mr. A. E. Barnaart, including Golden Spur, Spurius coronatus, and Henry Irving; and several others not recognised by distinctive names.
27. A collection of Italian Trumpet Narcissus, from Mr. Morse, of Epsom.
28. A report, with dried specimens of N. Triandrus, was presented to the committee from Professor Henriques, of Coimbra.
29. A collection of white Ajax was brought by Miss White. One large variety, known sometimes as tortuosus tenuifolius, was registered under the name of Leda. It had the peculiarity of being strongly scented like old Oak.
30. Bishop Man, a very tall-growing Moschatus, from Mr. W. B. Hartland. Deferred.
31. Minnie Warren, a small Moschatus, from Mr. W. B. Hartland. Name registered.
32. Gladys, another small white form. Name registered.
33. A very interesting collection of forms of Incomparabilis, from Mr. W. Godolphin Osborne, collected by him in the Pyrenees, varying considerably in the colour of the crown and perianth.
34. Muticus and juncifolius, and a Corbularia, from the same source.
35. A white Ajax with buff-coloured trumpet, very distinct; and a variety of Sir Watkin, with deeply stained crown, were shown by Mr. J. Walker.
36. A collection of various sorts from Mr. J. H. Krelage, for verification of names.
37. Some flowers were shown by Mr. Ware, which were accepted as true nobilis. The roots were collected in the Pyrenees, and had been in cultivation in England for two years.
38. A number of single and double Pseudo-Narcissus and Telamonius from various sources, sent in reference to the question of the conversion from single to double.

C. R. Scrase Dickens, Hon. Sec.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*April 13th.*—Daffodils and Orchids were the lions of the day on Tuesday, and for the lovers of both there was much of great interest beyond the mere brilliancy of the display, which on its own merits we should have been glad to have seen more visitors present to enjoy. The display of Daffodils was the largest we have ever seen; the leading growers, Messrs. Barr & Sons, Mr. T. S. Ware, Messrs. Collins Bros., and Mr. Walker, of Whitton, sending immense collections of the finest flowers, while smaller contributions came from the New Plant & Bulb Co., Colchester, and others. Fuller details on this section of the exhibition will be found in another column. The Orchids exhibited included several very fine specimens of first-class species from Sir Trevor Lawrence's collection, and which well deserved the silver gilt medal awarded to them. First in point of attractiveness was a specimen of Oncidium Marshallianum, with five noble spikes of brilliant yellow flowers, spotted with chestnut-red. A specimen of the fragrant and pretty Maxillaria Turneri bore about 250 blossoms; and a plant of Odontoglossum vexillarium roseum, with five spikes carried twenty-five lovely blossoms. But, perhaps, the most remarkable plant, was one of Epidendrum Wallisii with five spikes of flowers. These are of an exceedingly fasciuating character, the sepals and petals being of a rich lemon colour, dotted with a few crimson spots, and the lip white feathered with shades of rose and crimson. This was awarded a First Class Certificate. Cattleya Lawrenceana, one of the best shaped and richest coloured varieties we have seen, also received a similar award. Dendrobium Brymerianum, and D. Harveyanum formed a pleasing contrast, both being golden-yellow in colour, the latter about half the size of the former, and having the petals, as well as the lip, fringed. With the orchids from Burford Lodge, came also an instructive collection of Anthuriums, which included fine specimens of A. Scherzerianum Wardii, and Henderson's variety, which has equally as fine spathes as the former, and not being so much curled, give a much finer effect. The new A. Rothschildianum, figured in another column, was also represented by a strong growing piece with spathes of good size, and with it was A. Devansayanum, another mottled variety of great merit, the spathes being longer and narrower than those of Mr. Bergman's Seedling, and the scarlet blotching more pronounced. It is distinct also in the spadix being scarlet instead of yellow; this also was awarded a First Class Certificate.

Another sterling novelty which attracted much attention was the new yellow Odontoglossum Pescatorei, for which its lucky possessor, B. D. Knox, Esq., Caversham, Reading, also received a First Class Certificate. In shape the flowers represent the best types of O. Pescatorei, with the sepals and petals of a clear yellow colour, the centre of the flowers white, and the lip of a pale straw colour, with a few crimson spots. It is a novel, distinct, and beautiful variety, and at Stevens' sale on Wednesday it realised 165 guineas. To W. C. Pickersgill, Esq., Blenden Hall, Bexley, a First Class Certificate was awarded for a grand variety of Lycaste Skinneri, named gloriosa, a much larger flower in all its parts than the ordinary type, and the colours very bright. The plant bore two dozen blooms and was much admired. Another First Class Certificate was awarded to Sydney Courtauld, Esq., Bocking Place, for Odontoglossum mulus Courtauldianum, in which the yellow ground colour is paler than in the type, and the blotches purple-brown instead of Chestnut-red; and a similar award was made to William Lee, Esq., of Downside, for Cypripedium Wallisii, a species in which the sepals are grass-green with deep green lines; the petals white with green and brown veins, and the lip white veined with crimson. Mr. Lee, among other good things, also showed some fine blooms of various Cattleyas, and a splendidly marked variety of Cypripedium Godefroyæ, named punctatissima. To H. M. Pollett, Esq., Fernside, Bickley, a Bronze Medal was awarded for a small but remarkable collection of Odontoglossums, consisting of O. Pollettianum, O. Mulus, O. Andersonianum, O. Ruckerianum, and O. Ruckerianum insignis, every one of which are regarded as gems, and of the possession of which Mr. Pollett may be not a little proud.

Another new plant certificated was Myosotidium nobile, from the collection of E. G. Loder, Esq., Floore, Weedon. This is a lovely but rarely seen New Zealand perennial, more fully noticed in another column. The chairman, Mr. G. F. Wilson, received a similar award for Primrose Alice Wilson, a seedling from his well-known variety "Scott Wilson," but much deeper in colour, being of a rich purple-blue plum colour. Mr. Wilson has a great number of varieties obtained from seed of "Scott Wilson," of which the one exhibited to day is a well-marked advance.

Messrs. James Veitch & Sons obtained certificates for two grand new Amaryllis, of which Princess of Wales may be said to be—for size, shape, and substance combined—the finest variety yet seen, and which must be taken as the standard that must now be worked up to. The flower is of a light ground colour, veined and suffused with crimson. Crown Princess of Germany is of the Leopoldi type, but of fine form and very attractive, the segments being white, boldly feathered and banded with scarlet. The same firm also showed in flower, the first seedling Phalænopsis bloomed in Europe. It is the result of a cross between P. amabilis and P. rosea, and proves to be identical with P. intermedia. From H. J. Buchan, Esq., Southampton, came, under the name of Odontoglossum liliiflorum, a form which was understood to be named by Professor Reichenbach Od. ramosissimum roseum, but which appeared to be nearer O ioplocon, a supposed hybrid between O. ramosissimum and O. Edwardii, the mauve flowers of the plant exhibited being much like those of O. ioplocon. Mr. B. S. Williams, among other novelties, showed the new Himantophyllum Ambrose Verschaffelt, a very fine variety with bright warm red flowers.

At the meeting of the Fruit Committee, Mr. Cummings, gardener to A. H. Smee, Esq., The Grange, Carshalton, exhibited a very fine collection of Apples, in a high state of preservation, and was awarded a Silver Medal; and Mr. Stephen Castle, West Lynn, received a Cultural Commendation for a superb sample of Gros Colmar Grapes.

Royal Botanic.—*April 14th.*—As at South Kensington, the Daffodils were again in strong force from Messrs. Barr & Son, Ware, and Collins Bros. & Gabriel, who were all awarded Silver Medals for their contributions, but these and a few others, non-competing exhibits, constituted the chief portion of the show, as the classes were not so well filled as might have been desired. A handsome half-dozen Azaleas from Mr. C. Turner, Slough, won the first prize, and the plants were incomparably the finest shown, not of great size, but bearing a profusion of bright flowers, the double white Madeline and single white Baron de Vriere being wonderfully good. Messrs. Paul & Sons' Roses in pots formed another excellent feature, well deserving the

premier honours awarded to them· Alba rosea, Madame Lacharme, and Souvenir d'un Ami, were grandly flowered. The amateurs' Azaleas were not quite up to exhibition standard, nor were the Cinerarias, though the varieties of the latter were good in colour. Alpine and hardy flowers from Mr. T. S. Ware and Messrs. Paul & Son were very interesting, comprising a number of choice plants, and were placed first in the two classes as named. Pelargoniums and Amaryllises were fairly well exhibited, the former by several amateurs, and the latter by Messrs. Paul & Son, who had some very brightly coloured varieties, and the flowers of neat form. The number of new plants shown was not quite so large as is customary at these shows, but certificates were awarded to the following eight plants. Amaryllises, Crown Princess of Germany, Pioneer, and Hedila, from Messrs. James Veitch & Son; Marshalli and Joseph Broome, from Mr. B. S. Williams; Cypripedium macranthum, from Mr. T. S. Ware; Dentaria podophylla, from Messrs. Paul & Son; Adiantum fragrantissima from Messrs. E. G. Henderson & Son; some of these have been noted on previous occasions and the others will be described in another issue. The most important group not for competition was that from Mr. B. S. Williams, for which a large silver medal was awarded—the Orchids and miscellaneous flowering and foliage plants being very fine and tastefully arranged. Silver medals were also awarded to H. Little, Esq., Uxbridge, for a group of Lycaste Skinneri varieties and Odontoglossums, all excellent forms and well-grown plants; and to Messrs, H. Lane & Son, Berkhampstead for a group of Azalea mollis and Rhododendrons in pots, very showy and useful in adding to the attractions of the exhibition.

Walkley Amateur Horticultural.—At the last fortnightly meeting of this society, Mr. Hoyles read an able and instructive paper on manures. The meeting was well attended by members who brought together a fine display of flowering and fine foliaged plants, ferns, and cut flowers, amongst them being several good examples of well-flowered Azaleas, one exhibited by Mr. Laughton, obtaining six marks of merit. All exhibits are judged by gardeners who award marks according to merit. Mr. Hague, the president, staged a well-flowered Dendrobium nobile in an 8-inch pot, which obtained the full number of marks, and also several fine foliaged plants. Among the other exhibits was an excellent dish of Mushrooms, shown by Mr. Ash; and Mr. Malinson, Mr. Marston, Mr. Battey, and Mr. Stocks also obtained distinction for their respective exhibits. It is surprising to see what an amount of interest is taken by the members in these meetings, and which testifies to the good work which they do, in promoting the advancement of horticulture.—*J. W. S.*

QUESTIONS AND ANSWERS.

Tobacco Juice.—*D. L.:* 1, put it in the troughs with water; 2, ordinary Tobacco Juice as sold by the dealers; 3, we know of o reason why it should not be used for other stove plants; on the contrary we think it would be just the thing for them.

Books.—*H. M.:* The only one that would be of any real value to you is Thompson's *Gardeners' Assistant*, published by Blackie & Son. Price 35*s.*; you can obtain it in parts. *J. H. B.: Cactaceous Plants*, by Lewis Castle (171, Fleet Street).

Names of Plants.—*E. J. H. C.:* Ceanothus azureus, a seedling variety. It is quite hardy, but should be planted against a south wall and treated as a climber; any good garden soil will suit it. *Original Subscriber:* 1, Oxalis carnea; 2, Tropæolum tricolorum; 3, A Pansy, which we do not know; 4, Mimulus moschatus, var.; 5, Primula acaulis, the common Primrose; 6, Anemone nemorosa; 7, Arabis albida; 8, Erica vulgaris.

Communications Received.—A. van Geert.—H. W. W.—T. G.—W. G.—Otto Ballif, Argenteuil.—W. B. L. (many thanks).—J. C.—J. G.—W. P. R.—H. G.—R. S. C.—T. O.—W. B.

NOTICES TO CORRESPONDENTS.

*** The Editor will be greatly obliged, in view of the Easter Holidays, if correspondents will favour him with their contributions a day earlier next week.

Special attention is paid in the columns of The Gardening World, to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

LONDON SEED TRADE.

April 14th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a very slow trade for seeds at present, the heavy lands being unworkable owing to wet. Medium and low grades of English Red Clover offer freely without finding buyers. Trefoil sells freely. White and Alsike in moderate request at low rates now current. Rye Grasses sell freely. Rape Seed is dearer; and Bird Seeds are unchanged.

COVENT GARDEN MARKET.

April 15th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes, per lb.	2 6	8 0	Pears ... per dozen	12 0	15 0
New Grapes .. per lb.	5 0	8 0	Strawberries .. per lb.	4 0	10 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	1 0				

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0	3 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Brussel Sprouts, lb.	0 8		Onions, per bushel	5 0	6 0
Cabbages ... per doz.	2 6	5 0	Parsley, per bunch	0 6	
Carrots, per bunch	0 6		Radishes, per dozen	1 6	
Cauliflowers, English, per dozen	4 0	6 0	Small salading, punnet	0 4	
Celery, per bundle	1 6	2 6	Sea Kale, per basket	2 6	3 6
Cucumbers, each	0 6	1 0	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	3 0	4 0
Herbs, per bunch	0 2	0 4	Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, 12 b.	3 0	6 0	Mignonette, 12 bun.	4 0	12 0
Arum Lilies, 12 blms.	4 0	8 0	Narciss, 12 bunches	4 0	8 0
Azalea, 12 sprays	0 6	1 0	Pelargoniums, per 12 sprays	1 0	1 3
Bouvardias, per bun.	0 6	1 0	— scarlet, 12 sprays	0 6	0 9
Camellias, 12 blooms.	1 6	4 0	Primula, double, bun.	0 9	1 6
Carnations, 12 blooms	1 0	3 0	Roman Hyacinths, 12 sprays	0 6	1 0
Cyclamen, 12 blooms.	0 4	0 6	Roses (coloured)	2 0	6 0
Daffodils, per bunch	0 3	0 6	Roses, Tea per dozen	0 9	3 0
Eucharis, per dozen	4 0	6 0	Spiræa, doz. bunches	6 0	9 0
Gardenias, 12 blooms.	2 0	6 0	Tuberoses, per dozen.	2 0	2 6
Heliotropes, 12 sprays	0 6	1 0	Tulips, 12 blooms	0 9	1 0
Hyacinths (Dutch), per box	2 0	6 0	Violet, 12 bunches	0 6	0 9
Lapageria, red, 12 blms.	1 0	2 0	— Parme	4 0	6 0
Lilac (French), bunch	5 0	8 0	White Jasmine, bun.	0 6	0 9
Lilies, 12 sprays	0 9	1 6			
Marguerites, 12 bun.	4 0	8 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	8 0	12 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.	6 0	9 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots, per dozen	12 0	24 0
Cineraria, per dozen	6 0	10 0	Marguerites, per doz.	9 0	12 0
Cyclamens, per dozen	12 0	24 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, doz.	18 0	24 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	4 0	8 0
Evergreens, in var., per dozen	6 0	24 0	Primula, single, doz.	4 0	6 0
Ferns, in var., doz.	4 0	18 0	Spiræa, per dozen	10 0	15 0
Ficus elastica, each	1 6	7 0	Tulips, per dozen pots	6 0	9 0
Foliage Plants, various, each	2 0	10 6			

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Aster, Victoria, Upton's special mixture of the most brilliant and effective colours; this strain has no superior for exhibition; packets, 1*s.*, 1*s.* 6*d.*, & 2*s.* 6*d.*
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Wallflower, extra fine mixed, 3*d.* & 6*d.*
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BIRMINGHAM BOTANICAL & HORTICULTURAL SOCIETY.—£150 in prizes. For Schedules apply to W. B. LATHAM, Curator, at the Gardens, Edgbaston.

National Chrysanthemum Society, Royal Aquarium Westminster

EXHIBITIONS: September 9th and 10th; November 10th and 11th; and January 12th and 13th. Schedules now ready, and may be had on application to—MR. WILLIAM HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney.

ROYAL AQUARIUM, WESTMINSTER.—In consequence of an extension of time for holding the Exhibition by the Kennel Club, in June next, the Rose Show announced for June 25th and 26th, is unavoidably withdrawn, and the Strawberry Show and Fête, on July 2nd and 3rd, is for the same reason postponed until July 9th and 10th.—RICHARD DEAN, Superintendent of Exhibitions, Ealing, W.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.—FLORAL MEETING at the Town Hall, Manchester, on Tuesday the 27th inst.

THE GRAND NATIONAL Horticultural Exhibition of 1886, will open at the Gardens on the 11th June. Schedules may be had from the undersigned.

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, APRIL 27th.

FOURTH PROMENADE SHOW and Small Band of the Royal Horse Guards, from Half-past Three o'clock p.m. Admission 2s. 6*d.*

N.B.—Entrance for Fellows and the Public, North-east Orchard House, Exhibition Road; and Exhibitors' Entrance, East side of Royal Albert Hall.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 24, 1886.

PRIMULAS AND AURICULAS.—These lovely plants are quite in the ascendant this week, and it is very appropriate that they should have received the honour of a special show and conference, such as was held at South Kensington on Tuesday and Wednesday. From the sweet and graceful Primrose, which adorns our fields and gardens so early in the year, with its delicately tinted flowers, to the perfection of the florist's art, as shown in the best forms of the edged Auriculas, there were many grades of beauty at the exhibition in question, and the most fastidious must have found something to please them. Some object to the formality or rigid symmetry of the exhibition Auriculas as unnatural; but let the objectors cultivate these plants for a time, and they will soon love them as do the enthusiasts who make them a speciality, and who have done so much to increase their popularity. There is a beauty in the highly developed or modified Auricula which very few other flowers possess, and which only those can fully appreciate who are familiar with their characters and distinctions.

It might seem like trifling to be so exact about the relative proportions of paste, body, colour and edge, or the colour of the tube; but the value attached to these in their due degree is by no means merely fanciful, it is founded upon a closer observation and nicer discrimination than those who are not well acquainted with the plants can bring to bear upon them without some training. It is only necessary to carefully compare a few of the highest types of Auriculas with those considered inferior by the florists, to instantly perceive the superiority of the former; though it will not be so readily observed upon what this depends. A really good edged Auricula possesses an exquisite refinement—a delicacy or richness of tints that all must admire, even though these tints are in concentric circles, the dimensions of which are fixed with mathematical exactness.

In the Alpine class we have a little more nature and less of art, and these, consequently, please many who raise objections to the show varieties; they are unquestionably extremely useful, beautiful and fragrant plants, that can be grown by anybody, either under glass or out in the borders. For either purpose they merit high commendation. All who have a few dozen pots of Alpine Auriculas for the conservatory at this time of year can fairly estimate their value, both for decoration and flower yielding; while out in the border, later in the season, they delight hundreds who have not glass houses or frames to devote to such plants.

In the great genus Primula, represented on this occasion by collections from the Botanic Gardens at Kew, Edinburgh and Glasnevin, and from various trade and private growers, we have innumerable lovely forms, the acme of grace in habit and colour, and the popularity which has led to the conference this week can be readily understood, for it is founded on substantial qualities. Indoors the Primula sinensis and its numerous varieties is now almost indispensable, P. cortusoides, P. japonica, and the more recently introduced P. poculiformis or obconica, are charming plants for pots and cannot be too extensively grown. Out of doors there is still greater selection, commencing with the common Primrose, the P. acaulis varieties in numerous colours, the lovely P. rosea, P. denticulata, and leading on through the present and following months with scores of varieties, some of which are too little known in gardens, but all alike are beautiful. That little gem, P. nivalis, must not be omitted from this brief enumeration, for both in pots and on the rockery it is exceptionally attractive, producing its pure white flowers in dense clusters almost concealing the plant. The old yellow and powdered-leaved P. verticillata is also a useful plant for the greenhouse.

Then there are the Polyanthuses, which seem to constitute such a distinct group of Primulaceous plants, with their rich brown and black ground flowers, edged and laced with gold, exquisitely beautiful. The variation in the genus is indeed amazing, and many of those who inspected the show at South Kensington on Tuesday, must have come away with the determination to include a greater number of Primulas in their gardens.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday*:—Royal Horticultural Society's Fruit and Floral Committees, at 11 a.m.

The Colonial Exhibition.—We are pleased to hear that the council of the Royal Horticultural Society have granted the services of Mr. J. Douglas Dick to the Royal Commission of the Colonial and Indian Exhibition, to act as superintendent of entrances during the exhibition.

Tobacco Cultivation in England.—Under authority from the Lords of the Treasury, the experimental cultivation of Tobacco is to be permitted in the United Kingdom. Any occupier of land intending to plant Tobacco must, on or before the 5th May, give

notice to the Secretary of Inland Revenue, Somerset House, setting forth the extent of the land to be planted, and the place, parish and county where situate. Bond under approved securities will be required in a penalty of £100 if over an acre of ground is cultivated, and £50 if under an acre, in order to secure that all Tobacco grown and gathered shall be removed to drying rooms, and kept there until properly cured, when it shall be packed in bags, bales, or casks of an approved sized, and must then be weighed by a Revenue officer. After weighing the packages the duty must be paid, or the Tobacco be deposited in an approved Customs or Excise warehouse. We may mention, also, for the benefit of intending cultivators, that Messrs. James Carter & Co. have just issued a useful pamphlet on the Cultivation of Tobacco in Great Britain.

Daffodils.—From Messrs. Collins Brothers, & Gabriel, we have received a scape of Narcissus bicolor minor bearing two flowers, an occurence we have not before observed in the Ajax section; and a variety of N. incomparabilis, in which the segments of the perianth are equally divided into two colours, the left side half being white, and the right yellow, the normal colour.

What has become of the Sun?—This is an universal enquiry. The proverbial month of April is one of warm showers, with frequent intermittent bursts of warm and invigorating sunshine, and the wind in the south-west. The present month of April appears to be made up of the dullness of November, the cold sleety showers of February, and the biting northerly winds of March. There is no lack of moisture; but it is all moisture, and no sun to warm and fructify. Only very recently a poet has sung in one of our evening papers:—

"Have patience? Still
Spring yet shall all her joyful tastes fulfil.
She tarries long,
But all is ready."

This is very pretty, and it may be profoundly true; but gardeners are waiting, and so long too beyond the allotted time, that they are wondering if spring may not have departed, joyful tastes and all, to some other more fortunate planet. Where are the blossoms of the Pear and Plum? That of the Apple may, perhaps, appear in June. The next horticultural conference should be on the weather; perhaps, if Old Murphy could be prevailed upon to preside, it might result in gardeners obtaining a little more control over the orderly change of the seasons.

Carnation Pride of Penshurst.—Yellow-flowered plants are in great demand this season, as they have been during the past year or two, and this, probably, is one reason why the Daffodils have become such favourites. Carnation Pride of Penshurst, shown by Mr. H. Cannell recently, at South Kensington, is one of the best varieties of this colour that we have, and it was greatly admired by the ladies present. At the Edinburgh show, shortly before, it was also one of the best features, and was then honoured with a Certificate. It is a delicate soft shade of yellow, quite distinct from, and preferable to, the bold glaring tints of that colour we have in many other flowers. The blooms are of neat form, full, and produced as abundantly as the most lavish floral decorator could desire. It will take a prominent place amongst the most useful of flower-producing plants.

Aberdeen Horticultural Association.—The monthly meeting of this association was held on Friday evening, 16th inst., in the Upper Room, Christian Institute, Aberdeen, Mr. D. M. Smith, in the absence of the President, occupied the chair. There was a good attendance of Members. The Secretary (Mr. Reid) read a paper sent by Mr. P. W. Fairgrieve, The Gardens, Denhead, Dunkeld, on "The formation of Fruit Borders for Hardy Fruit Trees." The communication was certainly practical, but not so comprehensive as might have been expected. A long and interesting discussion followed the reading of the paper, at the close of which a cordial vote of thanks was passed to Mr. Fairgrieve for his communication. Six plumes of Chrysanthemums sent by Mr. McGregor, Sunnybank (near Aberdeen), were exhibited, for which a cultural certificate was awarded. A vote of thanks to Mr. Smith for his conduct in the chair terminated the proceedings.

Primula nivalis.—Of the earliest flowering hardy Primulas, this is one of the best, especially for culture in pots, its dense clusters of pure white flowers looking charming at this time of year. When grown in pots in cold frames the flowers come very pure, far superior to those from plants in the borders or rockery, as owing to their dwarf habit, the trusses scarcely rising above the foliage, they are very liable to be splashed and damaged by rain.

Gardening Appointments.—Mr. Rowallan Fraser, lately foreman at Salisbury Green, Edinburgh, as gardener to R. H. Measures, Esq., Woodlands, Streatham, London, S.W.; Mr. Alexander McLean, lately foreman at Park Hall, Polmont, N.B., as gardener to H. Andrews, Esq., Swarland, Felton, Northumberland; Mr. Robert Heggie, lately gardener to Lord President Inglis, Logan Bank, Milton Bridge, as gardener to Thomas Aitchison, Esq., Monkwood, Edinburgh; Mr. Benjamin Sutherland, at present with Mr. John Downie, Nurseryman, Edinburgh, as gardener to Maconochie Wellwood, Esq., of Meadow Bank, Kirknewton.

HARDY ANNUALS.

I saw the other day an advertisement to the effect that a packet of 150 varieties of hardy annuals could be bought for something like half-a-guinea. We will suppose some enthusiastic amateur gardener made a venture with one of these, and began to sow them; before the task was half completed, he would begin to wish he had calculated the amount of labour required to decently bury the seeds. But when they came up and bloomed, I wonder what his feelings would be. Let us hope the purchasers of these packets will always be men of high moral sentiment and inexhaustible patience.

I do not intend to decry hardy annuals, for there are some good things among them, but those who have a limited space of ground should cultivate only such as are likely to be most durable and lasting. Among these are the White Rocket and Common Candytufts, and the fine Giant White Spiral, with the new carmine. The climbing Convolvulus major is one of the showiest of annuals, and the colours are very pleasing, but they should have good soil to ensure their being continuous in bloom, and the seed pods should be picked off. The dwarf blue Convolvulus major must not be over-looked. Then Collinsia bicolor and C. violacea, Coreopsis Drummondii, Calendula officinalis Meteor, C. Pongsi fl. pl., a subject that is not nearly so much grown as it deserves to be; the white and yellow forms of Chrysanthemum coronatum, and C. carinatum tricolor.

There are several charming Dianthuses that must be included, viz.: D. chinensis, and its variety Heddewigii, also atro-purpureus fl. pl.; these are excellent subjects for cutting from. Of the Eschscholtzias, sow crocea, Mandarin, and Rose Cardinal. But autumn is the time to sow Eschscholtzias; they root freely in autumn, and in spring make glorious masses of colour. I would add Eutoca viscida, because of its bright blue flowers; and the deep rose Eucharidium grandiflorum.

Of the Godetias, sow Lady Albemarle and Tenella, the former will sport into a great many striking forms, and they are very showy. The Helichrysums are included among the hardy annuals, and some mixed seed of H. monstrosum must be sown, for what can be better to cut from. If a good bunch or two be cut with 6-in. stems when the flowers are half expanded, tied together by the stems, and hung in a dry cool place with the heads downwards, they will become rigid, and be found very useful for winter decoration.

Hibiscus africanus major must come into a select list: the flowers are creamy, with a brown centre. Of Larkspurs, sow the dwarf Hyacinth-flowered, and the blue branching; the latter comes in so useful late. Linum grandiflorum rubrum is indispensable, it is so good and distinct. Of the Lupins, sow nanus, subcarnosus and luteus, the common dwarf yellow, they are the best; and the brilliant Malope grandiflora must not be over-looked—a veritable peer among the hardy annuals.

A garden without Mignonette is a garden incomplete; a good white and a good red should be sown. Let the amateur select from twenty names what he thinks to be the best. Tall and dwarf Nasturtiums (good ones) must be included; not too many, as they cover a good deal of ground.

Of Nemophilas sow the blue insignis grandiflora, its white variety, and the fine spotted form of maculata, then the best of them are secured. Do not overlook Nigella damascena, it is such a pretty blue. Of Œnotheras sow bistorta, Veitchii, or Drummondi nana for a yellow, and the white variety of the latter. Of Poppies have the dwarf French, and a great many charming varieties will be secured.

The Sweet Peas are as indispensable as Mignonette; a line of mixed varieties should be sown thinly in good holding soil, and do not be afraid to cut for room decoration. There are many pretty varieties, and not a bad one among them. Let the large-flowered Prince's Feather be included also. Sow also some dwarf mixed Salpiglossis, the flowers are large, and brilliantly coloured. Sanvitalia procumbens fl. pl. is a good, dwarf and lasting yellow-flowered annual; and the pretty and free Saponaria calabrica is necessary also. Add the old useful Virginian Stock, and the fine blue Whitlavia grandiflora, and my list is completed. It is long enough; but what an immense number of varieties remain unnamed.

Two mistakes are made with annuals—they are sown too thickly, and in too poor ground. I do not say this is the general practice, but it is a much too frequent one. But it is a mistake, and I have seen it illustrated many a time.—*R. D.*

THE DAFFODIL.*

I have been asked to open a discussion on the Daffodil. I therefore confine myself to the Daffodil proper. The subject of these notes is the Trumpet or Ajax Daffodil (Narcissus pseudo-Narcissus) and its varieties. First as to the name Daffodil. In old English, say Parkinson's time, nearly 300 years ago, the word Daffodil was used as an equivalent of the Latin and Greek flower name Narcissus. The N. poeticus, the N. tazetta, the Jonquil, the N. triandrus, and the rest of that class were all called Daffodils, whilst to the Trumpet Daffodils the name pseudo-Narcissus or False Daffodil was given. Usage, however, has transposed these names. We now call the Trumpet flowers Daffodils, and most of the other kinds, Narcissus, and it is not desirable to interfere with usage in these matters, or try to force changes of popular names. By the name Daffodil, therefore, we mean the Trumpet Daffodil, excepting, however, the Hoop Petticoats, which though anciently called pseudo-Narcissus by Clusius and others, are quite distinct in kind. Of these Trumpet Daffodils, Linnæus, who wrote in the middle of last century, made five species; and Haworth, who wrote half a century ago, and whose nomenclature has been in great measure adopted both by English and by foreign botanists, made twenty-nine species.

Mr. Baker, however, in a review of the genus Narcissus, written seventeen years ago, includes all the Trumpet Daffodils in one species called N. Pseudo-Narcissus, retaining, however, the five Linnæan species of it as sub-species or sections, under which he classes, with Haworth's names, the principal known wild varieties. I shall follow this arrangement, giving reasons, however, for one or two exceptions. I shall use the name Pseudo-Narcissus in three ways, distinguishing as follows:—

1, Pseudo-Narcissus the species, including all the Trumpet Daffodils. 2, Pseudo-Narcissus the sub-species or section, as admitted by Mr. Baker; and 3, Pseudo-Narcissus the type, the average form of the English wild Daffodil or Lent Lily—the Garland of old writers. Most of you are well acquainted with the technical terms for the different parts of the Daffodil, but as there may be a few here who are not, I will spend two or three minutes in defining them, that what I say afterwards may be more clearly understood. I need not define the bulb.

The flower stalk as high as the first joint is called the scape. The scape in the species Pseudo-Narcissus is usually one-flowered, but in a variety, or sub-species, called muticus, it is sometimes two-flowered. In most varieties two-flowered scapes are rare. The normal, or regular scape, is straight and upright, but in the form of minor, being slender, apt to bend downwards. The scape in pseudo is more or less compressed or ancipitous and more or less hollow.

*A paper by the Rev. C. Wolley Dod, read at the Horticultural Club, April 14th.

The Leaf.—This varies in breadth from ¼ in. in the form called minimus, to 1 in. in some varieties of the section bicolor. It also varies much in thickness. The breadth is not always in proportion to the thickness or length of the leaf, or to the height or size of the flower. The leaves of some varieties are much twisted. In some they are far more conspicuously covered with glaucous bloom than in others. Some taper acutely at the ends, some are very bluntly rounded off, some decumbent, some upright. I cannot find any variety of form in leaf cross sections. As for the number of leaves to each flowering scape, I find that about 70 per cent. have three, the remaining thirty are nearly equally divided between two, four, and five leaves. In the section bicolor, however, the larger number of flower scapes have four leaves belonging to them, and some as many as seven. In estimating this number care must be taken not to confuse the leaves belonging to different centres of growth in the same bulb. A bulb may produce only one flower scape, and twenty or more leaves, but then there are three or four centres, each of which will develop a new bulb as the growth matures.

At the top of the scape there is a sort of joint or valve, where begins a membrane called the spathe, which entirely envelopes the flower whilst in bud. It sometimes fits tight and close, sometimes is very loose, either at the base or at the point, or both, as if far too large for the bud it encloses. Beginning also at the valve of the spathe is a distinct stalk, more slender than the scape, called the pedicel. Two-flowered scapes have two pedicels, but only one spathe. The pedicel connects the scape with the seed pod or fruit. It is mostly in this pedicel that the bending or deflexion takes place upon which depends the angle of the flower to the scape. The pedicel may be quite straight or turned at right angles to the scape at the spathe valve, or bent into a complete semi-circle, or any intermediate form. The commonest form is that of a quadrant, or fourth part of the circumference of a circle. The seed pod, which we will call the fruit, is round or ellipitical—*i.e.*, oval, furrowed, or smooth, and should be studied when swelled to its full size.

Now, what are these characters worth in estimating varietal differences? Not much taken singly, but several together, if found to be constant, are worth a good deal. Some who have studied Daffodils have thought the mouth of the corona so important a character as to supersede all others in deciding varieties. Next to this in importance comes, I think, the arrangement of the perianth divisions, the question whether they are imbricated or free. The length of the pedicel is moderately constant, according to the variety. The relative length of the style and the filaments often differs in the same variety, but Herbert, a careful botanist who studied Daffodils about the same time as Haworth, thought that he had observed that in some varieties of Pseudo-Narcissus the six filaments are attached to the base of the tube in two different rows. This arrangement of the filaments in a double series is an obvious character in many species of Narcissus; but after examining a large number of Pseudo-Narcissus I have not been able to discover any difference of length of the six filaments exists in any variety. This should be observed. The same botanist, Herbert, attached importance to the wrinkling or furrowing often observable in the fruit and to its shape; neither is very constant, but both are worth notice. The comparative length of the perianth divisions and the corona often varies in the same variety, as anyone who will spend a little time amongst a bed of English wild typical Pseudo-Narcissus may satisfy himself. The form of the spathe before opening is also to be noticed. Some varieties may be recognised by this alone. Another distinction, though by no means constant, is the curvature of the pedicel. When the flower is fully expanded, the corona becoming either cernuous—that is, looking downwards, or horizontal or even perpendicular; the pedicel remaining straight, though this form is generally abnormal; the angle which the perianth divisions, when open make with the corona is also a character. I find neither the section of the scape nor of the leaf a trustworthy varietal character in Pseudo-Narcissus as a species colour is an important point. The varieties are either concolorous or bicolorous—*i.e.*, either self-coloured, the corona, however, being always a little deeper than the perianth, or distinctly two-coloured. The English wild type is never, as far as I know, concolorous, and varies in colour within narrow limits; apparent exceptions to this rule which sometimes occur I believe to be due to cross-breeding. I shall speak of them presently.

Daffodils of the same variety rarely vary much in colour. A form of N. minor found near Grosse in the Maritime Alps is an important and interesting exception to this rule. It remains to speak of size and time of flowering. To judge of the former, Daffodils must be grown together for a year or two under the same conditions; and as for time of flowering, I find that the time when different individuals of the typical form open their flowers extends over a month, and though the same bulbs are early or late every year alike, one cannot attach importance to the difference.

Immediately above the fruit is that part of the flower in which the base of the style and the filaments are fixed, and which in Pseudo-Narcissus is like a funnel or an inverted cone. This is called the tube. It is important to remember this name, because we often find the word tube wrongly applied to the part I shall next describe—viz., the trumpet, called by some botanists the trunk, but which I shall speak of as the corona or crown. This begins where the tube ends, and from the line of juncture of the tube with the corona there grow out six flower leaves, sometimes called limbs or segments, but which I shall call divisions of the perianth. They correspond to petals and sepals alternately; the three which represent sepals generally overlap at their edges and base the three inner, which represent petals. When

Primula japonica.

this is so the divisions of the perianth are said to be imbricated (which properly means arranged like tiles on the roof); but if the divisions when closed so as to touch the corona do not overlap, especially near the base, they are said to be not imbricated or free. I ask you to attend especially to the above important character.

Next we find that the divisions are sometimes shorter than, generally just the same length as, often a little longer than the corona. The perianth divisions are often twisted, or in some forms doubled back along the central line, and curved like a horn towards the end of the corona. The shape of the corona is rather cylindrical, the sides when looked at in profile being parallel, or it approaches a funnel in shape, the boundary lines diverging from the base to the mouth, or (rarely) it is larger at the middle than at either end, its shape is then called ventricose. The mouth of the corona varies more than any other part of the flower in the forms of Pseudo-Narcissus. In some forms we find at the mouth hardly any enlargement in the diameter of the straight corona; more commonly the corona bulges out near the mouth, but without turning back, whilst in many varieties the mouth spreads and is recurved like the mouth of a trumpet. Recurved is a better word to express this form than reflexed, which implies an angular and less gradual turn. The petals of a Cyclamen are reflexed, those of a Martagon recurved. With rare and abnormal exceptions the mouth of the corona is divided by incisions—more or less deep according to the variety—into six equal lobes corresponding to the six divisions of the perianth. When the flower becomes double these divisions or incisions are continued to the base of the corona, so as to split it up into six parts. The lobes are often cut up at the edges by irregular notches, generally wedge shaped, and varying in depth, into smaller divisions of uncertain size and number. This is called crenation, and the lobes are then called crenate—that is, notched. When the parts between these notches are doubled up together like a piece of crimped paper, or a nearly closed fan, the edge of the corona, is called plicate (or folded), and when these folds are pushed together so as to displace one another into a sort of flounced or puckered outline, it is called crispate (fringed or fimbriated), the edge then resembles a leaf of garden Parsley or curled Kale. It is a rare form.

(To be continued.)

THE PRIMULA CONFERENCE.

Whatever may be the ultimate results of the conference held at South Kensington on Wednesday, there can be no question as to the utility of the display of species and varieties held on that and the preceding day, for it was both extensive and varied—at least, as much so as could reasonably have been expected, considering the season. Taken as a whole, it served to illustrate the fact that in the genus Primula, if we take away the hardy Primroses, Auriculas and Polyanthuses, the Chinese and Japanese Primroses, and a few well-know species, the remainder are of botanical interest only, that is to say they are only fully appreciated by botanists, or those few who have taken up the genus as a speciality, and can never be the subjects of popular cultivation. The president of the conference, Mr. John T. D. Llewelyn, had the honour of showing by far the best grown specimens of species of Primulas, with which he took the first and second prizes, and among which were the finest examples of P. rosea that have ever been exhibited; beautiful examples of P. Sieboldii, P. japonica, P. obconica (one of the most attractive and most useful decorative plants of recent introduction) P. floribunda, P. Auricula, P. viscosa nivalis, &c. Messrs. James Veitch & Sons contributed the smallest species of all, four very little plants, in a very small pan of P. mistassinica or P. borealis, the leaves of which are about ½ in. long, the flower-stalk from 1 in. to 1½ ins. high, and the white or pale rose tinted blossom ¼ in. across. P. scotica is only a small species, but P. borealis is scarcely a fourth of its size. The Messrs. Veitch's specimens were the only ones in the exhibition, and naturally attracted much notice. Near at hand, as if so placed for the purpose of comparison, was the largest Primrose flower staged—a fancy Auricula with blossoms measuring 2½ ins. across, the body colour purple, the edging pale lilac, and the paste sulphur-yellow, and showing a tendency to doubling. It is one of those strange productions with which raisers of Primula seedlings are familiar, and not inappropriately bore the legend "Ye Evolution of ye Auricula." Mr. R. Dean was the exhibitor of this singular plant.

The Botanic Gardens represented by collections, were Kew, Edinburgh, and Glasnevin; and naturally, being nearest home, Kew staged the largest number, some 118 species and varieties. The rare sorts shown in this collection, included P. Facchinii (a hybrid between minima and spectabilis); P. longiflora, P. venusta, P. carniolica, P. admontensis, P. Allioni, and P. Warei, a supposed hybrid between P. formosa and P. scotica; with these were also the true P. viscosa, P. Olgae, pink with white centre; P. involucrata, and its variety Monroi, and P. involucrata var. Boveana, besides the best known decorative species. From Kew also came a series of six sheets of hand-painted species of Primula by Mr. Sedner of Munich. The Edinburgh and Glasnevin collections were much smaller, but only proportionately less interesting than the former. In the group which Mr. Lindsay staged, was the finest example in the show of P. obconica, and which will doubtless have caused many to determine to add it to their collections.

Messrs. James Backhouse & Son, York, also sent a considerable number of plants, though many of them were unavoidably backward in condition. This collection was rich in the various forms of P. marginata, and included also the rare Californian species, P. suffruticosa, the rare P. flagellicaulis, a pretty hybrid with fine rosy purple flowers; P. ciliata purpurea, one of the snowiest of rock plants, and P. Allioni, with pretty mauve coloured, solitary flowers. J. T. Poë, Esq., Riverston, Nenagh, sent a dozen bunches of hardy yellow and fancy Primroses all of fine size and very bright colours.

A remarkable display of hardy wild Primroses also came from the Hon. and Rev. J. T. Boscawen, Lamoran, Cornwall, which included white, yellow, and and pink coloured flowers, besides several shades of rose; an exceedingly fine lot. Mr. G. F. Wilson showed some seedlings from his hardy blue Primrose, "Scott Wilson," and some plants of Primula denticulata with enormous trusses of flowers, grown in the open air. Dr. Hogg showed the Bardfield and common Oxlips; Messrs. Paul & Son and Mr. T. S. Ware also contributed good representative collections of the best known kinds; the Dowager Lady Howard de Walden, The Mote Park, Maidstone, sent boxes of cut blooms of Auriculas, Primroses, and Gold-laced Polyanthuses; and Miss Jekyll, Munstead, Godalming, contributed a display of white and yellow Polyanthuses, naturally grouped on a raised bank of moss. Double Chinese Primulas were represented by four grandly grown plants, 2 ft. over, with fine robust foliage, and well flowered, from Mr. W. Elphinstone, Shipley Hall Gardens, Derby.

For visitors not wholly interested in Primulas, there was much to admire of a more miscellaneous character. Perhaps the most fascinating was a very fine group of Roses in pots from Messrs. Paul & Son, Cheshunt. Mr. B. S. Williams contributed an extensive bank of stove and greenhouse flowering and fine-foliaged plants; Mr. T. S. Ware had a most interesting group of hardy herbaceous and Alpine plants; Messrs. Barr & Son an extensive assortment of Daffodils; and Messrs. J. Cheal & Sons, Crawley, staged an exceedingly fine collection of sixty dishes of Apples.

On Wednesday the conference took place in the Albert Hall, under the presidency of J. T. D. Llewelyn, Esq., when four papers were read, viz., "The Origin and History of the Florists' Auricula," by Mr. Shirley Hibberd; "The Improvement of the Genus Primula," by the Rev. F. D. Horner; "The Nomenclature of Alpine Auriculas," by Mr. J. G. Baker, F.R.S.; and "The Culture of Hardy Primulas," by Dr. Masters, F.R.S. We have been favoured by the Conference Committee with copies of all the papers, but are unable to give more than the two first in our present issue.

ORIGIN AND HISTORY OF THE FLORISTS' AURICULA.

By Mr. Shirley Hibberd.

In treating the origin and history of the florists' Auricula, in the interest of the Primula Congress, it is a matter of plain propriety to remark that I discoursed on the same subject in this place on the 25th of April, 1882, and the text of my thesis was published in the horticultural papers. With the present important task before me, I have again reviewed the history of the flower that takes highest floral rank amongst the Primulas, and shall endeavour to submit to your consideration matters that are possibly of importance, and that, I hope, will at least prove interesting. It will be convenient to dispose of established truths in the first instance, in order to obtain a proper basis for speculations on things unknown. The origin of the Auricula we will, for the present, assume to be unknown, but we have at command much of a trustworthy character in relation to its history during the past 300 years, and it will be a safe, even if a dull procedure, to rummage the books and set forth a few of the more promising facts and figures before tackling the portentous question of the origin of the flower.

A direct hint as to what to avoid as well as what to attempt may be derived from the reference to the Auricula in *Beckmann's History of Inventions*. He quotes from *Weismantel's Des Blumisten* to the effect that Ovid, Pliny, and Columella knew the flower. Well, those writers were also acquainted with Garlic, Barley, and Figs; but we pay no attention to them until they offer some special information illustrative of the arts customs, or necessities of the times in which they lived. It is somewhat to the purpose, perhaps, that Pluche, in *Spectacle de la Nature* (ii. 49), states that the Auricula was carried from Switzerland to Brussels by Walloon merchants. The second volume of this work was published in 1733, and it gives no clue to the date of the carrying. But the statement is of importance in connection with the general belief that the Auricula was cultivated in the Netherlands long before it was introduced into this country; and that the garden varieties of the flower were introduced by refugees from the low countries about the year 1570. We find mention of the flower in the works of Fuchsius, Mattiola, Clusius, Turner, and Dodoens. But the sixteenth century botanists were but little better informed on the subject than the writers of the later Roman period; and it would be waste of time to attempt to formulate their scraps of information. Mattiola figures the true Auricula admirably at page 706 of *De Plantis Epitome* (1586). In the superb edition of Dodoens printed at Antwerp by Plantin, it is very badly figured at page 148. By both it is described as Auricula ursi, and by this name of Bear's ears it was generally known amongst the sixteenth-century botanists and gardeners.

In the year 1570 many artisans driven out from the Netherlands, settled in this country, and they brought their favourite flowers with them, including the best of their Auriculas. We begin business at the old shop, for Gerade, who published his *Herbal* in 1597, described and figured half-a-dozen varieties. On page 640 the contrast between the yellow and the purple Bear's ears, although shown in drawings that are truly execrable, is full of instruction in respect of the question before us. The other figures are of little consequence, but the two that lead the way speak emphatically of the distinction between the true Auricula and the flower known to us as the Alpine Auricula. In plain truth they were as distinct then as they are now, and John Gerarde's bad drawings hit the truth admirably. It is important also to note the remark of Johnson in his edition of *Gerarde*, published in 1633, to the effect that there are divers varieties, differing in the leaves, which are green or hoary, and in the flowers, which are white, yellow, red, and purple; the gardens of Mr. Tradescant and Mr. Tuggie being well furnished with such.

What Parkinson says.

These things prepare us for what the immortal John Parkinson has to say. In his *Theater of Plants* (1640) he copies the bad figure from the Antwerp Dodoens, and describes twenty-six kinds of Auriculas. It is of the highest interest to note that amongst them occur a "stript purple," which he describes as singularly changeable; also a parti-coloured red and white "heard of but not seen." The Collie, that he describes as "somewhat sad but very lively," and the "Purplish Blew," appear both to have been of the class known to us as selfs, while "Heavens Blew," "Paler Blew," and "Bright Crimson," were of the class now known as Alpines. Of yellows he says there were many, but so mixed "I cannot expresse them." This is just what might be expected, and it may be fair to add that, as a matter of course, they were the least valued, because not far enough removed from the wild flower of the mountains, for the opinion appears to have prevailed that there was only one kind of wild Auricula.

In the *Paradisus* there are twenty varieties described, a few of which are admirably figured. Of these, nine had green leaves without meal, and the remainder were more or less mealy. The flowers are presented as varying in colour, and some have a centre of the kind we call "paste," while others are without it. The colours are just such as we find in border Auriculas of the present day, comprising shades of red, purple, violet, marone, yellow, and white. We are certainly in the midst of Auriculas, not only of the mountain, but also of the garden. It appears that we have in the *Paradisus*—inexhaustible treasure as it is—the fountain of diversity as revealed to the penetrating eye of "Thine in what he may," the author of what he himself in his dedication designates "this speaking Garden."

This paper should be something like a catalogue of evidences, and I invite your attention to the description of "the great straw-coloured Beares eare," at p. 238 of the book last mentioned. "This hath almost as mealy leaves as the last, but nothing so large; the flowers are of a faire strawe colour, with a white circle at the bottom of them." These three last (that is the great yellow, greater yellow, and great straw) "haue no shew or shadow of any other colour in any part of the edge, as some others that follow haue."

The "blush Beares eare," the "Haire-coloured Beares eare," and the "yellow variable Beares eare" are described as edged flowers. For example, "the blush has a ground colour of a dark or dunne-yellow, shadowed ouer a little with a shew of light purple, which, therefore, we call a blush colour, the edges of the flower being tipt with a little shew of that purple colour, the bottome of the flower abiding wholly yellow, without any circle, and is of very great beauty." The Hair coloured is of a brownish yellow, edged with a show or shadow of a light purple colour. The Yellow variable is of a fair yellow, "dasht about the edges onely with purple, being more yellow in the bottome of the flower theu in any other part." I seem to hear our friends the florists say that these were flowers with shaded edges, of which we have many at the present day. Yes, the history of the flower is before us, and the *Paradisus* appears to provide us with the very first record of that kind of edging. Parkinson reserved a *bonne bouche* for a wind up of his feast of Auriculas. It is the "Variable green Beares eare." "This hath green leaves snipt about the edges; the flowers are yellowish green, having purple edges; these have no circles at all in them." This variable green with a purple edge might, for present purposes, be assigned the position of a pole star in the floral firmament; at all events, I, for one, feel attracted to it, and expect it to afford assistance in tracing out the order of the stars in the two constellations of Ursa major and Ursa minor that "in earth's firmament do shine;" for these stars seem to be now coming home to us.

Colour and variation of leafage.

There is no special interest for the present occasion in the progress of the Auricula in what appears to have been its early conditions as regards range of colour and variation of leafage. It is only when it assumes what, for convenience sake, may be termed its exhibition character, that it becomes more than ordinarily attractive, not only for the delight of the eye, but as a subject for scientific study. Let us then consider the position of the edged flowers in the history. The one presented us by Parkinson is very different to the florists' Auricula of the present day; but it is probably a true Auricula, for the leaves "do turne and fold themselves a little backwards," the flowers are less expanded than some others, but alas! they have no circles in them, and the variety is not figured. This, we will say, is the most remarkable of all cultivated flowers, a small wonder, but a true one; a great achievement of art or a most extravagant freak of nature. When did the first properly-edged flowers appear? That question is now forced upon us, and is full of significance, even if judged by this first record of a green flower with a purple edge. A very trifling change would give us a purple flower with a green edge, and changes of that kind are common enough.

Strange to say, edged flowers were not received with open arms by the faculty. They had to win their way slowly to the favour of the florists, and on the principle that the world knows not its greatest men, the gardening world in general was for a long time ignorant of this unique production; this most precious of all the jewels in the diadem of Queen Flora. The proof of this will furnish matter for a paragraph.

In *Miller's Dictionary*, first published 1731, the edged flowers obtained no recognition, but Miller provided a good code of judging Auriculas, *minus*, of course, certain points that are of a peculiar importance now. The fact proves that the flower had acquired extensive popularity, and inspired some kind of corporation that for present purposes may be designated the Auricula Fancy. Even in 1676, fifty years after Parkinson had so nearly witnessed the making of the Florists' Auricula, John Rea, in his *Florilege*, described striped flowers, and advised the selection of flowers "with white eyes that will not wash."

The subject obtains scientific treatment in Hill's *British Herbal* (1756), and the author, John Hill, M.D., boldly declares that many of the so-called species of authors "are no other than varieties of this plant rising from culture." At p. 98 he speaks of the yellow Auricula as standing alone, and apart from those that produce red and purple flowers. Of these last he says there are three species not directly related to the yellow Auricula, and these he describes as narrow-leaved, round-leaved, and long-leaved. To one of the descriptions he adds the remark that "there is no judging by what one sees in gardens, where the accidents occasioning varieties are endless; but in those collected wild there is no error."

In Hill's *Eden*, by the same John Hill, published 1757, Auriculas are fairly treated of, but edged flowers are not mentioned. Hanbury's *Body of Gardening*, 1770, gives a hint in the way of our search in speaking of variegated Auriculas. It is a question of some importance whether the variegated flower of Hanbury was the striped flower of Parkinson, or a modification of that edged flower that had been noted as a curiosity 150 years before. There is clear evidence in the *Florist*

of 1849 that in the year 1732 the edged flowers were not generally recognised; but in a code of rules for judging Auriculas, "flakes" and "stripes" are mentioned as important adornments of the flowers that were in favour in 1732. Mr. Slater in his *Amateur Florist's Guide*, gives a list of proper edged flowers that were in cultivation in 1776, and in my paper, read here in 1882, I assumed—I still think properly—that some of these were in existence in 1750, or earlier. The varieties known as Pott's Eclipse, Rule Arbiter, and Hortaine, were in cultivation in 1757. About 1785 the edged varieties were plentiful, and amongst them were Grimes's Privateer, Popplewell's Conqueror, Gorton's Champion, and Wrigley's Northern Hero, which are still in cultivation, not as archæological curiosities, but because they are good and have retained their initial vigour as cultivated plants for upwards of a hundred years.

THE EARLIEST EDGED-FLOWER.

In fixing a date for the earliest record of an undoubted edged flower, I am indebted for valuable aid to my friend Mr. Harrison Weir, who, in a communication to the *Gardeners' Chronicle* of May 6th, 1882, refers to Sir Thomas Moore's *Flower Garden Displayed* published 1734. In this work many Auriculas are described, some of them introduced from Holland, and others raised in this country. It is important to note that the Dutch and the English varieties appear to differ as Alpines and true Auriculas, both classes finding favour here, but the English raisers having an especial affection for Auriculas proper, as apart from the Alpine section. Now, it is of the highest importance to observe that amongst many flowers of a class known as "painted ladies," because delicately improved, as the ladies of that day were, with a dusting of white powder, several are described as striped, and one as distinctly edged. The edged flower is called Honour and Glory; it is said to have "a good white eye, and the flower striped with a dark reddish purple on a white ground, so as to leave the edge of the flower white." I repeat that this contribution to the history is important, because it not only places before us an undoubted edged flower, but it shows that the difference between stripes and edges was recognised. More than this, it shows that striped flowers were much valued, for one called the Royal Widow was sold for 10 guineas, but the value of the edged flower is not suggested. It would be delightful could we find in the winning stands of the present season an example of the edged flower of 1734, which was very different to Parkinson's green with purple edge. As we cannot find the flower, we will look for Honour and Glory of a larger kind. Perhaps in the soundness of our work, and the sweetness of our tempers, and the earnestness of our hopes, we may be promoting a higher and wider appreciation of the Auricula, in which case honour and glory are secured, and we may safely proceed in the good old way according to the sacred precept, "Whatsoever thy hand findeth to do, do it with all thy might."

WHENCE CAME THE FLORISTS' AURICULA.

Let us now ask the question, Whence came the Florists' Auricula? Charles Darwin, in *Forms of Flowers*, page 43, derives it from Primula pubescens, which is represented as a hybrid between P. Auricula and P. hirsuta. Herbert, in *Horticultural Transactions*, vol. iv., p. 19, considers P. Auricula, P. helvetica, P. nivalis, and P. viscosa to have been concerned in the parentage. Indeed, Mr. Herbert considered he had raised a powdered Auricula from P. nivalis, which may be regarded as a white-flowered variety of villosa of Jacquin. As he gives no description, it is impossible to say whether his plant would pass for an Auricula if brought up for judgment here to-day; but he was not the kind of man to make any glaring mistake, and his plant must have differed from nivalis to entitle it to such special mention. Mr. Herbert, at the same reference, suggested that P. Auricula, P. helvetica, P. nivalis, and P. viscosa are but varieties of one and the same species. To the list may be added hirsuta, pubescens, minima, and nivea; for in truth we are now trading in names, and we shall have to be careful that we do not mistake shadows for substances. In his *Die Geschiete der Aurikel* Professor Kerner avows his belief that Primula Auricula is not subject to variations, and that it probably did not keep a place in gardens for any length of time beyond the middle of the seventeenth century. But then he obtains for the making of the garden flower the blood of P. Auricula and P. hirsuta, which he regards as the parents of P. pubescens; and from this last, a reputed hybrid, he derives both the edged and the Alpine varieties. This proposal will not be accepted by many of the raisers of seedlings, whose experiences have rendered them familiar with the peculiarities of both classes. It affords but poor promise of an explanation of the persistency of the yellow colour and the farinosa decoration of the show flowers. Nor does it satisfactorily explain the shaded margin and the persistently naked leaf of the Alpine section. As regards the yellow of the show flower, it does not appear in its true proportions to the casual eye; but if you will carefully wash away the paste, you will find that it is laid upon a yellow ground. It seems to be the function of paste to play a game of deception. Kerner's views have been partially approved by Mr. J. G. Baker, of Kew; but he appears to lean to Primula Balbisi as a prominent progenitor, and he associates the edged flowers and the Alpines as at least not specifically distinct. The Rev. F. D. Horner, who combines experience as a raiser with knowledge of species and a fine faculty of observation, reckons Primula farinosa, P. Scotica, P. marginata, P. intermedia, and P. viscosa as concerned in the parentage; and probably he would separate the edged flowers from the Alpines as of different origin.

Finally, I propose to you that we may with advantage regard the edged or show Auricula and the Alpine Auricula as, for present purposes, specifically distinct. The general agreement of the Alpines is with P. commutata and P. Pedemontana, the last named being emphatically reflected in it. On the other hand, P. ciliata of Moretti may be associated with P. Auricula as concerned in the formation of the florists' flower.

But, after all, this is like arguing in a circle. The two that I have selected as begetters of each group are specifically one or two at the discretion of the botanists, as they may take broad or narrow views. We are in the same plight as regards the Primulas as we were in regard to the Daffodils before the Congress operated, when, as you will remember, a great reduction of the species was carried into effect. I will venture now to say that the employment of names in the expression of our ideas as to the origin of the Auricula must be subject to the possible reduction of names by the revising committee. I can find a dozen or more so-called species that are possible parents of the Auricula, but as I question their specific independence I do not feel that making a catalogue is, in this case, the solution of a problem in biology. As for Paulinuri, I cut short the connection by dismissing it as a possible progenitor of Auriculas. *(To be continued.)*

SCOTTISH GARDENING.

Seasonable Notes.—Fruit trees, in some cases, remind one that (though late as the season is) they require attention, which is frequently neglected, and thus causes disappointment which might often be avoided. The disbudding period has now arrived, and to do this work properly, it is not well to make a clearance of all the shoots at one time, but to go over the trees at different periods, taking off those which are growing outwards. Strong and sappy shoots are generally worthless, and should not be retained except there is vacant space to fill up. Such gross shoots should be topped to reduce their strength. Where fruit are set and setting, it is well to allow the young foliage to remain as protection till injury from frost need not be feared. A good supply of young growths to fill up vacant space is always desirable, but crowding them where they cannot develop their foliage is always productive of mischief; a shoot beyond the fruit, and another as close to the base of the wood now fruiting is indispensable. This is applicable to Plums, Peaches, Apricots, and Morello Cherries.

Young trees lately planted may be reduced to the number of shoots which are to form branches. They may all be trained upwards this season, and next year can be taken down to their places. Some attention will be necessary to equalize the growth; stopping gross shoots which will throw up several others, thus filling the wall at the beginning. We believe in abundance of growth at first, which should be spread all over the space. Most of the work of training should have attention during the growing season. If trees are to fill a small space only, the roots will have to be kept in check; but where proper caution at planting time has been taken, there will be little difficulty in the management for several years. One reads so much about "extension" methods of fruit tree growing; this is the oldest system, and need not be objected to where means can be allowed to grow large trees. Generally the moderate or curtailed system is the most popular, because few care about confining themselves to a limited variety, which is inevitable with large trees only; and if a large tree has to be removed, there is a blank for some years, but if there are numerous free-bearing small trees, the loss is proportionately less. We think that all ordinary walls—also orchards—should be well filled with trees in the course of three to five years, and in full bearing.

Grafting may now be finished. Such work can be done much later in some districts than others, and this season gives a period of nearly three weeks later than usual. Bullfinches may now be troublesome, and we do not know an effectual remedy of checking them, except destroying the birds, but they are so beautiful one does not like to resort to extirpation. Threads and feathers scare birds for a short time—the netting of bush-fruits is effectual, but it is only where quantity is limited that one can practise this.

Shrubs.—The planting of evergreens is generally practised with the best results at this season (deciduous trees are mostly planted by the early part of April). If the soil is dry and sandy a good mulching of short-manure is of great benefit in protecting the roots from drought; a soaking of water given before the top soil is placed may be necessary, and probably little more will be required for weeks to come. If the season should be moist the less the water-pot is used the better; half measures should be strictly avoided. Where shrubs may be brown at the tips of the branches a general trimming may be given; and where there are such trees as standard Thorns, Acacias, Laburnums, Mountain Ash and such like—which are to be kept round-headed—now is a good time to use the knife on them. Shrubs of rapid growth taking the lead with unequal shoots should be cut accordingly; double-headed coniferæ may have the leaders reduced to one. Ivy always holds firmly to buildings when well trimmed in every year. When done with shears, just before the growth begins, the space is soon covered with a mass of green foliage. This also keeps sparrows, rats, and other creatures from harbouring in the tangled masses of foliage, often seen on old buildings. A general trimming with knife to all climbing and other plants should be done before growth extends far; the strong shoots should be tied securely. If the trained shrubs are to flower in summer provision must be made to allow the flowering wood to develop freely—mistakes are sometimes made by cutting off the flowering wood formed the previous season. Roses should be overhauled on walls; climbing kinds should only be thinned.—*M. T.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

Many seeds have yet to be sown, and, unfortunately, those that have been in the ground for several weeks have made but little progress, and crops of all kinds will be very late. Although there has been some fine weather, the soil continues very cold owing to the frosts which have occurred on nearly every clear night this month. A few Peas are showing in the rows, but the earliest are not more than 2 ins. high, and it is evident we shall have to wait with a large share of patience for our first gathering. Cold rains, and even snow or hail, have not improved the condition of things as regards vegetables, but they are effectually retarding the fruit tree flower buds, and we are hopefully counting on a bountiful fruit harvest.

Seed-sowing must be still continued, and as the season is so advanced, it will be wise to complete the principal part as soon as possible, for if the weather should become hot suddenly it will not be favourable to the operation. Parsnips and Carrots may be now sown for the main supply, and a few of these are always acceptable from the garden although they can be purchased so cheaply. Perhaps Parsnips are not such general favourites as the others, but they are very nutritious and easily grown in ordinary soil, and even in poor soil we have had extremely sweet little roots, but their size would not satisfy some people, and to obtain good roots the soil must be deep, well worked, and fairly rich. The excessively large roots frequently

seen at exhibitions are, however, by no means desirable, and it is a mistake to encourage those who grow such monsters, the same remark applying equally to Carrots and Turnips. Several varieties of Parsnip have been named and sent out, but a good strain of the Hollow-crowned or the Student is quite sufficient, and the seed should be sown in drills 18 ins. apart, thinning-out the plants to about half that distance apart.

Carrots require similar treatment and soil, one variety, James's Intermediate, being amply sufficient to follow the early crops of the Horn variety. Of what may be termed the smaller crops, Lettuces, Radishes, and Parsley are the most important, and the two former should be sown at intervals throughout the spring and early summer months: any Cabbage or Cos varieties will answer, but the White Paris Cos gives us the most satisfaction for general use and quality. An abundant supply of Lettuce plants can be obtained from a bed one yard square, but the best plan is to sow small quantities in succession about every fortnight. Parsley can be sown in rows thinly and in soil that has not been too recently enriched with manure, it will—if the strain be good—yield plenty of well-curled leaves. In rich soil the plants grow very strongly, the leaves are usually less curled, and they are apt to run up to seed if the weather is dry and hot.

THE GREENHOUSE.

Flowers are now plentiful in this house, and a few notes upon these plants we have in bloom will indicate what can be had at this time of year. Lachenalias are great favourites with us, and with pots and baskets of these we have a gay show. Nelsoni is the most admired; but some of tricolor and quadricolor are also grown, and help to increase the variety, though the first-named is much the most effective. Cinerarias are now at their best, and we have marked a few of the best for seed, as, though we always purchase some every year, we like to have a little home-saved seed which yields us good varieties, and by continual selection the strain has improved greatly.

April is a suitable month for sowing seed for next year's supply; ordinary pans and a light finely sifted compost of leaf-mould, loam and sand is the best. Press this rather firm, render the surface quite smooth, water it gently, and allow it to drain for a short time before sowing the seeds very thinly, covering them with a very light dusting of the finest soil. Place a piece of glass over the pan, and in a warm shady corner of the greenhouse or frame the seeds will soon germinate. Auriculas and Polyanthuses are useful in the house now, not the choice-named florists' varieties, but such as can be raised from seed of a good strain; the Alpine Auriculas being charming both for their colours and their fragrance.

Later in the season these will also be attractive in the borders, for we do not consider them complete without such flowers; and though there are Daffodils, Scillas, Chionodoxas, and other flowers in good numbers now, we shall be glad to get a change like they afford. In the greenhouse Azaleas of the indica varieties are still flowering freely, with Cytisus, early Rhododendrons of the Countess of Haddington type, which is one of the best, and several other useful plants.—*Scolytus.*

JACK'S IN THE GREEN.

Lest readers should assume that the above appellation refers to the sooty tribe of sweeps on May-day, let me undeceive them by stating that the reference is rather to those interesting members of the Polyanthus family which show abnormal green collars of various forms, and are regarded usually as floral curiosities. By diverse designations have these things been known—Jack's in the Green, Jack's an Ape, Galligaskins, &c.—in all cases signifying something grotesque. Really there is not, florally, so much that is odd in these Jack's in the Green as there is in the hose-in-hose forms of the Polyanthus, because the latter have the calyx, which is normally green and composed of divided parts or sheaths, converted into an actual floral pip, so that there is the normal pip and the calyx pip, or the two duplicated; but one is grown out of the other. This form of the Polyanthus is now developing some curious and exceedingly effective kinds, especially when pure white, yellow, cream, red, and crimson.

These colours being self, and produced by this doubling of the pips creates much more striking effects than results from ordinary growers; indeed, for spring bedding, nothing florally can well exceed those hose-in-hosed duplexed Polyanthuses. They do not seed so freely as ordinary Polyanthuses, chiefly, no doubt, because the tubes of the pips are so much longer than are those of single pips, and perhaps the peculiar habit of converting the green calyx into flowers detracts from fertility. Thus we find in the border Polyanthus this diversity of flowers, that some have one pip, as is the case with all ordinary flowers, some have two or duplex pips, without a calyx, and others have the single pip, supported by an abnormally big green calyx or collar.

In some instances, seedling forms give these collar-lobes quite 1 in. long—indeed, resembling small leaves. The enlargement of the calyx tends somewhat to cramp or cup the flower, hence plants of these are rarely so effective as are those of ordinary forms. All kinds come freely from seed, and some strains which have sportive tendencies will give all the forms from a packet of mixed seed. It is a good time to sow seed now, as there is a year at least during which the plants may be enabled to become strong and grow freely, blooming abundantly next spring.—*A. D.*

LINDENIA.*

Judging by the many and costly publications devoted to the interests of the Orchid tribe, it is evidently intended that they should not languish for want of being well described and depicted. If the handsome work—the first seven numbers of which are before us—does as much for Orchids on the continent as that excellent publication, *The Orchid Album*, with its life-like coloured plates, and clever cultural notes, has done for them at home, and in America and the colonies, a much more extensive hold will be gained by them in France, Germany and Belgium than they now enjoy, although signs of such a desirable event have steadily been progressing in certain gardens on the continent. With such a well-known director as Mr. J. Linden, such editors-in-chief as Mr. Lucien Linden and Mr. Emile Rodigas, the success of the work should be equal to its merits, and we shall have much pleasure in briefly noticing each issue as it arrives.

Each of the numbers contain four excellent coloured plates accompanied by letterpress, giving the name and its authorities, followed by the scientific description and a note of its native habitat. Then follows a cleverly written article (in the French language) embodying all that is known respecting the plant and its habits, and the best manner in which to cultivate it. The subjects already illustrated and described are Aërides Reichenbachi, Trichopilia suavis alba, Odontoglossum nevadense, Dendrobium Falconeri, Cattleya nobilior var. Hugueneyi, Cypripedium Druryi, Epidendrum paniculatum, Phalænopsis Stuartiana var. punctulata, Cleisostoma Guiberti, Selenepedum reticulatum, Aërides maculosum var. formosum, Cattleya maxima var. Hrubyana, Odontoglossum vexillarium var. purpureum, Aërides odoratum var. Demidoffi, Masdevallia Roezli, Oncidium Lanceanum var. superbum, Odontoglossum ramosissimum, Cypripedium tessellatum var. porphyreum, Cattleya guttata var. Leopardina, Oncidium Limminghii, Cypripedium selligerum majus, Phalænopsis Sanderiana, Trichocentrum tigrinum var. splendens, Spathoglottis augustorum, Odontoglossum rubescens, Catasetum tigrinum, and Cattleya aurea, the whole of which are amply dealt with, and showily illustrated. In some instances, however, as for example in the Dendrobium Falconeri, whose jointed growth is not well rendered, the botanical details are not well worked out, and in others, as notably in the illustration of Trichocentrum tigrinum var. splendens, which is very stiff and angular, the picture is not artistic.

It also will not fail to be observed the partiality exhibited towards figuring varietal forms or so-called varieties. Those illustrated as Phalænopsis Stuartiana punctulata and Oncidium Lanceanum superbum, are only what we should call ordinary forms in this country. In such a case, too, as that of the plant illustrated as Cattleya nobilior, var. Hugueneyi, the matter is pushed to extremity, for C. nobilior itself is a very doubtful species, and apparently only a local form of Cattleya Walkeriana. These little matters, however, which should in fairness be mentioned, and for which we know Mr. Linden will forgive us with a smile, saying that the figuring of fine varieties needs no excuse, we do not advance as being detrimental to a work which, in common with all others, must have slight defects in the opinions of some. The *Lindenia* is a work of excellent merit, the subjects treated of being represented at the full size and in their best forms and colours, which, together with the general descriptions and instructions conveyed with each, renders them of great service to all Orchid-growers. It will, no doubt, obtain a good place among such publications in the race for public patronage.

* Lindenia. Iconographie des Orchidées, vol. i. J. Linden, Ghent.

THE POINSETTIA.*

Poinsettia pulcherrima is a native of Mexico, and was introduced about 1834. Of all winter decorative plants none surpass the Poinsettia, its brilliantly coloured bracts and dark green foliage, produced as they are at a dull and dreary season of the year, rendering it doubly valuable. It may be fairly described as the Aurora Borealis of the plant stove, lighting up the house as that singular phenomenon lights up the dark, bleak regions of the North. As a table plant, when well grown, it has no equal; and for cutting, when colour is required, it is unsurpassed; besides, the length of time it remains in beauty is of the utmost importance to the floral decorator. Long after it has lost its leaves, it is very useful if used with other plants for the decoration of conservatories, as the pots and portions of the stems can be hid amongst plants of a more bushy nature, and the heads standing well out above the other plants, make the arrangement very effective.

About the middle of April, place the old plants in a temperature of about 55°, giving plenty of air during sunshine, with the object of keeping the young growths as short and as thick as possible. The plants should have been pruned back to good firm wood before being placed in the temperature named. By the latter end of May or beginning of June the top growths will be about 3 ins. long. Having prepared a hot-bed and pots with nice sandy soil, take the cuttings off with a heel and insert in single pots. Plunge the pots in the hot-bed and leave a little air on the frame, the object being to avoid growth until the cuttings are rooted, which won't be long in a good bottom heat. When the pots are nicely filled with roots give them the final shift into 4-in. and 6-in. pots. The compost should be good turfy loam and leaf-soil with a little bone-dust and silver sand; when potted, put them in bottom heat as before. A pit with a pipe running through it will be better than a frame, as the heat from the pipe will enable you to give more air. What with the bottom heat and plenty of air, the plants will become very sturdy. Poinsettias grown in this way will often produce the appearance of a bulb at the bottom of the stem. Plants that do this always produce fine bracts; also under this treatment cuttings can be put in up to the latter end of July and do well. At the beginning of September the plants should be removed to a house, and as near the glass as possible, with a temperature from 55° to 60°, care being taken that the growth is complete before giving them more heat.

The growth being completed, give them a temperature of 65° to 70°, with air if possible. This is the time for feeding, and guano, liquid manure from the farm-yard, and soot are all good stimulants for the Poinsettia. Feed until the bracts have attained their full size. The roots of the Poinsettia are its most tender parts, and should never be watered with cold water, nor should they be left in cold frames after the 1st of September, or the roots will begin to die, and the bottom leaves turn yellow and fall off, a sure indication that more heat was required. The Poinsettia is grown from cuttings of well ripened wood of two or three eyes, and make very good heads, but plants treated in this way grow much taller. Old plants are pruned back to one or two eyes; all the old soil shaken from the roots and re-potted, and they will do well. But my object is to grow them from young growths, make the bracts large, and keep the plants short, say from 12 ins. to 20 ins. high. I believe the secret of success is to keep the cuttings from drawing when being rooted; grow in a pit during the season with plenty of air, the roots in bottom heat if possible, and not to place them in strong heat before growth is complete. After flowering, withhold water, and keep them in a temperature of not less than 40°.

* A paper read by Mr. John Marsden, Westbourne, before the members of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society.

FLOWERS FOR THE POOR.

Would you permit me, through the medium of your valuable paper, to ask those of your readers, who enjoy the pleasures of a garden, to think of the many cheerless homes in East London which have neither this luxury nor even the fresh air and bright sunshine that usually accompany it. The Bow Emmanuel Worker's Society, wishing to help the more unfortunate who live in this anything but picturesque spot, and to brighten their dark and dreary homes by the introduction of nature and art, have undertaken to receive gifts of flowers, roots, cuttings, seeds, pictures, or any other suitable ornament to give to those who otherwise could not afford to obtain them. We feel certain, that if men could be made to take a pride and find comfort in their homes, there would be less temptation for them to leave their wives and children to go to public-house and low music-hall gatherings. It may be a pleasure to those who can often gather wild flowers, and obtain roots of Ferns, Primroses, &c., or cuttings from the garden, to know that they will be carefully treasured by, and cheer many while they sit at their long hours of work. Some friends have kindly put their gardens at our disposal, so that we hope to be able to keep the cuttings from dying, and make up window-boxes to lend or give away. All this, of necessity, costs a little money. We shall be glad if any of your readers would feel disposed to help by a small donation towards getting mould, window-boxes and flower-pots. All gifts will be acknowledged by letter, and in the yearly report which will be sent. Letters and parcels to be addressed to *A. W. Bevis, Secretary of the Bow Emmanuel Worker's Society*, 115, *Malmesbury Road, Bow.*

Pæony Perfection Aster.

Chrysanthemum-flowered Aster.

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—VIII.

Single Chrysanthemums are, without doubt, a most useful addition to the varieties of Chrysanthemum. They come to perfection in a shorter time, and last longer in a cut state than the other varieties, and being easier to grow than the large-flowering varieties, they should become great favourites with all who grow Chrysanthemums for cut bloom or decorative purposes. They are the most free-blooming varieties we have, possess a variety of colours, and can be had in bloom from early October till January. Quantities of bloom can be cut from plants grown in 6-in. pots.

If large plants are desired, cuttings should be put in during the month of December, and be treated according to the directions given for the large-flowering varieties on p. 438; but their great usefulness being for cut-bloom and decorative purposes, we treat them as follows:—Our first batch of cuttings are taken in February, and inserted around the sides of 3-in. pots; the pots are then plunged in cocoa-fibre refuse in a frame, which is kept shut up close till they show signs of having rooted. Some are also struck in a warm corner of a house, and lightly sprinkled once a day to keep them from flagging. As soon as they are rooted, air is freely given for a few hours in the daytime for a few days; they are then removed to a frame and stood on ashes, and plenty of air is given on all favourable occasions. Plants struck in February will require 8-in. pots to bloom in, and should be stopped and grown as directed on p. 438.

But excellent and equally useful plants can be obtained from cuttings struck in April or May; and, in fact, if cuttings are put in in June and twice stopped, they make nice useful plants for decorating the conservatory and will not require pots larger than 4½ ins. After the cuttings are struck, the directions given for the cultivation of the early-flowering varieties on p. 486, will apply to these varieties. Single Chrysanthemums also make good plants for planting in the borders, as they bloom well out-doors, for which purpose they should be planted out about the end of April. After the first blooms are cut, the plants will throw out lateral shoots and bloom again.

The following are a few of the best varieties:—Alba, Brunette, Coachman, Dr. Kellock, Henry Irving, Magenta King, Miss Rose, Mrs. Capel, Mrs. Deane, Mrs. Langtry, Mrs. John Wills, Mr. Toole, Monte Cristo, Sims Reeves, Single White, Queen of the Yellows, and White Daisy.—*W. E. Boyce, Archway Road, Highgate.*

ASTERS.

These popular plants have become great favourites in most gardens now, both for out-of-door culture and for growing in pots, as they yield their variously-coloured flowers late in the summer, when most others are losing their beauty. Large numbers are now grown for market, being planted out of doors during the spring and early summer months, then taken up and potted. The plants suffer so little with ordinary care that the practice can be safely adopted in private gardens as well with good results, and a good supply of such Asters are particularly welcome in the conservatory. Seed can be sown from February to the end of April for succession, but the present is a good time, as the seed will germinate more readily now than earlier in the season; and if there is a mild hot-bed at command, no difficulty will be experienced in getting an ample supply of seedlings. For this purpose a compost of half light loam and leaf-soil should be prepared and placed in pans, sowing the seed thinly on the surface, and lightly covering it with the finest portion of the compost. Place the pans in the hot-bed, or, if that cannot be done, a Vinery; the coolest end of a stove or any similar house will suffice. Water with a fine-rose can and shade for a week or so, until the seedlings appear and are gaining strength, when they must be gradually exposed to more air and light, being very careful, however, not to check them. When well clear of the soil, dibble them out into pots or boxes, 2 ins. or 3 ins. apart, and arrange these in a cooler position, so that the young plants may become sturdy. These can be then either planted out in borders in May, or potted singly and grown for flowering in that way.

Seed can also be sown in the open ground from now to the end of the month, but a rather warm sheltered position should be selected and the soil carefully prepared, lightening it and raking very fine. The seed may be sown either in beds or lines, the latter being preferred by most of the large growers for market. Asters, when advanced beyond the seedling stage, thrive in a heavier soil than most half-hardy annuals, if it be well dug and prepared for them before they are placed in it. They are also benefited by a small proportion of well-decayed manure incorporated with it, but they need good drainage and liberal supplies of water. Grown in pots they make effective plants for decoration; but if not well exposed to the air and kept well watered during the summer, they are liable to become drawn and infested with green-fly and other insects.

These several types of Asters, which may be reduced to three large groups, according to their habit—namely, the tall pyramidal, the dwarf, and the miniature Asters, the first reach 2 ft. in height, the second rarely exceed 1 ft., and the third are about 6 ins. high, some being even less than this—quite diminutive, in fact. The colours include all shades of blue, purple, crimson, rose, and scarlet to white, the leading types being as follows, the flowers differing in form:—Pyramidal group, Victoria, Quilled Victoria, Cockade, Betteridge's Prize, and Truffaut's Pæony-flowered; dwarf group, Chrysanthemum-flowered, Dwarf Victoria, and Diamond; miniature group, Dwarf German and Bouquet.—*B. S.*

IMPROVEMENT OF THE GENUS PRIMULA.*

I ONLY take up this question at the direct request of my brother-florist, Mr. Samuel Barlow, of Stakehill. The subject could not have been in better hands than his, nor associated with a name more known and honoured among florists. There is, however, this one thing, to temper my regret that I must take his place, and to add value to my paper, that the question I am to introduce is a very old and interesting one between Mr. Barlow and myself. Through all the years of our intimate friendship have we stood together over the Auricula in bloom, and taken careful thought as to the yet richer development of this highly cultured flower, a favourite with us both from boyhood.

Mr. Shirley Hibberd in his introductory paper, historical and descriptive (see p. 534), will have given some definite idea of what the florists' Auricula is; so that I shall not here be using technical terms altogether strange to those not conversant with the properties of the flower, some of which had not been acquired in the dawn of its culture some 300 years ago, nor are even dimly visible in the simplicity of its supposed wild ancestry. If any of the points for improvement should seem minute—perhaps fanciful—I can only say that the highest qualities have, as a rule, been gained only by such gentle gradients and slight curves as these. It is often some delicate touch, small in itself, but great in its effect, that raises a flower at once above the inferior or commonplace. To the accustomed eye the Auricula has an intense individuality, and very slight variations of feature alter an expression, and enhance or detract from a type of beauty.

In a breadth of its brilliant bloom there is the effect as of many eyes turned steadfastly upon their admirers; and there are faces in the flowery crowd on which one may read many expressions of a life and character super-floral. Like as in a bed of Pansies there are many comical casts of countenance expressive of astonishment, anxious inquiry, perplexity, and brown study; so here, in an exhibition of the Auricula, as representative of its beauty as can possibly be made, the flowers look all gentleness, candour, honesty, simplicity, and refinement.

Glaring faults that impart a low and evil look are all absent here; and hence I am not able to submit to you how impudent and barefaced is the "pin-eyed" flower, wherein the stigma, protruding from the hollow throat, is like a tongue thrust out. Neither, how loose and vacant is the expression of the inordinately large tube; and how cunning and cold that of one too small. Nor how lack of breadth in the eye or "paste" of the flower is like that in other eyes which cannot look you in the face; and how narrow ground colours betoken indecision and want of thoroughness. "Edges" have their own expressions, too; something like meanness when too narrow, and akin to bounce in over-breadth; for excess of edge is often concurrent with excess of size, and coarseness, almost inseparable from immensity in the Auricula, is one of its gravest faults.

Had it been practicable, a representative collection of failures in desired qualities would have formed a very clear illustration of mistakes. Yet I would not say it would be convincing; for invariably the uninitiated friend who comes to tell you which of all you have he likes the best, settles his admiration upon something that has set at naught all proper principles, and he does violence to your feelings by approving of it. But the greatest ordeal of praise I ever had was the remark, transparently innocent, of an old country parishioner, "They almost come up to artificials, sir!"

The question in what direction efforts should be made for improving the florist flowers of the genus Primula resolve itself, descriptively into the statement of the shortcomings more or less prominent and obstinate; prospectively, into what the possibilities are of which the hopeful shadows in faint shape are cast before; and practically, in what system of experiments we should seek to overcome the faults, and win into reality the promise of fresh beauties that a flower, inexhaustible in its powers of variation, naturally affords us.

As an experimentalist I will adhere to the practical; use bare description as little as I may, and bring young hopes downstairs from the nursery realms of imagination as considerately as I can.

* "In what directions should efforts be made with the View of Improving the Forists' Flowers belonging to the Genus Primula!" By the Rev. F. D. Horner, Lowfields, Burton-in-Lonsdale. Read at the Primula Conference.

PROPERTIES OF AURICULAS.

FORM.—The first property to be worked for in the Auricula is, I submit, the perfection of that form upon which the colour-attributes of the flower will be the most effectively displayed. Colour can always be worked up to, and the florist may tarry patiently for this until he has the form of grace whereon to call it into play. I always choose as the maternal parent of Auricula seed the best flowers I have in breadth, circularity, flatness, substance, and smoothness of petal; while for male parentage I do not depart further than must be from form. Petals cannot be too broad, so long as they will expand equally and kindly. If they do not meet through narrowness or roughness, the beautiful design of the colour-zones is interrupted by vacant spaces signifying nothing.

The edged classes and the selfs have each their own type of error in respect of form. In the "edges" it is generally a pointedness of petal; in the selfs a central notch or heart-shaped depression. In the edged flowers the fault has long been noticed and regretted, and has now been brilliantly overcome especially from the appearing of Lancashire's Lancashire Hero in 1846 onwards; but among the selfs until recent times there was hardly an exception to the rule of notch. The identical petal of the self seemed silently allowed to pass as the typical petal of the class.

SELFS.—For improvement of the self Auricula, my experience convinces me that the best results are to be obtained through entirely self parentage. I would not say that a correct self flower has never come from edged parents for Mr. Campbell believed that his brown self Pizarro, the best flower in the class at the time, was raised from a green-edged parent, and Mr. Simmonite that a good blue self of his was obtained from a white-edged seedling.

Certainly, however, my own best selfs have sprung from purely self parents, and latterly from a self descent comparatively ancestral. Selfs have generally a shorter duration of bloom than the edged flowers which possess greater stoutness of petal, and in which the green, whether pure or mealed, is a colour of greater and more leaf-like vitality.

It might be theoretical to suppose that if selfs were crossed with these, a greater substance of petal would be transmitted. In practice, however, it is found that all seed from purely edged parents produces a majority of self varieties, and vast numbers of these are notched, and frilled, and flimsy flowers. I have never had wilder flights of seedling selfs than from that grand grey-edge, George Lightbody. It would almost seem that an "edge" did not know what a good self ought to be.

I think that for selfs we should work patiently among themselves, advancing in substance as we certainly are sure if slow degrees, and not weakening the newly acquired and most supreme point of the "rose-leaved" or perfectly rounded petal

Another point to aim at in the development of the self is the addition of some that would be constitutionally later in blooming than most of those we have. Campbell's Duke of Argyll (rich crimson, but deeply notched), might transmit this habit, and be overruled in this fault.

The Auricula bloom in a collection loses much of its power and beauty when the quiet yet emphatic selfs are gone. It is like the beginning of the end, as when in the fading summer the swallows take their flight.

EDGED FLOWERS.—With reference to improvement in form in the green, grey, and white edges, I would remark that in these, good form beyond its intrinsic value, has an influence inductive of other good properties. Rounded petals are associated with roundness of the white-mealed circle termed the "paste;" while with the pointed petal the paste is often, as by a kind of sympathy, drawn into corresponding irregularities, which only intensify the serious fault of an angular appearance.

For form's sake, naturally, such flowers as have the roundest, broadest petals will be selected; and such a variety as George Lightbody, among those we have known and distributed at present, will serve as a type.

If good form in both parents should justify it, my conclusions are that edged flowers should be crossed with their class fellows; for one line of improvement in the Auricula certainly lies in doing all we can to intensify and magnify the class distinctions, gaining green edges as deeply green as possible, and white edges as densely mealed. The "undecided edge," too green for grey, and too grey for pure green, is not desirable. Still the Auricula is so very sportive, that some decisive edges will be obtained from parents dissimilar in class; and the experiment is justified, of course, if there be no alternative, and if some marked improvement in form may be hoped for from it.

PETALS.—Connected with form, in addition to the roundness and level disposition of the petals, may be mentioned their number. This is variable, even in different flowers on the same plant. Five is probably the normal number, for beyond this the Auricula will take a playful liberty with the proprieties of its Linnæan order, Pentandria, always producing just as many stamens as there may be petals; and if one be of inordinate breadth it is accounted as two, and decorated accordingly with two stamens. This may be a botanical misdemeanour, but is not an offence under florist bye-laws. The same is noticeable also in the florist Tulip, which is required to have petals neither less nor more than six, but is occasionally misformed with four or five, and seven or eight, when there is always one attendant anther for each. In the Auricula five or six petals are sufficient for a broad round flower, and more than eight begin to look narrow and laboured.

COLOUR.—When we turn from improvement in form to views of improvement in colours, both in richness and variety, a very wide field of development lies before the florist. Possibilities peep out but half concealed or only in the rough, revealing themselves in the rarer combinations of colours that a few seedlings crudely show; and these beckonings need but to be followed to obtain in time some new and beautiful combinations.

The Auricula is a most richly endowed flower, possessing already, singly or combined, all colours of the rainbow, violet, indigo, blue, green, yellow, orange, and red; and further still and rarer, that negation of all colours, black. In edges we do not look for a gift of other than the green, grey, and white, now so well known and fixed—while the colours of the paste and tube are constant and common to all. There remains but one more colour zone upon the flower, to give variety and play, and that is the ring or belt of velvety surface known as the "ground" or "body" colour.

Disposed between the green or powdered edge and the white mealed "paste," it is a solid band along its inner edge; while on the outer it flashes in lively pencillings, bold and blunt in some varieties, sharp and delicate in others, towards, but not dashing through to the petal edge. It is this lively characteristic of the body colour that entirely takes away any tameness or monotony, hardness or fixity that a series of strict concentric circles might be supposed to have. The body colour should most certainly have a good solid foundation before it begins to feather off, because a few slight pencillings only have a very feeble and scratchy effect, while a bold and rugged style of its outer edge is massive and handsome in the extreme. But by an expressionless ring of black, dreary as a black hatband round a white hat, I would not advocate taming the Auricula down to the miniature similitude of an archery target. Such a picture of utter and unbending primness (for which the botanical equivalent is not Primula), as a series of severe circles may indeed have been in old time perpetrated in hard diagram; but this was only as the bare skeleton which Nature in real life shall clothe with all fulness, softness, and grace and vivacity.

The body colour is the "iris" of the flower's eye, and black is at present the most settled colour. A good black is very safe and true, lasting well upon the flower, a most important point; and hence it has been a favourite colour, especially with florists in the North, and the more encouraged, pursued, and developed. Indeed other body colours were regarded with marked disfavour by old Lancashire florists, though if other colours had been worked up to the truth and steadfastness of the black, there is nothing but local fancy or prejudice to make them less valuable and less beautiful. Little encouraged in such variety, the Auricula has shown a capability, if only initial yet, of giving both blue and crimson as the ground colour in edged flowers. These will of course require cultivating up to intensity and steadiness, and I submit this as a very interesting new path of improvement.

(To be continued).

FRUITS, FLOWERS & VEGETABLES.

Soot and the Onion Maggot.—I beg to inform "Con" that I accepted his remarks on this subject as they appeared in print, criticising an article of mine, and to assure him that they did not in any way offend me, and that the remarks which I made at p. 506 were in reply to his criticism as well as in support of what I had previously written on the subject. "Con" enquires at p. 522, What I consider good soot? While pronouncing no opinion on soot "had from various sources," I have no hesitation in saying that I consider soot had, as your correspondent says he had some of his, "from the sweep fresh from the chimneys in the house," and not allowed to get damp before being scratched into the soil with a rake prior to drawing the drills for the reception of the Onion seed, perfectly good. I would here remind "Con" that because he has not seen a good crop of Onions in his neighbourhood during the last ten years, it does not necessarily follow that good Onions cannot be grown there. On the contrary, the admitted fact shows the necessity there is for your correspondent and his neighbours following closely the cultural details which result in good crops being secured in other places. However elastic "Con's" statements may be, I should be very sorry to accuse him of making false statements for the reason that he does not feel disposed to give anyone an opportunity of proving them to be otherwise; but I do wish, for his own sake as well as the readers of The Gardening World, that he would be a little more consistent in what he writes, for at p. 522 he says "I know Bournemouth well, and have done so for over twenty years, and I contend that the illustrations cited (see p. 506) have not the least weight against my statements, but the reverse." How does he arrive at this strange conclusion, seeing that the illustrations referred to, together with the names and addresses (in the neighbourhood of Bournemouth and Northumberland) were given by me, as published in The Gardening World, to show "Con" that his statement that the soot remedy "could not be expected to apply to all soils and climates" was not quite correct, and that Messrs. Baskett & Stevens (see pp. 394 and 426), in the districts indicated above, not only "applied" the soot, but actually succeeded in eradicating the maggot by its judicious application to the soil in widely different "soils and climates"? "Con" says, in the concluding paragraph of his last communication, "Although I have a staff of men under me, I have none, nor any friends either, whom I think it desirable to convince, or who would be convinced any the more from my adding my name and address." In that case, at any rate, both his men and friends would alike be able to compare not only results, but the cultural details which led to them, with his statements, and judge for themselves. Your correspondent says "When I write to a paper I simply state the result of my experience and observation, and leave the reading public to think as they like respecting the matter." This is very well so far as it goes; but some of the reading public may occasionally, as in the present case, require an explanation being given on certain parts of the result of "experience and observation," even though the statement be made on "facts within the writer's own knowledge," and it is his duty to comply with such request when courteously made. Once more I beg to draw your correspondent's attention (and I do so in a kindly spirit) to a want of consistency in his statements on this subject. In his first letter (p. 490) he says "I am always ready to defend what I say;" and in his second letter on the same subject he says "I have had my say, and must decline to discuss this matter any farther." In conclusion, I may be allowed to inform "Con" that I have no doubt whatever about being able to deal successfully with the Onion maggot in any other part of the United Kingdom than Longford within the space of a few years were I located there—say in "Con's" district—always, of course, providing that I had a good supply of dry soot at hand; and in reference to your correspondent's expressed surprise that I should have doubted the effect of soot in his garden, seeing that I had no experience there to guide me, I would remind him than an acquaintanceship with the soil or situation of his garden is not necessary, seeing that the complaint is a specific one, as also, in my opinion, is the remedy—soot. "Con" might just as well question the soundness of advice given, say by you, Mr. Editor, to correspondents residing in England, Ireland, Scotland, and Wales, to apply flour of sulphur to Rose trees affected by mildew when the leaves are damp, on the score that you "had no experience" of the individual trees and climates, and that the same remedy could not be "expected to apply" in cases so widely apart. Should this discussion lead to satisfactory results, as I have no doubt it will, I shall not regret having taken part in it to a greater length than I had intended doing; and should your correspondent, "Con," be within measurable distance of Longford during the coming summer, I shall be very pleased to show him not only our Onion bed, but our garden generally.—*H. W. Ward.*

Strawberry, Keen's Seedling.—In many gardens this Strawberry is now partly or wholly discarded in favour of Vicomtesse Hericart de Thury, President, Sir Joseph Paxton or other favourites, and for several years I followed the fashion to try the varieties named. I have now returned to my old love and do not think I shall wander again, for it proves more satisfactory with me than any of the others for early forcing. We are obliged to have ripe Strawberries as soon as possible, and though we were later than usual this year, we have been gathering fruits for several weeks, and both in size and colour these have pleased my employers well. It is sometimes urged against Keen's Seedling that the fruits come of very irregular size, but when an extra large number show, and we always have good crops from it, they are thinned freely, the fruits come finer in consequence and they are much more even in size. Another variety not much seen is Black Prince, of which I have a few plants this year, and so good are they that the stock will be increased another season. I should like to see what other gardeners have to say of these two varieties, for they are not often noticed in the papers now.—*A Surrey Gardener.*

The New Zealand Forget-me-not.—I was glad to see that this old plant has again come into notice, for it is nearly thirty years since I saw it, and I feared it had been lost to cultivators. My attention was first attracted to it at Mr. Watson's, of St. Albans, by whom, I believe, it was introduced from the Chatham Islands, or who, at least, was the first who cultivated the plant in England. Myself and a friend who accompanied me were greatly struck with the noble appearance of the plant which had not then received the title it now bears, Myosotidium nobile, but was either called a Cynoglossum or by some name which I forget. Mr. Watson flowered the plants well, and subsequently exhibited them, and I do not remember his remarking that they were particularly difficult to grow or flower. A short time afterwards it passed out of his hands, and, if I remember rightly, Mr. Standish became the possessor of the stock, but I am open to correction on this point. From that time I lost sight of the plant until your remarks last week recalled it to my memory, and perhaps we shall find that it is not so difficult to flower as some have imagined. It is a pity that such a beautiful plant should remain scarce and comparatively unknown.—*An Old Gardener.*

The Amaryllis.—A wonderful improvement has been effected in the Amaryllis within the past ten years, as several hybridisers and selectors have been at work; but a large part of the progress made has been due to the efforts of Messrs. Veitch & Sons' foreman, Mr. Heal. There is now a greater diversity in the colouring of these plants than has ever been known before, and still further departures from the prevailing types may be expected in the future, now the break has been effected. At one time all the varieties were solid scarlet, unlightened in any way, brilliant and showy, but somewhat heavy and tiring; then the Leopoldi race came into notice, in which there was a preponderance of crimson, sometimes rather dull, with green centres and tips, possessing in fact little additional recommendation, except their fine form. It seemed at one time as if the superior strength of this type would obliterate the others, and a considerable time has been required to restore an equilibrium in the two races. Now, happily, not only is there a good proportion of scarlets and crimsons, but numbers of the striped and reticulated varieties have been raised, in which the bright colours over-lay a pure white ground, and when associated with the other heavier forms, they have a grand effect, both gaining by the comparison. They are all most useful plants, and flowering for a couple of months in early spring as they do, there is none to equal them in brightness. With some the foliage is well advanced at the time of flowering, and this serves to partly conceal the tall bare flower stems; but all the Amaryllises of this section are seen to the best advantage when arranged with dwarf Ferns, Palms, or other bright green foliage plants, though the flowers should not be closely surrounded by tall plants.—*B. G.*

Pruning Roses.—We have been surprised in going through our Roses for the Spring pruning to find that the frost has done so little damage, and the principal effect of the bad season has been that the buds are not so forward in the middle of April as they have been at the same time in March of other years. Perhaps this is not a disadvantage, but at all events, it is very satisfactory to find so little damage has been done. Ours is a damp rather cold situation, but the soil is a somewhat heavy loam and suits Roses admirably. A large proportion of the plants are on their own roots, but some are on the briar, and I cannot detect any difference in either the forwardness or the injury done. —*W. W., Middlesex.*

Anthurium Varieties.—The Anthuriums exhibited by Sir Trevor Lawrence at Kensington, last Tuesday week, were so exceptionally meritorious that they deserve a special note, for when well grown (as these were) few plants can surpass them in brightness. They were nearly all varieties of the well-known Flamingo plant, Anthurium Scherzerianum, but presented a surprising diversity in form and size, some having the spathes long, pointed, and narrow, others broad and almost oblong, and still others nearly circular. They were brilliant, almost dazzling in the intensity of their scarlet colour, the spathes being also very thick and substantial, with foliage as healthy as could be wished. Wardi and Hendersoni were the best of the broad-spathed varieties; Palmeri was remarkable for its great length (8 ins. or 9 ins.); and of the spotted varieties, Devansayanum and Rothschildianum were shown, the former being much the more effective of the two, the scarlet spots much larger and brighter than the other, which is more curious than beautiful. Devansayanum was awarded a Certificate, and so distinct is the plant that it will probably gain much greater favour with cultivators than the older Rothschildianum, of which you last week gave an illustration. —*E. G.*

Hardiness of Gladiolus Colvilli alba. —It is worthy of note, that the lovely pure white Gladioli Colvilli alba, which was some 2 ins. or 3 ins. through the ground when the frost in all its severity came upon us, has only the tips of its foliage browned, and has, since the change to more genial weather, made remarkable progress and promises to do as well as ever; surely none will doubt the entire hardiness of this useful bulb after such a severe trial with biting winds and frost for several weeks in succession. It is equally valuable as a pot plant, and is turned to good account by bouquetists, who appear to realize its full value.—*J.*

ORCHID NOTES AND GLEANINGS.

Phalænopsis and Aërides.—I have a few Phalænopsis, Aërides, &c., which I last season wintered in an intermediate-house, as recommended in the columns of The Gardening World, and I am happy to say they are in a much more satisfactory condition than when I kept them in the hottest house. They are, in fact, now sound and healthy, some of them showing signs of sending up new leaves. Had I better now place them in the warmer and closer house?—*J. T.* [If the house in which they are now is kept very freely ventilated, it would be better to place the growing plants in the warmer and closer house. The terrible mortality which excessive heat works among Orchids in a great measure arises from its being applied at the wrong season, and not because the plants will not stand it, and even thrive in a higher temperature when growing. It is owing to the thoughtless manner in which plants are kept in hot-houses when not growing that the continued reiteration of temperate and cool treatment is necessary, and not because the plants should be in a warm moist shady house when growing. As a matter of fact, most of the tropical Orchids will thrive in a very high temperature when growing and rooting actively, provided they be skilfully tended while in heat, and immediately removed as soon as their growths are completed. But such a plan of

culture requires great judgment and watchfulness on the part of the cultivator to so arrange the growth of his plants and their resting season that he does not push them for more than twelve months' work in a year.

It is therefore better and safer to aim to grow all things in as cool a temperature as possible consistent with getting a good growth on them. But little harm, however, would be done by heat if the evidence of the newly-pushing growths was taken as the one for putting them into a high temperature, and they were kept well supplied with rain-water while there, and removed to cool and more airy quarters when their growths were matured. There is no doubt that the greater part of the Phalænopses, Aërides, &c., are destroyed by being kept too hot and close, while they should be inactive in winter. Why people cannot be guided by the starting new leaves of Phalænopsis and Aërides as with the coming new growths of Dendrobes as to the proper time to give more heat and moisture, I cannot say, but neglect of this trifling matter is the most prolific cause of mortality among them.—*James O'Brien.*]

Another high priced Odontoglossum.—On Monday last Messrs. F. Sander & Co. included in their sale of rare Orchids, at Protheroe and Morris' Rooms, a superb form of Odontoglossum Alexandræ, which in form, size, and spotting surpassed everything in its way. The sepals and petals were almost equally broad, nearly half of their surfaces being taken up with large crimson blotches, round which the even broad pure white margin looked very effective. It was marked by judges as a red letter plant, and the bidding, which began at 50 guineas, soon reached Mr. Lee's 100 guineas, and after some exciting competition between Sir Trevor Lawrence and Baron Schroder, the Baron secured it at 160 guineas, being only 5 guineas less than he paid last week at Stevens' for the yellow Pescatorei. A good general sale was effected, the pieces of Cypripedium Godefroyæ, in some cases, fetching from 20 to 25 guineas each, and all other good things proportionate values. Among the best prices realised were Cattleya Laurenceana, forty bulbs, 26 guineas; Lælia elegans Turnerii, 28 guineas; Odontoglossum hybrid, a very pretty one, 18 guineas; Vanda Sanderiana, a fine double plant, 40 guineas; Cypripedium Faireanum, 30 guineas; a probably new Cypripedium from the same district as Godefroyæ, 20 guineas and 28 guineas; Cypripedium Arthurianum, 28 guineas; and Cypripedium Morganianum, 65 guineas.

Cattleya Mendelii.—The superb strain of these imported by Messrs. James Veitch & Sons is just now making a grand show in the large Cattleya house at Chelsea. Some of the varieties are of exquisite loveliness, and all are good. Lælia elegans varieties are also in flower in numbers, as well as a large variety of other beautiful and interesting things. Especially, we noted a superb Cattleya Trianæ formosa, with grandly formed flowers of a glowing crimson colour on the front of the lip. The plant has ten fine blooms which somewhat resemble those of C. Trianæ Russelliana. Those who wish to see the fine show of Amaryllis should lose no time, as the plants are already at their best.

THE TIGER FLOWERS.

Few flowers more gorgeous have we during the whole year in the garden than the Tigridias or Tiger Flowers. They come during the late summer and autumn months, when striking yellow composite flowers seem to have too much of their own way in the embellishment of hardy plant gardens, and while there is no need for such an occurrence in well-arranged collections of hardy plants, yet from observation it is clear that it does happen and that not infrequently. I have chosen the subject of these remarks for one object only at this season of the year, and that is to act as a reminder to those who would embrace these brilliant flowering plants. Too often are such things as these quite forgotten till flowering time comes round, when as a natural consequence they are not to be had, and so another season is lost and their beauty unseen. There are many, I feel sure from experience, who would gladly be the possessors of a few such things, but who from sheer thoughtlessness fail to obtain them at the proper time.

The Tigridias may yet be planted so as to obtain a good supply of flowers during late summer and on into the autumn months. Their culture is easy and simple, thriving in almost any well-enriched garden soil, and by planting them in groups of six or thereabouts in the shrubbery borders near the margin, or in the herbaceous borders, or among American plants, some bright pleasing and attractive groups will be the result. In planting I observe the following rule:—if the soil be light or sandy plant about 4 ins. deep, if stiff or retentive 3 ins. deep will be sufficient, bearing in mind that the depth here given is to be taken from the apex of the tubers and not the base; it must always be borne in mind respecting Tigridias that a well-drained soil is absolutely essential to their success, and they will always be found to thrive best on light warm soils, excessive moisture at the roots (*i.e.*, the tubers) is detrimental to them, especially so immediately after planting, any sharp grit that may be had may be freely employed, and when once fairly started into growth the danger is at an end.

These Tiger Flowers are not sufficiently hardy to endure our ever-changing winters, therefore should be lifted annually and placed out of the reach of frost. The lifting and drying process is of some importance though simple in the extreme. Generally speaking it is recommended that they be lifted on the first approach of frost, this is an error, the "first" frost comes very early sometimes, so early as to find them in full flower and consequently in the worst possible condition for removal, but to remove all fears respecting the time for lifting them I will give a definite period, viz., from

Tigridia pavonia.

the first to the middle of November, by which time we generally experience frosty nights, and not only this but the bulbs themselves will have completed their flowering and will be more properly matured; after lifting them do not let them lay about exposed to the weather, but place them in boxes of sand and gradually dry them off and prepare for their winter's rest.

The best kinds of this lovely genus are T. canariensis, bright yellow, spotted with rich scarlet; T. conchiflora, with brilliant yellow flowers and scarlet spots; T. pavonia, bright scarlet with orange markings in the centre. Of this species there is a truly handsome and noble white variety—a variety which, when it flowered for the first time in this country in 1883, surpassed even the most sanguine expectations, and instead of the dirty colourless flower which had been expected, a flower of large size, equalling the type in this respect, and of a lovely creamy white, burst open to view, and which has proved itself equally robust and free-flowering as Pavonia, and consequently an acquisition to its genus. I should have added that this beautiful white variety is thickly studded with crimson spots and blotches in the centre, making up a truly lovely and handsome flower.

One singular fact in connection with this genus is the evanescent character of the flowers. They quickly fleet away; all their gorgeous splendour in which they are wrapt at sunrise is, ere even's sun doth set, faded and gone, and the flower that thus gladdened our eyes is no more. How unfortunate that a flower of such brilliancy should be so short-lived. Still, it is so; but happily its short duration is counterbalanced by the successional flowers, which, with the lapse of a day or so after the old flower has faded, are seen to burst forth, and so on in succession, flower succeeding flower, do they continue to send forth their gay and brilliant blossoms, each in its turn to fade and die with the setting sun. A more effective group in various colours it is difficult to imagine, and so remarkably cheap that a hundred may be had for a few shillings, and those who once try them will be sure to want them again; but time is on the wing, and intending planters should begin at once.—*J.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

It is now fully time that the whole of the early flowering Heaths and Epacris are cut back and placed in a light airy position that they may be encouraged to make new growth; a nice syringing upon all favourable occasions will greatly benefit them, and as soon as they have fairly started into growth, all that require a shift should be at once potted, at the same time, all the early section of Heaths are seldom worth keeping beyond one shift, that is, after they are in 7-in. pots. As growth advances, and the weather becomes warmer, they may all be removed to some shaded cool ash border outside, there to complete their growth, which will be far more satisfactory than if kept indoors, of course taking care that they are housed in good time in the early autumn.

Bouvardias will also now claim attention, and as they are so much appreciated, a little extra care should be given. Look well to the stock of young plants, which should be potted off singly as soon as ready; after they have started they should be pinched to cause them to break, and so lay the foundation for good bushy plants. Keep them in a nice genial heat, and syringe freely, or they will in all probability be attacked with red spider, and lose their foliage. After sufficient cuttings are taken from the old plants, they may be shaken out, most of the old soil removed, cutting back any of the stronger roots, and re-pot into smaller pots, of course pruning the plants (if straggling) into shape; if planted out in June on a well prepared border or bed, these will make large specimens, and if carefully lifted in September, and placed in a heated frame, and shaded until started, will give a quantity of bloom; but bear in mind they will need attending to during the summer, in the way of watering in dry weather, and also syringing of an evening when necessary.

Be careful that all seedlings and cuttings are not allowed to become crowded; prick off and pot the required number in good time and then healthy plants will be obtained. We are now potting on our stock of Chrysanthemums, giving them 6-in. pots; they are well rooted and a very satisfactory lot, we shall pot them quite firm returning them to the cold pits again until they start, after which they will be placed on an ash border outside. The Achimenes if potted as advised will now have made a good growth and will, in all probability, need staking; let the stakes used be slight, and each growth be neatly tied and avoid crowding, or one half the bloom will not come.

THE FORCING HOUSES.

The covering material on the outside Vine borders, which must now be exhausted, had better be removed, and a coating of about 3 or 4 ins. of half decayed rich manure take its place, thereby enriching the borders; this we have already done. The Muscat Vines will now be coming into flower, and the temperature will consequently need to be raised to 75° by night and 80° by day fire heat, with a rise of 10° by sun heat, damp down the house morning and evening, but not at midday; go carefully over the bunches with the patent camel's hair pencil, and gently tap the rods every time on passing through the house, to distribute the pollen; the bunches will be found to set much better if, before they come into flower, the extreme point is carefully removed with the scissors, and also of the shoulders if very heavy.

If ripe Grapes are required by the middle of May, they should be colouring, this will necessitate a more

buoyant atmosphere being maintained; do not damp down early or late, but let it be chiefly done while plenty of air is on; be sure that the roots are abundantly supplied with water, using manure upon each application; liquid manure water put into pans in the house will also be of the greatest use in preventing the attacks of red spider and thrip. The crop of fruit in the succession Peach houses should now be thinned down, as it will be readily seen which will stand. Keep the young growths regularly tied in and the fruit exposed as much as possible to the light and sun.

If the fruit in the early houses has begun the second swelling, give the borders a thorough soaking of liquid manure water, varying it according to fancy. The frame from which the early Potatos have been dug may now be profitably employed by sowing it with French Beans, which will give a much better return than if sown in pots.

THE KITCHEN GARDEN.

Cold easterly winds still prevail with us, greatly retarding vegetation; in fact, I am very much inclined to think record will be beaten by the spring of 1886. Notwithstanding frequent showers, we have sown our main crop of Carrots, and also Chicory and Salsafy. We have deferred sowing the remainder of the Beet seed, as, generally speaking, the roots attain a larger size than is liked, if sown too early. The Egyptian turnip-rooted is the earliest, but being so coarse, we do not grow it, and trust to Nutting's alone.

The bed of Sea Kale for next year's forcing will now need forking over; if the ground has been previously used for this crop, numerous crowns will appear other than in the rows; these must be forked out, and if properly sorted, and cut over, if the stock is short, be replanted at once. Keep the Dutch hoe in use among all the seed beds, and if slugs are at all troublesome, carefully sprinkle gas lime between the rows, which will effectually protect the crops. We have not made the sowing of Peas and Beans, but, weather permitting, hope to do so to-day: the previous sowing is not yet through the ground.

Our Celery square is prepared, and we have removed the early batch of plants to the cold frames, so as to harden them, ready for planting out. In very warm soils and situations, a sowing of dwarf Beans may now be made; of course there will be a risk of losing them by late frosts. Look well to the salad beds; make frequent sowings of Radishes; and if the weather is at all dry, well water. Mustard and Cress will now be the better if sown out of doors at the foot of the south wall; protect with wire netting from birds.—*Walter Child, Croome Court.*

HINTS ON ORCHID CULTURE.

An interesting paper on this subject was read on Saturday evening by Mr. William Swan, of Howick House, near Preston, at a meeting held under the auspices of the Preston and Fulwood Horticultural Society; Mr. William Troughton presided, and there was a large attendance.

Mr. Swan, in introducing the subject, alluded to Orchids being a class of plants that invariably gave pleasure to all who had the privilege of gazing upon them when gay in rich and showy blossom, after which he said that it was no wonder there was a desire of a fuller and more extended acquaintance with such a lovely race of plants. The strange forms, the singular method of growth, the gorgeous and attractive flowers, the sweet and fragrant odour of so many of the species, all combined to make the study of Orchidaceous plants a charming and fascinating pursuit. Proceeding, he dwelt upon their culture having been confined to a few wealthy patrons; but now those with limited means were able to purchase and cultivate them; he named the high prices that had been given for some varieties, and spoke of their habitats. With reference to the class of houses in which the plants should be grown, he admitted that fine specimens had been grown for years in lean-to houses or half-spans, and that good plants had come from pine pits; but for all practical purposes, whether East Indian plants, Dendrobiums, Cattleyas, or Odontoglossums, there was nothing in his judgment to compare with low span-roofed houses. Perhaps, in some situations, a north house might be preferred for the Odontoglossums; but in that district the amount of sunlight a house, were so situated, received during November, December, January, and February was so small that the benefit derived was lost owing to the reduced sunshine and lowered temperature during summer. As to the dimensions of a house for a commencement, one 50 ft. by 18 ft., and 10 ft. high in the centre, with a middle stage 6 ft. wide, side tables 3 ft. wide surrounding it, with walks, with a glass division in the centre, would be found convenient for such things as Vandas, Dendrobiums, &c., in one portion, and Cattleyas, Lælias, Cœlogynes, Epidendrums, and others requiring a lower temperature in the other. A span-roof house, 30 ft. long, 10 ft. wide, 7 ft. high to the ridge, with side tables 3 ft. 6 ins. wide, and a path up the middle, would be very serviceable for cool species—Odontoglossum Alexandræ, O. Pescatorei, O. triumphans, O. Halli, Oncidium serratum, O. macranthum, most of the Masdevallias and Restrepias, as well as the beautiful Dendrobium Jamesianum and Disa grandiflora.

The stages should not be open lattice wood-work, for the plants standing upon such stages were directly over the hot water-pipes, and so when fire-heat was necessary the air about the plants was of a dry and ungenial nature, injurious to the plants so far as growth was concerned. These conditions were also most congenial to the development of insect life. The stages should be covered with plain roofing-slates, with a back and front edging about 2 ins. high, upon which should be spread about 1½ ins. of cinder-ashes, sifted or washed so that all the dust was separated, or ordinary furnace-coke broken small. The latter was excellent, as it held considerable moisture when watered, and took a long time to become covered with green mossy conferva that was so unpleasant to behold. It also formed a better under-surface to the plants than the dazzling white spar so often used. The spar was very objectionable in stoves; it retained little water, and plants presented a more sickly hue when on a white than on a dark ground. It was also against natural conditions. In fixing the side stages a space of 2 ins. should be allowed between the back and the inside of the wall for free circulation of the air and the equal distribution of the heat from the pipes. There should always be sufficient pipes in the house to keep the divisions at the desired temperatures without severely driving the fires, and they should be 6 ins. at least from the floor. The heat ascended more rapidly because of a free circulation of air about the pipes, and the moisture under the stages did not dry up so quickly as when the pipes were very low.

The object in shading should be to reduce the intensity of the sun's rays and not to exclude light. They must occasionally shade their plants, or they would have to mourn over scalded leaves that disfigured them for months. By fastening of strips of wood 3 ins. or 4 ins. wide about every third light for the blinds to run on the shading was just above the glass, which allowed a constant current of air to move between the blind and roof. This tended to keep the houses cool, and prevented the air getting so dry as it otherwise would do. He deprecated the constant use of blinds, it being surprising how much sunshine would benefit the majority of plants. When the plants were in active growth, a good share of water was needed for each. Where the house was devoted to Orchids alone, good dampings down were necessary twice, and in very hot weather thrice during the day. The plants when growing needed water often; but the surroundings should be kept damp and moistened rather than that the soil be wet and soddened.

Potting required care and forethought. In crocking the pieces should be placed as upright as possible, leaving open spaces for the quicker passage of the water, and the entrance of fresh air to the roots. Some well-burnt charcoal might safely be used among the crocks, and some might be used in the peat and moss. The grower should superintend the crocking to guide him as to the quantity of water to use. The best time for potting the majority of epiphytal Orchids was, doubtless, early spring—February, March and April—but many plants might be potted later. For the greater number of the species good fibrous peat and clean sphagnum moss were the best ingredients to use. The Cattleyas, Lælias, &c., should be treated to a larger quantity of peat than some others; whilst the East India plants succeed best when potted in sphagnum only. For some of the stronger growing sorts good fibrous loam mixed with moss, sand and charcoal was a compost helpful in bringing about the most satisfactory results. Perhaps, the most showy group of Orchids, and those that could be grown with success, were the Lælias and Cattleyas. Each in their own department were rich in colour and distinct in the form and marking of the flowers, presenting great distinctiveness in their appearance and growth. Pots should be used for the tall-growing kinds, and pans and baskets for the dwarfer varieties. The latter were best when hung near the glass. Stout bulbous species might be grown in baskets with perfect safety. C. Dowiana, C. gigas, &c., revelled in more heat than the majority of Cattleyas; they enjoyed a stronger sunlight, with an atmosphere much drier than was experienced by those on the tables or stages.

In the winter they should have a night temperature of 55° rising to 60° in the day, with a rise of 5° by sun-heat; in the growing season and throughout summer 65° to 70° by night, with a rise by sunlight to 85° or 90°, or even a higher reading. Plenty of air should be given, and every endeavour made in summer to induce a quick and sturdy growth, so that the bulbs might be thoroughly plump and matured ere winter sets in. It was wise to hang newly-imported pieces in a rather shady position without any soil or material attached. They should be syringed frequently. When the breaks had appeared, and by the roots attained a length that endangered their safety in handling, the plants should be potted well up in the centre of the pot, and placed by themselves so as to be under the eye of the grower that he might see every advance and stage of progress. It was preferable for many reasons to purchase large masses. Another section—Dendrobiums—differed from the foregoing because they mostly flowered along the bulbs, and brought the blooms in clusters or pendulous racemes. If colour and display were sought after, this genera, which was easily managed, might be so grown that many species in a year would produce most brilliant effects. The colours and forms were as various as it was possible to conceive, with markings as clear and distinct as the most fastidious could desire. To secure this group a decided period of growth and rest must be attended to, the former for the perfect development of growths and leaves, the latter for the maturing and formation of the blossoms. In potting, let the pots be only just sufficient to hold the plants, with no excess of material, for a continued damp soil had a tendency to cause the roots to decay, especially if the plants were over-watered during the rest season. These forms having small bulbs and of a light substance, should not be kept too dry, as many were liable to shrivel and die away before any apparent change had taken place in them. Some of the smaller East Indian sorts should be grown in baskets and hung up near the glass. The taller kinds were best when grown in perforated pots, for that being their most natural condition, the roots were not so liable to decay as when they were in ordinary pots.

Perhaps the most popular Orchid, and one that could be obtained at a cheap rate, was the chaste and lovely Odontoglossum Alexandræ. They required little heat in winter and none whatever in summer and autumn, a light house with coal-dark surfaces for the plants to stand upon; a temperature of 40° to 45° at night, rising 5° during the day in December, January, and February; 50° to 55° at night, with a corresponding rise in the daytime by sun-heat in March and April; and in summer, when strong sun-heat was certain to raise the temperature, every effort must be made to keep the house as cool and moist as possible. Very little rest was required for the Odontoglossums. They needed more shade than any other class of Orchids, and plenty of air should always be admitted. In plant-growing they must bear in mind they were dealing with subjects possessing life in a high state of development; that the growth, the continued advance and progression, the display of gay and showy blossoms—yea, the perfection of beauty—depended entirely upon the surroundings of the plants; and that it became them to make themselves acquainted with the conditions most certain to ensure success; then, by a judicious application of the best methods, willingly and patiently wait whilst they eagerly anticipate a joyful realisation of their most sanguine expectations.

A hearty vote of thanks was accorded to Mr. Swan for his able paper. On his suggestion, it was resolved to take steps to establish a horticultural improvement association.

FLORICULTURE.

The National Auricula Society's Southern Show, held in conjunction with the Primula Conference, proved, as was generally anticipated would be the case, a much smaller exhibition than usual. The ungenial season has kept the plants very late, and many growers in the south were unable to be represented at all, while of northern flowers there were only some dozen or two staged in the single plant classes; and such redoubtable champions as the Rev. F. D. Horner and Mr. Ben. Simonite were unable either to send any plants or be present in person. No one will, therefore, be surprised to hear that the show was a small one, and that the quality of the show flowers generally was very "rough." Alpines on the other hand, what there were, were in much better character.

With twelve Auriculas, dissimilar, there were only two competitors—Mr. James Douglas, gardener to F. Whitbourn, Esq., Great Gearies, and Mr. Turner, Slough—and the prizes were taken in the order named. Mr. Douglas had Heap's Smiling Beauty, Campbell's Pizarro, Simonite's Rev. F. D. Horner, Traill's Prince of Greens, Turner's C. J. Perry, Headley's Geo. Lightbody, Mabel (Douglas), Duke of Albany (Douglas), a rich plum-black self; Leigh's Colonel Taylor, Dr. Horner, Verdure, green edged; and Conservative (Douglas). Mr. Turner's flowers, were Traill's Beauty, C. J. Perry, Lightbody's Robt. Traill, Turner's Prince Henry, Lord Clyde, Alderman C. E. Brown, Campbell's Lord of Lorne, Lady Sophia Dumaresque, John Waterston, George Lightbody, and Meteor Flag. Of six Auriculas, distinct, there were four exhibitors, and Mr. Douglas again took the lead with Mabel, Duke of Albany, Geo. Lightbody, Prince of Greens, Smiling Beauty, and Abbé Liszt, a new green-edged of his own raising. Mr. Turner was second; J. T. D. Llewelyn, Esq., Penlergare, Swansea, third; and Mr. Hardwidge, 1, Martineau Road, Highbury Hill, fourth. With four sorts there was a little better competition, which resulted in Mr. T. E. Henwood, Earley, Reading, being placed first with Geo. Lighbody, Conservative, Lancashire Hero, and Horner's Sapphire. Mr. C. Phillips, Earley, Reading, was second; A. Potts, Esq., Hoole Hall, Chester, third; Mr. W. L. Walker, Reading, fourth; and Mr. A. J. Sandery, gardener to the Viscountess Chewton, Bookham Lodge, Cobham, fifth. The best pair came from A. Potts, Esq., and consisted of Headley's New Green and Read's Acme. Mr. C. Phillips was second; Mr. H. A. Rolt, Wimbledon, third; and Mr. C. Orchard, gardener, Coombe Warren, Kingston, fourth.

For the want of anything like quality, the single classes were very difficult to judge, and owing to the difficulty of discovering to whom the plants belonged, we are unable to give the names of the winners in all cases. *Green-edged:* First and second, Mr. Turner, with George Lightbody and Lancashire Hero; third and fourth, Mr. Douglas, with Prince of Greens; and fifth, Mr. Henwood, with Colonel Taylor. *Grey-edged:* First, Mr. Turner, and second and third, Mr. Douglas, with Geo. Lightbody; fourth and fifth, Mr. Turner, with R. Headley. *White-edged:* First, John Simonite (Walker); second and third, Mr. Douglas, with Acme and Conservative; fourth, Mr. Turner, with Acme; and sixth, the same exhibitor, with True Briton (Hepworth). *Selfs:* First, Mr. Mellor, Ashton-under-Lyne, with Black Bess; second, Campbell's Pizarro; third, Mr. Turner, with C. J. Perry; fourth, Topsy (Kay); fifth, Mr. Bolton, with a seedling; sixth and seventh, Lord of Lorne (Campbell).

In the Alpine classes, Mr. Turner had by far the finest flowers, the Slough collection being specially rich in home-raised seedlings. For twelve plants, dissimilar, he was easily first, Mr. Douglas being second. In the first collection, one of the finest, and one which, perhaps, created the most interest, was a handsome shaded variety, named in honour of the late head of the firm, Charles Turner. It is of perfect form, with a bright gold centre and dark maroon body colour, shading off to bronze-red. Other fine forms were Mrs. Thomson, J. T. Poë, Edith, Unique, Sensation, J. J. Coleman, Athlete, Hotspur, and Sceptre. Mr. Turner was again first for six; Mr. Douglas being second; Mr. R. Dean, Ealing, third; Mr. C. Orchard, fourth; and Mr. A. Sparling, Blackheath, sixth.

The best gold centred Alpines were selected in the following order, first, Pantaloon from Mr. Turner; second and third, Rosamond Fellowes from Mr. Douglas; and fourth and fifth, Mrs. Thomson and John Ball from Mr. Turner.

The Gold-laced Polyanthuses were fairly well represented, though no northern growers competed. For six, Mr. Douglas was first with nicely flowered plants of Sanderson's Henry I.; Barlow's John Bright, Lancashire Hero, Buck's George IV.; Sanderson's William IV.; and Cox's Prince Regent. The best three were a seedling, black ground, Exile, and Cheshire Favourite from Mr. J. Walkden, and the other awards went to Mr. Douglas, Mr. R. Dean, and J. T. D. Llewelyn, Esq. In the single specimen class, Cheshire Favourite stood first and second; George IV. from Mr. R. Dean, third; Cox's Prince Regent fourth; Lancer fifth; and Formosa from Mr. Douglas sixth.

With double and single Primroses and Fancy Polyanthuses, Mr. R. Dean received the highest honours with well grown and highly coloured varieties, Messrs. Paul & Son being second; and with fifty Show Auriculas, Mr. Douglas again beat Mr. Turner. It is expected that the show of the northern section, at Manchester next week, will be much better.

HORTICULTURAL SOCIETIES.

Sheffield and Hallamshire Gardeners' Mutual Improvement.—At the last monthly meeting, over which Mr. Hill, gardener to Mr. Alderman Hutchinson, presided, Mr. Winter, Ranmoor, read a short paper on the cultivation of the herbaceous Calceolaria. Than this subject, said Mr. Winter, no more beautiful plant adorns our conservatories during the early months of summer, its light green foliage and grand heads of large, handsomely spotted flowers rendering it a favourite with all. These plants are generally raised from seed, but occasionally by division of the off-sets to perpetuate special varieties. The seeds should be sown in April, May, or June in a compost made up of one-half of fibrous rich loam, a third of leaf-soil, and a little charcoal and silver-sand, mixed well together and passed through a ¼-in. sieve. See that the seed-pans are properly crocked to ensure good drainage, cover the crocks with a little of the potsherds, fill up with soil to within 1 in. of the top, and press all down moderately firm. See that the surface is perfectly level, as the seed is very small, then sow your seed and cover it slightly with silver-sand. After carefully dipping the pan in water, taking care not to float the seeds, place the pan on a hot-bed in a temperature ranging from 70° to 80°, covering it at the same time with a piece of glass.

Do not let the soil get dry, and in the course of seven or eight days the plants will make their appearance, when the glass must be removed gradually in order to prevent drawing. Water moderately with a fine rose, and in the course of a few days they may be removed into a temperature of from 60° to 70°. Place them on a shelf, shade slightly, and as soon as the plants are large enough to handle, prick them off into pans or boxes in the same sort of soil as before, placing them on the shelf, watering moderately, and giving air freely, with shading in the heat of the day. As soon as they have well filled the space in pans or boxes, pot them off into 3-in. pots in a compost made up of one-third of rich loam, one-third of leaf-soil with a little decomposed manure, and a little sand and charcoal as before. After this potting, place them on the shelf for a few days as before till they have taken root, and then remove them to a cool house or pit, taking care only to water moderately at first. When they have well filled the pots with roots, repot them into 6-in. pots, placing them in the same temperature and taking care to give air whenever the weather permits, but no more heat than is just sufficient to keep the frost out and to dry up the damp. They should be potted into their flowering pots by the end of January or the beginning of February, and at this potting a little more manure and leaf-soil may be added to the compost. Plants so treated should flower about the end of April or May, and continue to flower, if properly managed, until July. If grown in this way they will give every satisfaction and be a credit to the grower. The Calceolaria is much subject to green-fly, and a sharp look-out must at all times be kept, both in the frame and greenhouse, for this enemy, and as soon as it makes its appearance fumigate with Tobacco-paper. A debate followed, in which several members took part.

Three new members joined the society, and it was also decided at the meeting to hold the Chrysanthemum show in Cutlers' Hall on Monday and Tuesday, November 22nd and 23rd.

QUESTIONS AND ANSWERS.

Gardenia.—*X. Y. Z.:* The plant has received a check in some way, such as having been caught by the sun while somewhat dry; or the roots may have been injured at some time through want of water. The conditions under which the plant is grown appear to be all right, but we may add that it takes a clever man to grow one Gardenia well, though it is not very difficult to grow a house full.

Books.—*Flos.*—To acquire the correct pronunciation of plant names and a knowledge of their meaning, you ought to have Paxton's *Botanical Dictionary*, and a good Latin Dictionary. Then you should read any of the best gardening books you can get, including *The Treasury of Botany*, *The Cultivation and Improvement of Cultivated plants*, by Mr. Burbidge, and *The Vegetable Garden*, by Mr Henry Vilmorin. As to flowers and their culture you will do best for a time to read the weekly papers, noting that which is likely to be most useful to you.

Names of Plants.—*C. Thomas:* 1, Forsythia suspensa; 2, Andromeda floribunda; 3, Ribes sanguinea. *Dobson:* 1, a variety of Odontoglossum odoratum; 2, Od. gloriosum.

Erratum.—At p. 518, for "Angræcum arenatum" read "Angræcum arcuatum."

Communications Received.—W. C.—E. J.—G. W. R.—C. D'Ancona, Florence—J. W. L—W. M. B.—F. G. H.—E. W. B.—T. B. B.—J. G.—S. C. Palmer, Kansas City.

TRADE CATALOGUES RECEIVED.

A. Pattison & Son, Greenlaw Nursery, Paisley.—Descriptive Catalogue of Pansies, Bedding Plants, and other Florists' Flowers.

William Potten, Camden Nursery, Sissinghurst, Staplehurst, Kent.—Choice new and old Pelargoniums, Fuchsias, Chrysanthemums and other greenhouse and Bedding Plants. Hardy Trees and Shrubs, &c.

John Jardine, Junr., 11, Robertson Place, Kilmarnock.—Florists' Flowers and Bedding-out Plants.

LONDON SEED TRADE.

April 21st, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a fair demand for Agricultural Seeds. English Red Clover is in full supply, but does not find favour owing to quality being under average. Alsike, White and Trefoil sell freely at unchanged rates. Sanfoin, Tares, and Rye Grasses continue firm. Mustard and Rape all in request at higher rates. Hemp Seed easier. Canary and Linseed steady.

COVENT GARDEN MARKET.

April 21st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
New Grapes ..per lb.	5 0	8 0	Pears .....per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Strawberries ..per lb.	2 0	8 0
Pine-apples, Eng., lb.	1 0		Canadian Apples, brl.	12 0	21 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0	3 6	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 6	5 0	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	2 6	3 6
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	3 0	4 0
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, 12 b.	3 0	6 0	Narciss, various, per dozen bunches	2 0	6 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, per 12 sprays	1 0	1 3
Azalea, 12 sprays	0 6	1 0	— scarlet, 12 sprays	0 6	0 9
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 9	1 6
Camellias, 12 blooms.	1 6	4 0	Primroses	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primroses, dble. white	0 9	1 6
Cyclamen, 12 blooms.	0 4	0 6	Roman Hyacinths, 12 sprays	0 6	1 0
Daffodils, per bunch	0 6		Roses (coloured)	2 0	6 0
Eucharis, per dozen	4 0	6 0	Roses, Tea per dozen	0 9	3 0
Gardenias, 12 blooms.	2 0	6 0	Spiræa, doz. bunches	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0	Tuberoses, per dozen.	2 0	2 6
Hyacinths (Dutch), per box	2 0	6 0	Tulips, 12 blooms	0 6	1 0
Lapageria, red, 12 blms.	1 0	2 0	Violet, 12 bunches	0 6	0 9
Lilac (French), bunch	5 0	8 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 9	1 6	White Jasmine, bun.	0 6	0 9
Marguerites, 12 bun.	4 0	8 0			
Mignonette, 12 bun.	4 0	12 0			
Narciss, 12 bunches	4 0	8 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	8 0	12 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.	6 0	9 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots, per dozen	12 0	24 0
Cineraria, per dozen	6 0	10 0	Marguerites, per doz.	9 0	12 0
Cyclamens, per dozen	12 0	24 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, doz.	12 0	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	4 0	8 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen	10 0	15 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots	6 0	9 0
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 6			

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DENDROBIUM PARTHENIUM
ERANTHEMUM MACROPHYLLUM
,, VELUTINUM
GYMNADENIA MACRANTHA
IXORA CONSPICUA
,, SPECIOSA
PALICOUREA JUGOSA
PINANGA SPECTABILIS
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Orchid Show, May 12 and 13.

BIRMINGHAM BOTANICAL & HORTICULTURAL SOCIETY. One Hundred and Fifty Pounds in Prizes. For Schedules apply to W. B. LATHAM, Curator, at the Gardens, Edgbaston.
Entries close on May 6th.

Hull, East Riding, and North Lincolnshire Horticultural Society.

A Grand Horticultural Exhibition will be held in the
HULL BOTANIC GARDENS,
On Wednesday, Thursday and Friday, July 14th, 15th and 16th, 1886.
Schedules and particulars of PHILIP MAC MAHON, Curator, Hull Botanic Gardens.

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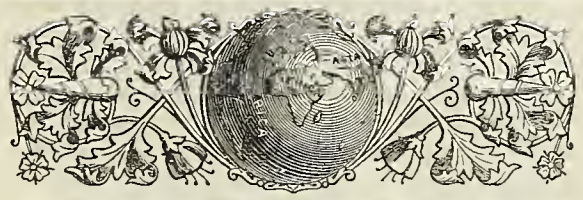


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 1, 1886.

THE SEASON'S PROSPECTS.—It merits special notice that the moveable feast of Easter, associated now more with volunteer reviews and general holidays in augurating the season of pleasure and play, notably fell unusually late this year, but also that nature seems unusually late with it; indeed, nature is relatively much the later of the two, for it is certain that as compared with the state of vegetation in many preceding years it is quite a month later than usual. We were, earlier in the spring, led to suppose that the long spell of hard weather which marked the winter would have been succeeded by a rebound, and that the diversion in the direction of growth would have been as rapid as previously the check had been undoubted. But that expectation has vanished, and the rebound has been of the slowest. The exceeding cold of the winter did not exhaust the winter's stock of that perverse article, and we have been treated to an unlimited supply of low temperature for several weeks, even though tempered at times by sunny days and grateful showers. Still, the cold has predominated with the result that literally everything which constitutes the vegetable world outside—true barometer or index of the average temperature of the season—is in a condition of comparative nakedness.

It was almost amusing to find that the traditional Blackthorn winter displayed its usual and exceedingly ungracious aspect during the past month, even though not a Blackthorn bush or even earliest Plums had bloomed. Who does not know that this ordinary interjection of a week of keen east winds and night frosts invariably drops in just as the Plums are in bloom, and too often proves of deadly effect upon the floral germ and that of the fruit, so that beyond bloom little else is seen that season? As the Plums have by reason of the actual lateness of the season escaped the annual visitation of cold, indeed, are quite three weeks later, there is good reason to believe that should the Blackthorn winter not favour us with a second edition, we may have once more a really good general crop of Plums. All kinds are blooming very profusely, and it seems certain that the bloom must be fertile, because we had last year a season which in a marked degree showed ripening and maturing capacities. Very often we have had great bloom promise which failed to fulfil that promise simply because the needful fertility was lacking. It seems impossible that any such lacking of fertility can exist this year. Should, however, such prove to be the case, we shall have to charge that mischance, not upon the previous year, nor upon lack of capacity on the part of the trees, but rather upon the deadening effects of a long, cold and ungenerous spring.

One undoubted phenomenon in nature seems imminent. We shall almost certainly see all kinds of hardy fruit trees blooming simultaneously; indeed, there seems to be almost a race between Pears and Apples not to see which shall bloom first but latest. The country, and specially the fruit-growing districts, may be expected to show with unusual beauty during the next few weeks, and if such average lateness of the general bloom means productiveness, then we may well look with hope for a most fruitful season. Many Pear trees which bore heavily last year are, of course, resting; but there are myriads of trees blooming abundantly all the same, and as for Apples—our standard and most valuable of hardy fruits—the bloom is nothing more than usually good, but many robust-growing kinds not usually fruitful are this spring showing unwonted evidences of bloom and prospective fruitfulness. But it is interesting to note that the hardy bush fruits have been less affected by the weather than the trees have been, and Gooseberries and Currants have not only broken well, but are showing bloom in great abundance. The exceptions are in those gardens where the birds, finding plenty of protection, repaid that care by pecking out the buds of the Gooseberry bushes. Still, that is not seen so much where there are large breadths; indeed, having regard to the long spell of cold and protracted snowfalls which prevailed during the winter, it is almost remarkable that more damage was not done. When bullfinches, chaffinches, and tom-tits are rabid with hunger it requires actual protection to the trees to prevent these feathered marauders from doing exceeding mischief. Some, happily, succeed in protecting their trees, whilst far more absolutely fail in the effort.

Although stone fruits on walls hardly come under the common appellation of hardy fruits, yet to gardeners they have exceeding interest; indeed, the securing of crops of Peaches, Nectarines, Apricots, Plums, and Cherries on walls are often not only of vital moment, but not a whit less a real test of gardening capacity. Still, it is given to some to secure not merely good crops of wall fruits, but also good wall trees with little protection, and apparently with no exceeding amount of labour, whilst others protect and coddle their trees with intense anxiety and yet have no great success. Perhaps there is too much of coddling, perhaps soils and situations favour the stone fruits more or less, perhaps root cultivation has something to do with the results. In any case, generally, there seems to be a good prospect of a wall fruit crop, and so far the weather, beyond being colder than desirable, has not been inclement for the tender bloom, and if no worse influences

operate than so far have presented themselves there is every reason to hope that both on walls and on exposed bush or standard trees we shall have a crop that will make the present year memorable amidst so many seasons that have brought only disappointment. Without doubt, a good fruit crop is at once healthful as well as profitable for the nation, and in the hope that such may be our fortune this year we are sure all our readers will cordially join.

GARDENING MISCELLANY.

National Rose Society.—We understand that arrangements have been made between this Society and the Royal Caledonian Horticultural Society, to hold the Provincial Exhibition for 1887 in Edinburgh.

A Novel Auricula.—At the meeting of the Scientific Committee on Tuesday, Dr. Masters showed for the Rev. F. D. Horner, a flower of Auricula with a dark red ground and a green edge ; a form mentioned in his paper read before the Primula Conference. It was recognised as an entirely new departure, and likely to excite great attention among Auricula growers.

Rhododendron niveum.—At the meeting of the Scientific Committee on Tuesday, Mr. Bateman exhibited a specimen of this species in flower from his garden at Worthing, where "this and other species appear to succeed perfectly in a north aspect, and under cover of some 20 ft. of nearly perpendicular rock-work, which affords effectual protection from sea-breezes and the rays of the sun." The flowers were relatively small, and of a dull lilac colour. The under surface of the leaves is covered with cream-coloured down.

Tobacco Culture in this country was the subject of a communication made to the Scientific Committee, on Tuesday, by Colonel Clarke, in which he summarised the principal conclusions as follows :—1, Cultivation on ridges. 2, Removal of all laterals. 3, The earliest harvesting of the crop consistently with a proper ripening of the leaf. 4, The absolutely dry state of the leaf before packing for fermentation.

The Taunton Deane Horticultural Society will hold its nineteenth annual show in Vivary Park, Taunton, on August 12th.

Orchid Exhibition.—The Orchid exhibition at Mr. William Bull's establishment in the King's Road, Chelsea, which annually attracts so much attention and is so largely patronised, opens on Tuesday next, and continues through May, June, and July.

The Lewisham and District Floral Society.—On Wednesday evening, the 21st ult., a largely attended general meeting of this society was held at the Hither Green Hall, Lewisham, H. E. Joyce, Esq., in the chair. After the usual business preliminaries had been disposed of, including the election of a number of new members, the chairman introduced Mr. C. Harman Payne to the meeting, and called upon him to read his paper on the Chrysanthemum, as announced. After referring to the various forms of anthomania from which the flower-growers had suffered in the past, Mr. Payne contrasted them with the present craze for the Chrysanthemum. He also described the varieties originally introduced into Europe nearly a century ago ; and to show how great had been the improvements in form, size, and colour, compared those old varieties with the sorts comprised in the different sections cultivated by modern growers. Seed-saving—beginning with Mr. Wheeler's efforts in that direction upwards of fifty years ago—was touched upon, and the possibility or not of amateurs raising new varieties from home-saved seed was dwelt upon at some length. A very interesting discussion, which drifted into queries on several points of culture, afterwards ensued.

Mushrooms.—On Good Friday morning, Mr. Peter Barrow, of Leyland, near Preston, whilst in his allotment garden, uncovered a neglected bed, and greatly to his surprise he discovered a splendid lot of Mushrooms ; one stool consisted of a large number, all of which were exceedingly well developed. One Mushroom was of extraordinary size, measuring no less than 10 in. in diameter, and weighing more than one pound and a half.

THE GLEN, LEWISHAM.

Dr. Duke's collection of Orchids gives an admirable example of the variety and beauty which may be assembled in a small compass when the houses are chiefly devoted to Orchids, and of the wealth of flowers to be obtained at all seasons when their owner takes the interest in them that he does. Except the principal Cattleya-house, the houses are all small, and of a low pitch, which seems to suit the plants admirably ; they are all (except the Phalænopsis-house), moreover, so freely ventilated, that the plants may be said to be as well supplied with pure air as they would be outdoors, the houses merely shielding them from the weather, and by their protection securing a regular temperature, and when desirable of a more humid atmosphere than that outside. Under such conditions the plants are sound, clean and floriferous, loss or failure among them being events of very rare occurrence.

In the flowering plant-houses the Orchids are arranged with foliage plants, Ferns, &c., presenting a very pretty effect. In the first house are some nicely-flowered varieties of Odontoglossum crispum, among them being a fine bright yellow O. crispum aureum. Several fine varieties of O. triumphans and O. Hallii are of high merit, and the sweet and varied major forms of O. odoratum are very charming, one dark-spotted variety named superbum being of great merit. O. Cervantesii is represented by many plants, one of which has been in flower over three month, and many of the plants of O. Rossii have been in bloom almost as long. O. Andersonianum, the many varieties of O. luteo-purpureum, O. cirrhosum, O. maculatum, Sophronitis grandiflora, Oncidium metallicum, O. concolor, O. sarcodes, O. brachyphyllum (a pretty, stout, terete-leaved form with bright yellow flowers, with rose speckles on the underside of the lip), Cymbidium Lowianum, Lycaste Skinnerii, Lælia anceps, Houlletia odoratissima, and many very fine Cattleya citrina are well in bloom together. In the next house, arranged in the same way, are some Cattleya Trianæ, Calanthe Regnierii, Aspasia epidendroides, Cattleya intermedia, C. amethystoglossa (specially good), C. Lawrenciana (very fine one with four flowers), C. Mendelii (with white sepals and petals and lovely yellow and purplish-crimson lip), Galeandra nivalis, Odontoglossum vexillarium, O. pulchellum majus, Leptotes bicolor, Dendrochilum glumaceum, Dendrobium Farmeri album, D. thyrsiflorum, D. luteolum, Oncidium phymatochilum, and some curious Epipendræ, among which the pretty and very fragrant rose-coloured E. glumaceum is noteworthy.

The third house is that in which the Phalænopsis are grown, and there the centre stage is devoted to foliage plants, such as Caladiums, Anthuriums, &c., which seem to exercise a health-giving influence over the Odontoglossum vexillarium, a large lot which are growing on the front stage, and also are a good lot of Cypripedium Godefroyæ, and other new warm house Cypripediums as well as on the Phalænopsis overhead, among which P. speciosa, P. Luddemanniana, P. amabilis, are in flower or bud. The fourth little house is a very light one devoted to the Mexican Lælias, Epidendrum vitellinum, &c., and which also forms a starting place for fresh imported things. In the lobby which is filled with flowering plants on a shelf overhead, and just beside the frequently open door, the varieties of Dendrobium infundibulum, Jamesianum, &c., are thriving remarkably well, and a liking for a suitable situation may be seen in the house containing Vanda Sanderiana, V. teres, Aërides Vandarum, and other good things, and in which on a shelf near the door is a quantity of stout pot-fuls of Odontoglossum Phalænopsis, in the best possible condition, a very different state to that in which they are generally found even in more pretentious collections. The old Cattleya house now contains general intermediate house plants, among which some very strong Oncidium Marshallianum are sending up stout spikes.

The Odontoglossums are in a low three-quarter span. They are in goodly numbers of all the best kinds, and in fine health. The largest flowered form of O. Hallii known is here in flower. Barkerias are a speciality at The Glen, as the pretty collection exhibited in flower at South Kensington, last summer, can testify. Their house is a very light little structure and very airy, and they are grown in baskets or on blocks close to the roof, where they are very freely watered when growing. The different varieties of Chysis occupy the staging underneath. Disa grandiflora flourishes well in a cold frame outside, and the Nerines and many other bulbous plants are well cultivated at The Glen. But now comes the strangest feature,

A Willesden Paper Orchid House.

That is to say, a house with a stout woodwork frame, glazed in the usual manner, but with the whole of the panelling filled in with the thick imperishable paper supplied by the Willesden Paper Company instead of wood, and as the house has no brickwork above the ground-line, the space so filled is considerable, the ends and the whole portion beneath the staging except the narrow ventilating-flaps being made of it. During the last winter the house had, perhaps, the roughest test it will ever have to stand, and it answered perfectly, and as the motives which prompted Dr. Duke to employ this material—viz., economy and the readiness with which the material can be fitted by anyone - are likely to be shared by many others, we are glad of an opportunity of noting it. While doing so we cannot help remarking on the quantity of fine plants, such as Disas, Cypripedium spectabile, many tropical bulbous and other plants which are not quite hardy, which would thrive well even in an unheated structure cheaply erected on Dr. Duke's plan, and what a large amount of pleasure many of our suburban gardeners could get out of such a structure.

The house in question is a sharp pitched span-roof, of good size, with continuous ventilators at the ridge and under the staging on each side, and besides these the 3 ins. just above the ground line all round the house is of perforated zinc, which gives air summer and winter, day and night. This provision, as well as providing perfect ventilation, allows of the Willesden paper being kept that distance (2 ins. or 3 ins.) short of the ground line so that it does not rest on the damp foundation. The house is filled with Cattleyas, every one of which is in the most perfect health. The dark purple tint of the leaves and pseudo-bulbs of many of them giving evidence by their ruddy appearance of their appreciation of Dr. Duke's study of their habits and provisions for their requirements. Many an interesting plant may be seen and many a practical hint picked up at The Glen.—*James O'Brien.*

HYACINTHS THAT HAVE GONE OUT OF BLOOM.

What is best to be done with the Hyacinths that have bloomed in flower-beds is a question often put by amateur gardeners who have had a pleasant spring display with these charming flowers. Having paid for their Hyacinths, they are reluctant to consign them to the rubbish-heap, and they are, naturally enough, desirous of utilising them in the future if possible. If the bulbs were carefully planted and have flowered well, it may be taken that they are in good condition, and they ought to be saved to flower again. How can the bulbs best be preserved during the summer ? is, therefore, a very pertinent question. Further, is it possible to obtain off-sets so as to increase the supply of bulbs in the future ? Let me try to answer these two questions.

By way of introduction, I may remark that not many weeks since attempts to cultivate Hyacinths in this country in the way that the Dutch bulb-growers do was recommended. I do not for a moment think that under the most favourable consequences this could be done in a satisfactory manner. We lack in this country the peculiar condition of a moist sandy soil found in Holland, and even could we grow them, I doubt if they could be cultivated to so large a size and finished off in so excellent a manner as the Dutch growers do.

And now to reply to these questions. I have known growers of Hyacinths who were tolerably successful in growing their bulbs after flowering, with a view to future floral service. They begin by preparing a bed in a cold frame. The bed consists of rotten dung from a spent hot-bed, and this is turned over and mixed with any dry litter that may be at hand—leaves, if obtainable, being also added. It is made up in good bulk, and soiled over with a foot depth of good garden soil, of any kind that may be available, mixed with a fourth part of rotten manure. Three or four days after making up the bed, a gentle heat is produced, and on thrusting the hand into the soil, it is found to be much warmer within than without.

I will suppose some Hyacinths have been grown in pots ; and those so cultivated are generally superior

varieties, and costing more than those grown in beds. These plants, having been grown under glass, ought not to be turned out into the cold ground, to be buffeted by east winds, and suffer other hardships. A bed so warmed as that just described is the very thing for them. They can be turned out of their pots, the crocks removed after the spikes have been cut away just below the lowest flowers, and the balls of earth put into the soil of the bed complete; a little finely sifted sandy soil being placed at the bottom of each. They can be crowded very close together, but taking care not to press them together so as to break the balls of soil. After a good watering, the lights should be drawn on, and the frame kept rather close until mild weather sets in; then the lights can be removed, and remain off altogether. When the leaves turn yellow, water can be withheld; and in due time the bulbs will ripen off.

It is obvious that in the case of plants lifted from the open ground it is difficult to remove them with balls of earth adhering to the roots. A good supply of finely sifted soil from the potting bench should be at hand in a moist state, and the bulbs planted in it, in all cases keeping the crown of the bulbs 2 ins. to 3 ins. below the soil. This is the great point—to keep up root and leaf action from the time the bloom is over until the bulbs naturally go to rest; and that rest should be perfect. Let them be perfectly dry, and the sun shine upon them, and the bulbs will come out of the soil hard and sound.

But what is to be done in the case of those who have no means of making up such a bed—what can they do? Some years ago an Irish clergyman, at Ballinasloe, proved a very successful cultivator in the open ground, and he succeeded in flowering the same root for fifteen consecutive years to a great degree of perfection. He planted in this way in October: the soil in the beds was dug out fully two spades deep, and then there was placed in the bottom one spade deep of fresh cow-dung, separated as much as possible from the straw; this was mixed with an equal portion of half-decayed leaves, about one year old. The remainder of the bed was then filled up with thoroughly decomposed leaf-mould, fully two years old, three-parts, and one-part of sea-sand, or, if that could not be obtained, good pit-sand. As a matter of course, the bed was raised to the usual height in the centre, the substratum of leaf-mould and cow-dung being raised in proportion, so as to bring it in the centre as well as at the edges within about 16 ins. or 18 ins. of the surface. The bulbs were planted the first week in November. A hole was made, and a bulb deposited in each, and at such a depth as that the crown of the root, whether it was large or small, was 2 ins. below the surface. The hole made, some sand was placed at the bottom, the root was placed in the sand and covered all round with it, and over also. The beds were so fine that this clergyman used to place an awning over them to protect them as much as possible.

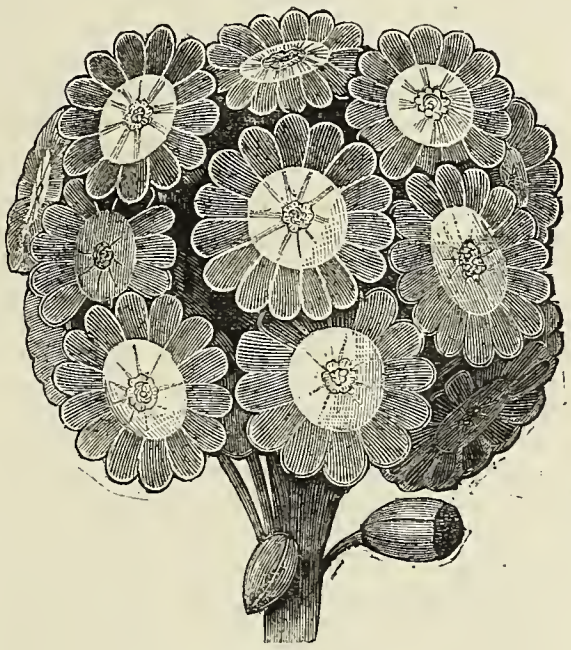
His after practice will afford some instruction for those who wish to know how to treat bulbs after they are lifted from the bed. Every stem was cut away as soon as the beauty of the flower was past; the bulbs were taken up as soon as the foliage turned yellow, and dried in an airy dry loft, the withered foliage and all the offsets were then removed, the bulbs cleaned, and each wrapped in silver paper and placed in paper bags, duly labelled, until planting time came round. All offsets were treated with similar care, and in due time they grew into size and bloomed.

But this clergyman could allow his bulbs to remain in the beds much longer than those who have to lift their roots preparatory to putting out the Summer bedding plants. This they can do—let them lift the bulbs very carefully, and replant them very carefully in light garden soil in a shady position, covering with hand-lights or something of the kind for a few days, and sprinkling them overhead occasionally. The object in sheltering is to prevent the foliage being damaged by wind and sun.

But this course of removal must mean a serious check. Now attempts should be made to make them strong for future use; how to do this can be set forth in a few words. In September let a bed be prepared, deep, well-drained, and consist of about equal parts of loam, leaf-mould, sand, and rotten dung; in this bed the bulbs may be planted 4 in., at least, below the surface, where they can remain. When they flower, let them carry but one spike of bloom, and allow it to expand only enough to determine if the variety be correct. In July, the bulbs, when ripened, can be taken up and put away carefully for next season's planting, when they will yield a highly effective head of bloom.—*R. D.*

GOLD-LACED POLYANTHUSES.

If the gold-laced Polyanthuses exhibited at South Kensington last week are to be accepted as of the best of their kind produceable here in the south, it is most certain that for many years not the least advance has been made with them. The best flowers were of black ground, the old and very beautiful Cheshire Favourite; and the best of the red ground was that probably older, though not always so refined, George the 4th. Too often this latter kind is seen with William the 4th, and some other red-grounds after pushing in warmth, and is in such case almost always coarse. In the present instance, a small plant grown in a cold house in the south produced some of the most perfect pips yet seen at South Kensington. Still, it is an undoubted fact, that perhaps because most common black-grounds invariably produce the best average flowers, there is, perhaps, less tendency in the black-grounds to run and more to keep itself clearly defined. Hence we saw the other day, in the Cheshire Favourite, the very best black-ground flower in the show, and it is probably the best black-ground in cultivation.



Gold-laced Polyanthus.

That gold-laced Polyanthuses, as a rule, exhibit purer markings and more constancy in the north than in the south, is well understood by growers as resulting from the cooler temperature, especially in the summer, when the plants are less distressed by thrip and retain their foliage, thus promoting the production of good flower-trusses in the crowns. It cannot, however, be too clearly understood, that much good results from the plants being rather under than over potted; hence repottings should always be done as soon as the blooming is over. The pots should be always rather small than large, especially if the plants are divided, and of course dis-rooted. In the case of established plants that it is not proposed to divide, a shift into pots a size larger is beneficial, but a mere size larger for the year is ample. As a rule, it is found the strong single crowns, well established, give the best blooms, for in exhibiting gold-laced Polyanthuses, half-a-dozen really first-class pips are worth more than a score of indifferent ones; in fact, indifferent ones are worthless. Good sweet turfy loam with which is incorporated one-fourth proportion of manure from an old hot bed and a little sharp white sand to keep the soil fairly porous, makes about the best composition; nostrums and composts of strong stimulants, are worse than useless. Quick growth, even if obtained, is far from being conducive to the production of the finest quality in the flowers.

It may be a matter for difference of opinion as to whether a pure gold-laced flower is or is not a more perfectly formed flower than is a high class edged Auricula. Whilst the latter is admittedly a wonderful combination of points in a small compass, yet it lacks altogether that perfect outline of edging or lacing found in the Polyanthus. A perfect laced Polyanthus must be mathematically perfect in its ground, its hue of centre, and lacing, its clearly defined outlines of those features, the clean cutting of the lacing through the centres of the petals, and, not least, the form and prominence of the eye or thrum-tube. A first-rate edged Auricula has its mathematical exactness defined in the eye and paste, but beyond these there is only a perfect irregularity in the markings, which whilst beautiful is not yet what is seen in the perfect Polyanthus. Hence it does seem after all that the gold-laced Polyanthus is the most perfect in its markings of these ancient florists' flowers, but there seems to be good reason to hold that advance in the Polyanthus is hardly possible. This conclusion seems justified, as has been set out earlier in this paper, by the fact that really old kinds in spite of the fact that tens of thousands of seedlings have been raised during the past half century still remain the best, indeed, some that are lamented as probably dead, Kingfisher and Lord Lincoln were probably the best of their respective sections, and no human agency has so far been enabled to reproduce them.

Mr. Barlow gave to us a charming though small flowered red ground in Sunrise that might have worthily replaced Kingfisher, but it all too soon became Sunset, for it died away. This raisers best black-ground so far seems to have been John Bright, but it is a poor compliment to so eminent a statesman to associate with his name, what is at the best but a rough and uncertain kind; compared with either Cheshire Favourite or Exile, it is but third-rate indeed. Having regard to this too evident incapacity of the gold-laced Polyanthus to develop further good qualities or even to perpetuate in its progeny the virtues of the father of the tribe, it is no wonder that few grow it, and that those few seem rather to be dwindling than increasing. Really the variety seems more interesting as a momento of a past floral age, and as affording evidence of the inexhaustible patience and ingenuity of the old florists than as suiting modern tastes, which whilst always ready to accept anything refined and beautiful; still prefers progressive flowers to those which have practically become fossilized. Thus the fancy or border strains, so called, with their robust habits, free and progressive qualities, large and very beautiful flowers in wondrous variety, are rapidly becoming popular, and presenting to the old gold-laced section very formidable rivals.—*Florist.*

PROVINCIAL SHOWS.

It is a pleasing feature of the progress of horticultural practice to notice in some country towns that spring shows are becoming very popular, and with commendable perseverance they are well supported by the amateur class of cultivators—many of whose exhibits are most skilfully produced, and would not be discreditable to any professional growers. The exhibition which lately took place at Falkirk was well supported by practical gardeners of the district, and many enthusiastic amateur growers were prominently to the front with spring flowers, which justly excited the admiration of the public who had the privilege of witnessing such a floral display after such an exceptionally long and dreary winter as the past. Hyacinths, Tulips, Lily of the Valley, Narcissus, Spiræas, Primulas (especially the hardy class), Deutzias, Cyclameus, Scillas, and Callas were among the lots which gave a lively and showy character to the Town Hall. The Hyacinths generally were of good size and form, but evidently the manipulation of the staging, &c., was at fault; the stakes necessary to keep the flowers erect and safe from breakage were not well placed, and were larger than necessary.

A lesson taken from the exhibition held in the Waverly Market, at Edinburgh, would improve matters materially. At the Metropolitan exhibitions most of the exhibitors are veterans at their work, and practice, accompanied by emulation, has done much to develop taste, and remove clumsy exhibiting. Among the best Hyacinths at Falkirk—and some were really good—were King of Blues, General Havelock, Lord Macaulay, Charles Dickens, Von Schiller, &c. Many of the good old kinds being well represented, show that the newer names—and many were present—do not always hold the best positions on exhibition tables. Bouquets were a prominent feature, and well done many of them

were; bridal ones, especially, were of chaste appearance, and well arranged. The "table" and "hand" bouquets were in some cases too closely packed; the flowers, which generally were of the finest description, being thus defaced, rendering the bouquets stiff and formal in character. The flowers used were largely composed of Orchids; Dendrobium Wardianum, D. Jamesianum, D. nobile, Cymbidiums, Cœlogynes, Cattleyas, Odontoglossums, and others were conspicuous, leading one to understand that the locality was rich in these gems, and also that such were very come-atable. Buttonhole bouquets were very numerous, and mostly formed of Odontoglossums chastily attached to Asparagus plumosus elegans.

Among plants were a few good specimens of Crotons, perhaps rather pointed and narrow in proportion to their heights; Orchids were few in number, not calling for special remark. The tables (both for competition and exhibition only) were well clothed with remarkably healthy plants, but they, generally, were not made the best of, the pots of the flowering kinds being mostly buried by Ferns, Crotons, Palms, and other plants with handsome foliage. If the numerous pots of bulbs, Dielytras, Primulas, Cytisus, Azaleas, Chorozemas, Epacris, Cinerarias, and hosts of others, really well done, could have been slightly raised above the dense foliage—not exposing the pots but concealing them (which might have been easily done), a very different effect would have been attained. The great evil, at many exhibitions, of tables covered with plants is the crowding which is so general, preventing the graceful outlines from giving the display which is so desirable. The Epergues, which were well represented, were filled with very choice flowers, Orchids predominating, but like some of the bouquets, were crammed together in a manner which marred the effect very much.

Some good vegetables were exhibited, especially Sea Kale, Parsnips, Onions, Leeks, and Celery—one lot of the latter were very fine—being solid and free from blemish of any kind. We hope these exhibitions will be satisfactory in a financial point of view, and reward the praiseworthy efforts of those who cater for public enjoyment.—*M. T.*

THE BEST HARDY PRIMULAS.

It is a good sign—indeed, it may be regarded as a high honour to any genus of plants—that so much special attention paid to it as the holding of an exhibition and conference. The genus Primula includes an almost endless number of species and forms, most of which are perfectly hardy, others requiring greenhouse culture, and others still as Auriculas, and so on, which rank among the oldest favourites of the florist as much to-day as they did fifty years ago. Slow to increase, difficult to improve upon, and so stringent are the rules of the florist in this particular that it is a rarity we meet with any but really good sorts under name. The conference held last week was the means of bringing together a great number of all sections, so that those who take special interest in them may either learn something new, or impart information to others who have not received the same amount of education in respect to them.

It is not my intention here to allude in detail to the great number of species of hardy Primulas, many of which, viewed from a commercial standpoint, are valueless, while, from a botanical point of view, are full of interest to those whose taste lies in that direction. What I propose to do, is to name what are considered by practical men the most showy and easy of culture, and such as are suited to the requirements of the masses of those who of late years have been making hardy plants a special study—something that do not require that constant care and those carefully prescribed soils to bring them to perfection, and which alone very naturally debars many from ever attempting their cultivation at all. As the really good members of the hardy section of Primulas is rather numerous, my remarks must, in consequence, be very brief, but at the same time practical.

P. acaulis.—Taking them in alphabetical order, the acaulis section first presents itself. The commoner forms of these are so well known to every cottager as to need no comment. In the single and double forms we have very pleasing subjects for fringing a bed or planting on shady grassy slopes besides rivulets or running streams, anywhere, in fact, where shade and moisture may be afforded them. They are usually met in white, sulphur, yellow, lilac, crimson, and plum colours, the latter being equally free-flowering as the older kinds. The double crimson is an exceptionally rich flower and rather fastidious. This is overcome by never allowing it to feel the effects of frost or sun. I have grown it remarkably well, with flowers as large as a half-crown piece very near to London, treated in this way; it also appears to delight in being incessantly moist overhead throughout the growing season.

P. auricula, or the common garden Auricula, is one of the oldest favourites, and was known to Parkinson upwards of 200 years ago. It appears, however, to have been introduced into this country from Switzerland nearly 300 years ago. It also inhabits the mountain ranges of Austria, and the Caucasian chain generally at high elevations. It is extremely hardy, and still a popular plant, no doubt it will always remain. It needs no special culture, thriving well in any ordinary garden soil. There are many varieties, all of which are only too welcome in spring-time, either on the rockery or the border.

P. capitata.—This is one of the very best of the species, perfectly hardy and of easy culture; it seeds freely too, so that a stock may soon be had. It may be planted in well-drained loamy soils, where it succeeds admirably. It grows about 1 ft. high, and has small deeply-veined leaves, somewhat resembling a miniature denticulata, and distinctly toothed, the leaves and stems of the flower-heads being covered with a dense farina or meal. The flowers are of a rich indigo blue or purple shade; in this respect it is unique.

P. denticulata.—This is one of the many gems from the Himalayas, and as now grown is much varied in colour and form, and also in the size of the blossoms individually, as well as in the dense umbels of its lilac or lilac-mauve flowers. Its vigorous constitution, its perfect hardiness, and adaptability to almost any soil, has made it a general favourite among hardy plant growers; and being free to produce seed, it can be had in plenty. Plant it in any soil that will grow a Cabbage or a Mangold well, and you will never fail to see it thrive. It grows 1 ft. or more high, and certainly ranks among the very best of its tribe; a veritable gem for spring bedding.

P. denticulata capitata (syn. Cashmeriana).—This is equally as good in all respects as the preceding. It is, however, bolder in general aspect, and withal a plant of noble bearing. When well established, it grows fully 18 ins. high, the leaves and stems being covered with a dense golden meal. Its flowers are of a rich blue or violet shade, and are borne in compact globular umbels, which attain a large size. It lasts a long time in perfection, and prefers a deep rich loamy soil. This cannot be had in too great a quantity in any garden; it is so good and choice.—*E. J.*

(To be continued.)

IMPROVEMENT OF THE GENUS PRIMULA.*

(Concluded from p. 538.)

One marked difficulty so far has been that of transmitting to any flower, whether self or edged, the all important feature of a rich gold tube, if that flower has tints of violet or blue. Their tubes are pale or greenish yellow, always a colour of low vitality and weak endurance. Some seedling blue selfs, however, by pollen from gold tubed varieties, are better in this respect than the old blues.

Memories come back to me here of some old flowers that might have been helpful towards new combinations of colours that are faint and timid, and wavering yet.

Such were Moore's Violet, a green-edged flower, with violet body colour, and a green edge of Traill's (Rev. George Jeans), in which the ground colour was of a lilac tint. In white edges were Ashton's Bonny Lass, with beautiful violet, and Maria, richer in colour. These, however, and others of like colour, all were weakened by a pale and watery tube; and further, the ground colour was not of one uniform steadfast shade, which it decidedly ought to be in both-edged and self Auriculas. Red or crimson as a ground colour of edged flowers has not yet been obtained of any intensity. Lightbody's Fairy Queen and Star of Bethlehem, and also Smith's Waterloo, were green edges, in which the body-tints were a shade of red plum, and a white edged of McDonald's was lighted up with a brighter red. Chocolate-brown is another possible change in ground colour worthy of being followed up. It occurred in Lightbody's white edge Countess of Dunmore, and in Smith's Ne Plus Ultra. These red and brown ground colours are happily not associated with the weak tube colours of the blues.

Mr. Simonite, in his Heather Bell and Aurora, has in better blue-grounded white edges than the old ones, and the tubes, though not of a strong yellow, have more stability. An offer of a red-grounded green edge occurs in a rather erratic seedling of Mr. Rolt's. The edge is pure but insufficient, and the red ground colour brightens with age, but is too broad, and runs wildly out at the petal edges. Such a flower would be worth crossing with some green-edge seedling of fine form, in which existed the fault of a ground colour much too slight and narrow.

In new types of colour in selfs, the last great acquisition came through Mr. Campbell's success in his efforts to produce a true crimson self. Some fifteen years ago he sent out, as the result of many years' work abounding in failures, two intensely crimson flowers—the one better than the other, both in its colour and in its rich gold tube, but both of them notched in petal. These flowers have transmitted their colour well to seedlings of better petal.

Within the last two or three years another new and very beautiful break in self colours has occurred among both Mr. Simonite's seedlings and my own, showing yet another direction in which we may seek to enrich and improve the Auricula. This new colour is a very lovely and decided pink. The flowers have happily been nearly always gold-tubed, and the petal is a fully rounded type. This young colour, however, is not easy as yet to obtain solid—*i.e.*, unshaded and steadfast. Some have failed by growing slightly paler with age, or in losing with age the surface of the petal; so that what is velvet at first, is calico at last.

There is no doubt, however, that the true pink self is a coming flower, and I name it as one illustration more of the direction in which the Auricula may be improved.

I have spoken of the failures of this newly-won colour—the successes must speak for themselves when they can.

Adolescence.

There is something very curious in the blooming character of the first three years' life of an upgrown seedling which it is important to mark and allow for, because it certainly is connected with the practical part of our question.

It is not an invariable rule, but it is a frequent occurrence for a seedling that blooms with brilliant properties in its maiden year, to flower the second year in much inferior if not loose character. This is oftener the case with the complex edged flowers than with the simpler selfs. At the third year the flower may either return to its early promise, or go again astray. I do not know how to account for it, but it is a noticeable feature in a long experience.

It would seem as though the plant were affected by some unseen change or turning point in passing from its seedlinghood to becoming an established variety. Certainly some seedlings that show brilliant properties the first year never afterwards display them; and occasionally others, that one has gladly given away to friends with garden borders, have like the "ugly duckling" of the story, developed into very swans of excellence.

I mention this, not only that joy over some sudden acquisition may be tempered with gravity, but also that doubt may be not unlighted with hope.

I do not cease to feel some anxiety for a brilliant seedling, and some hope over a rather disappointing one, till I have seen them at their third bloom. Some faults are decisive, such as the pin-eye, the pale tube, the angular paste, the notched or pointed petal. Of such there is no hope. But if properties of tube and paste and petal are fine, I do not discard the seedling because, as its maiden bloom, the proportions and other qualities of the ground colour and edge may not be correct. There may be a good flower in disguise.

Alpine Auriculas.

I pass on now to a brief notice of that other division of the Auricula as a florist flower, which is tech-

*Paper read at the Primula Conference by the Rev. F. D. Horner.

nically known as the Alpine. These very beautiful flowers possess as features of distinction from the edged classes and selfs, a perfectly unmealed centre or eye, and petals richly shaded from the deepest to the lightest tints of that one colour which the flower has adopted. That shading cannot be in tints too numerous or too softly blended.

The tube of the alpine so closely follows in colour the centre of the flower that it should have an expression in form all the more marked, because there is the less power of contrast with the centre by colour. It is a great point of beauty in all Auriculas that the mouth of the tube should be well defined, and rise fully to the level of the flowers' face, otherwise there is the appearance of a weak and sunken eye.

The Alpine Auricula is divided into two sections, distinguished by the golden, and the paler, almost primrose-coloured centre. The golden centre is the higher type. In the Alpine, as in the edged flowers, it is again the flowers possessing violet or bluish colours that exhibit the palest yellows in the tube and eye. Flowers would, no doubt, be very highly valued in this class of violet shades if they could be obtained with the rich golden eye of those with crimson.

THE POLYANTHUS.

I must not close this paper without including the florist Polyanthus, a lovely sister of the Auricula, and in sore need of reinforcement in sterling varieties. Some of the very best Polyanthuses, like Kingfisher in the red ground flowers, are lost to cultivation; and among black grounds of high merit, Lord Lincoln seems all but gone. Many garden strains of Polyanthus are termed "gold laced," but they are a far remove from the florist flower with its cultured properties. The resemblance in most of them looks nearest when seen at the greatest distance. The decision, purity and refinement of our Polyanthus are not in them.

Mr. Barlow's success in raising both black and red ground flowers of a very high character, perhaps in red more especially, is a proof that though the flower may not be more ready than its radiant sister, the Auricula. to give the properties we should have, still it will repay all good care bestowed in judicious crossing.

I do not think that any foreign blood of strains outside the florist pale, however proudly spoken of, should be introduced under the plea of giving vigour, which the standard old sorts have, alas! too often lived to lack. From such extraneous source of robustness will come much unruliness. A more safe return to soundness of constitution will be naturally obtained through seedlings, because seedlings naturally possess it, and happily young blue blood is no exception to the rule.

For suggestions of improvement in the Polyanthus I can but briefly state the properties that require to be exemplified in as many living representations of their beauty as we can obtain. The two brilliant extremes of class colour will be a black ground, or a scarlet ground within the lacing of bright yellow, Whatever the body colour be, it must consist of one rich uniform shade; and the yellow, which is best when a clear lemon-gold, must be free at the eye or centre from any other shade of yellow. The gold of the lacing must exactly match that of the eye, and the lacing itself must be of exquisitely smooth edge and even width. It must both completely edge the petal and strike down through the centre of it to meet the golden eye. The central line of lacing is frequently broader down the middle of the petal than round the edge, but the nearer it is of the same width the better.

It is characteristic of the Polyanthus petal to be deeply notched in the centre, so that the circular edge of the Auricula petal is not looked for here.

The centre or eye of the Polyanthus should occupy a wide circular space upon the flower. It can hardly be too wide, and is often not wide and circular enough.

The mouth of the tube should be extremely well defined, and even most slightly raised above the level of the centre. As in the Auricula the tube should be filled with bold anthers up to the surface, with the stigma almost sessible below; and all flowers should expand equally and well.

These are the points to be attained and strengthened in the improvement of the florist Polyanthus; and it will readily be seen how far these lines of beauty, which give such brilliance, purity, and refinement, lie beyond the comprehension of the common garden border strains, and how far too few are the beautiful florist Polyanthuses we have that fulfil this standard. —*Francis D. Horner.*

SCOTTISH GARDENING.

Seasonable Notes.—Violets will now be getting past their best, and a fresh stock for supplying cut flowers next season, whether to be grown for early supplies under glass or in the open ground, must now be propagated. Young runners formed into cuttings and grown liberally on a south border, well dug, and with a fair supply of manure, old turf, or leaf-soil turned in, will make fine plants. On heavy tenacious soils a dash of coarse sand intermixed is advantageous, but the starving system is attended with very meagre success. Some growers, for convenience, divide the old plants, and this practice answers better in the north than in southern parts; but rarely is the result equal to the growing of Violets from cuttings. Some grand additions to this class of plants have been made of late years. A box of flowers sent us by Mr. Allan, of Guntou Park, were truly charming, and some plants, too, received from this successful grower were remarkably strong, compact, and healthy. If northern growers grow a part of their stock from divided plants, they should be planted deep enough to allow of the emission of roots from the young growing stems, and a little sand placed round them aids this, while a dusting of soot dislodges slugs and prevents others from taking up their abode among such favourite food.

Primulas, Polyanthuses, and plants of this class may now be divided. They form capital edgings for herbaceous borders and positions of similar character. In good soil their foliage is firm and erect and of a pleasing green colour. They make useful coverings of earthy surfaces among shrubs where grass is not suitable. No one cares about looking on bare soil during any period of the season. The above and such plants as Antennarias, Sedums (of sorts), Thymes, &c., answer well and give no labour.

The Sowing of Annuals for summer and autumn flowering may soon have attention. On dry poor sandy soils annuals are barely worth the space they occupy, but on well prepared land, under deep tilth, enriched with good material (as recommended for Violets), a fine display may be made. Sweet Peas for succession, Mignonette ditto, Virginian Stock, &c., are generally favourites with the amateur class in the north, and always give satisfaction when liberally dealt with. Crowding such plants is often their ruin.

Box Edgings will receive their annual dressing in many places during the next two or three weeks. Topping down by shears to the desired level, and a line stretched along the position which is intended to be the centre of the edging, is kept in position by means of pegs, and on each side of the line the box is clipped forming a wedge shape. For flower gardens (especially of the French forms) we prefer flat edgings, and wide enough to form a bold and telling outline, clothing the garden well with evergreen all the year round. We have used Thymes of sorts, and Ivies (Caenwoodiana especially) with pleasing effect. For shrubbery borders the common Mahonia, kept dwarf and flat, is very ornamental, and when its crimson tints in autumn are at their best, it proves itself to be a most useful shrub; among cut flowers and on tables as decorative material it is much valued.

Walk turning and graveling are among the necessary items which give a dressy appearance to grounds, and as turning goes on, thorough treading (before the gravel gets dry) leveling with the back of a rake, then a sprinkling of new fine gravel over all gives a clean firm surface; roll well after rain. This is very suitable for walks where smoke is troublesome.

Celery.—The pricking out of Celery to the beds from whence the plants are to be removed to the ridges is now an important operation, and fine sturdy plants ready in succession (three successions we think enough), to be planted out from the first week of May to the middle of July, ought to give a supply for general use from September till the end of April or May the following year. For well-blanched supplies in July and August, the liberal use of glass must be at command in the earlier stages of raising and protecting the plants. White Plume earthed-up (it is tough when grown exposed to sun and air) we think would be useful in supplying an early demand for blanched Celery. It perished early from frost here, while Major Clarke's, Turner's Incomparable Dwarf White, and some others remained in excellent condition, with snow only as protection. We have a hundred or so left in the ridges yet, and having reduced our supply to about two dozen weekly, we hope to have useful Celery till about the end of May. Some of the evils attending the raising of Celery are badly fastening the roots at pricking-out time, exposing the young plants to cutting winds when they have lately been taken from warmth, neglect with water, frequent sprinklings of water in dry weather, cooling the soil and leaving the roots at the base in a parching state, and planting-out the roots after cramming them together into balls. Avoid such practices and save labour.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

In too many greenhouses and conservatories, especially those possessed by amateurs, the collections of plants employed for their decoration consist of a few stereotyped kinds, which become quite monotonous in the frequency of their repetition, yet this paucity of variety is not caused by any lack of plants to select from. It is not desirable to advocate forming extensive collections consisting of a great number of species or varieties, such as we find in botanic gardens, unless the owner has an inclination for studying the characters and relationship of many plants of little beauty; but an effort should always be made to diversify a collection as much as possible within reasonable limits. The utility and beauty of Pelargoniums, Cinerarias, Cyclamens, Bulbs of the Hyacinth and Tulip kinds, and many other plants which are so largely employed in decoration, most people will be ready to acknowledge; but there is no reason why the adornment of a greenhouse should be confined to them. It is true that hard-wooded plants, which include so many of beauty and interest, have been neglected of late years under the idea mainly that they are very difficult to grow successfully, and they certainly need more attention than the ordinary soft-wooded plants, but there is no difficulty in their culture that moderate care will not overcome. The Tetrathecas, the Eriostemons, the Genetyllises, the Boronias, the Croweas, and the Ericas, with many more, are all worthy of more extended culture than they receive now. Those who see the plants in flower at the present time, either at nurseries, in private gardens, or at exhibitions, cannot fail to be attracted by them, and if they are induced to purchase a few, they will find that they can be grown as satisfactorily as other plants.

The most important matter in connection with their culture is the supply of water, which must be regulated judiciously and not poured into the pots in the careless manner too often practised with Pelargoniums and similar plants, and more failures with the class of plants we are now recommending are due to want of attention in supplying water than to any other cause. Some of those mentioned above differ in the amount they require, but this can be generally determined by the habit of the plant, if it is a strong-growing and free-rooting species water can be more freely supplied than to the slow growers with fine hair-like roots, as the latter are soon killed either by too liberal or insufficient supplies. The soil should be kept as nearly as possible in a uniform state of moisture, but if the surface is loose it may appear dry when the ball of the plant where the roots are may contain sufficient water, and this must be determined by slightly removing the surface with the finger. If the plants have been well potted, the new soil employed being rendered as firm as the old ball, then a simple means of determining whether the plants need water or not is by tapping the side of the pot with the knuckle or piece of wood, if the pot gives a hollow sound water is needed, if it sounds dull the soil is moist, and with a little practice and close observation the different conditions can be readily recognised. The third mode of determining the same point is by lifting the pot in the hand, its weight deciding whether the soil is sufficiently moist or not, but this needs some experience and attention. By one or all of the methods named it is easy to regulate the supply of water in the proper way, and when this is accomplished one of the greatest difficulties in the culture of hard-wooded plants is overcome.

THE FLOWER GARDEN.

Take advantage of the first shower, now the soil is getting warmer. Sow the remainder of the flower seeds out of doors; as they will germinate much more quickly

and progress more satisfactorily now than they would have done a few weeks back. Seedlings of annuals or perennials, that have been raised under glass, should be potted or pricked off into boxes, gradually hardened, and in warm situations where they are not likely to be checked by frost, they can be planted out in the borders. Get all the beds not occupied with bulbs, such as Hyacinths, in readiness for the summer bedding plants.—*Scolytus.*

SPINACH AND ITS SUBSTITUTES.

It may be fairly claimed for Spinach that it is at once one of the most useful, and to many palates, one of the most esteemed vegetables we have. By growing the true Spinach (Spinacia oleracea) and its substitutes, all well-managed gardens ought to be able to send a dish to table at all seasons, whether we are passing through the rigour of our coldest winters or the scorching heat of our hottest summers. The round-seeded is usually grown for summer crops, being the most succulent. As it soon runs to seed, successional sowings must be made at frequent intervals on well-manured ground from February to the end of April once in every two or three weeks, more frequently during May and the early part of June; after that date once a fortnight will be often enough. Sow in drills 12 ins. apart, and as these summer crops of it are cut off close to the ground, put the seed in rather thickly. It runs to seed very quickly, so that where a constant supply has to be kept up frequent sowings are necessary. Some never use the round-seeded variety because of this, and sow the prickly at all times. The main sowing of this, to stand for winter and spring use, should be made in the first or second week of August, in drills 1 ft. apart and ½ in. deep, scattering the seeds thinly. Select, if possible, showery weather.

We had a good illustration of the utility of the mulching system here last autumn. One bed of Spinach was sown on fresh-dug ground, the weather proving very dry at the time From two to three weeks afterwards another bed was sown where Peas, which had been heavily mulched, had stood. The decayed mulching material was cleared off, and the drills for Spinach drawn on the hard ground. It made its appearance long before that sown earlier, and did much better. No better bed of Spinach could be found or wished for. The main winter crop should be thinned out, commencing when the plants have three or four leaves, and be continued till they are left from 4 ins. to 5 ins. apart. In gathering, always take the outer leaves first, and regular gathering promotes the well-being of the plants. In very dry seasons it is next to impossible to keep up a supply of true Spinach; this leads to the cultivation in many places of one or more substitutes for it. The best of these is the New Zealand Spinach (Tetragonia expansa). This is available the whole of the summer, and in mild autumns till very late in the season. Where there is convenience for it, this well repays the labour of protecting it from the early autumn frosts. Raise the plants from seeds sown in March in pots placed in a brisk heat. When strong enough, pot them separately in small pots, keep under glass and gradually harden off, and plant out when all danger of frost is over in light rich soil. We generally plant in a bed of decayed leaf-mould, in which it luxuriates, planting it about 3 ft. apart; from twelve to twenty plants will be enough. Gathering may be commenced in five or six weeks from the time it is planted.

Orach (Atriplex hortensis). Of this Lee's Giant is infinitely the best; some prefer this to true Spinach, but it is not so useful a plant as the foregoing one. Sow towards the end of September for the first crop, and during spring for succession. The leaves must be gathered young, for they are stringy and worthless if left till maturity. Another little known plant in many localities is Mercury (Chenopodium Bonus Henricus), a perennial known also as Good Henry, Good King Henry, Wild Spinach, &c. This may be increased either by seeds or division; if from seeds, sow in October or March, plant in light rich ground at 1 ft. apart each way. It affords several cuttings during the season, and a plantation of it will last for many years. The young shoots may be peeled and served up as Asparagus. These three are only available as summer and autumn substitutes. There is a fourth which can be used during both summer and winter, viz., Spinach Beet. Sow this at the same time as the other Beet roots; it may be gathered from the time the plants are strong enough to bear it, till the following season when it starts up to seed. It is a good plan to make another sowing in July. The advantage of this Spinach is that when during the frosts of winter the ordinary kind is shrivelled up and quite unfit for use, a plentiful supply may be obtained from it. The drawback to its use is not so much its flavour, as a want of that softness which characterises ordinary Spinach. It entails more labour on the cook to get it through the sieve, and when done it still eats hard, and epicures will soon find out the difference.—*W. B. G.*

SUMMER CULTURE OF PLANTS.

I send you a few remarks on a few winter and spring flowering plants that may be planted out in summer. I will start with Abutilons, of which we grow only three varieties in this way, viz., Boule de Neige, King of Yellows, and a scarlet seedling. Cuttings should be put in early in February. When these are rooted nicely, pot off and grow on quickly in a warm frame until planting-out time comes, which is, with us, about June 1st. Turn the plants out carefully in good soil, not too rich, and during the summer pinch the points out of the strong shoots, so as to form a well-balanced plant; stir the soil frequently, water when necessary, and finally pot up the plants before frost comes, which is here about the beginning of October. After potting, place the plants in a cold frame until established, when they may be removed to any frost-proof house to be put in heat as required, when they will produce large quantities of flowers.

Bouvardia longiflora, Alfred Neuner, elegans, and Vreelandi I find best suited for planting out. To get cuttings early the plants must be dried off in December and placed in heat in the middle of January, when cuttings will soon be produced in quantity. Take these off with a heel and insert in small pots of peaty soil; put in a propagating frame, and they will, if properly treated, soon emit roots. When this has taken place pot off, placing the soil very lightly, and grow on in heat, gradually hardening off until the middle of June, when they may be planted out in light loamy soil on a south border, sheltered from wind. Stop the shoots as required, and pick off all bloom in order to strengthen the plants. Stir the surface soil frequently; lift the plants carefully about the middle of September, and place in pots just large enough to hold the roots. Place in a cold frame and shade until they have made fresh roots, after which they may be put on a shelf in a warm house, and if well attended to with water they will not fail to give a good return in the shape of pretty chaste flowers.

Calla (Richardia) æthiopica will not, of course, require taking in hand so soon. When they have finished blooming, about the end of May, shake all the soil from the roots, divide the plants into as many as are required, and plant out in a rich, moist, sheltered border, tie up the leaves, and water and give good supplies of liquid manure throughout the summer, especially if it is dry and hot. The new leaves may be injured by wind if not tied; therefore, tie as soon as the leaves appear. Keep the hoe going among the plants, or the soil will get hard with watering. Lift the plants in the end of September, and place them in large pots under a north wall. Afterwards remove them to a cool house, and force or grow on cool as may be required. I have completely failed with the yellow Richardia hastata; will someone more fortunate kindly give a description of the treatment which with them has led to success.

Eupatorium riparium, Weinmannianum and Haageanum are very useful in winter and spring. Get cuttings in as early as possible in spring, so as to have good strong plants to put out early in June; and treat them through the summer like the Abutilons. Pot up before frost gets dangerous, and keep close in a frame until established, then place well up to the glass in a cool house, where they may remain until they show blooms. E. riparium will bloom throughout the winter, and then Weinmannianum will carry the season on to April or May, thus producing masses of useful bloom through the darkest part of the year.

Cestrum aurantiacum is a very useful autumn-blooming plant, which we always propagate by root-cuttings. A plant is shaken out, the large roots are cut in pieces 2 ins. or 3 ins. long, these are put in a pan of light soil in a warm house, where they will soon throw up shoots. They are then potted off and grown on, so that by the end of May we are in possession of a few nice stocky plants fit to plant out in a warm border. They will want potting up sooner than most things, as they commence to bloom early in October, and are then very useful back-row plants for the greenhouse.

Salvia Bethelei, Braunti splendens, gesneræflora, rutilans, and Heerii, flower in the order named from October to April. We get cuttings of Bethelei as early as we can; the others we do not propagate so soon, or they would get too large. Put out good plants early in June, put a strong stick to each plant, and keep the branches tied to them; keep the soil open by the frequent use of the Dutch hoe, and water when necessary. Lift and pot Bethelei about the middle of September, so as to get it established before the bloom becomes too prominent, otherwise they will probably fall. The other varieties may remain until frost is apprehended, when they should be potted up and placed in a cold house, where they will bloom well; if treated to an occasional dose of liquid manure they will be all the better for it.

Solanum capsicastrum does very well with this planting-out treatment. Put out good strong plants, either cut-back or young ones, early in June in a nice sunny place. Give a good soaking of water when required, and a dash over with the syringe when in bloom to help to distribute the pollen so as to get a good set of fruits. Lift early in October, and put in pots just large enough to take the roots. Place in a cold frame and shade until established, then remove to a shelf in a warm house, where the berries will soon lay on colour. Never let them get dry at the roots, or they will soon be unsightly.—*J. W. L., Glos'ter.*

LILACS IN POTS.

Few plants are better suited for forcing when properly prepared, than the above, and certainly as a rule, when well-grown are thoroughly appreciated, and yet how seldom do we meet with them, even fairly cared for. For conservatory work, or for the filling of fire-places in house decoration, nothing is so serviceable, added to which they are extremely useful for cutting purposes. Instead of resorting to what I cannot help terming the barbarous practice of going into the shrubberies and lifting plants for the purpose, I will endeavour to give a mode whereby such a practice can be avoided. Procure sufficient stock of the common white and purple varieties from a nursery, and pot them into 12 in. pots, using a good strong loam and potting quite firm; if lifted, as they probably will be from the open ground, place them in one of the Vineries or Peach houses where they will be shaded from the direct rays of the sun, and where they may be frequently syringed until they recover from the lifting, which will be seen by their making a start into growth.

After removing them from the house place them in any shady corner for a few days, until the foliage becomes hardened and able to stand the weather; now select some quite open situation, having a west aspect, if possible, and plunge the pots 2 ins. under the soil in rows sufficiently wide to allow the sun and air to have free access, and also to allow of the plants being watered when necessary and also to keep free from weeds; they will need no further attention, and can be lifted as required. Of course, it is necessary to encourage as free a growth as possible to ensure good heads of flower. After the plants have been forced they should be gradually hardened off preparatory to being again plunged out of doors, and it will be necessary to cut them back, roughly pruning them into shape only; and it will be hardly necessary for me to say that the same plants will not be ready for forcing the following season, but in alternate years, so that it is necessary to provide a double stock.

In lifting, after the plants have been some few years in the pots, surface-roots will be made; but these must be removed at the time of lifting for forcing to allow of sufficient water being given, and if saucers are placed under the plants so much the better. By following the above treatment the little extra labour at first entailed will be amply repaid, and perfect success ensured. For greenhouse staging the Persian varieties are much more suitable, as they can be flowered well in 8-in. pots and remain in them for a number of years, simply requiring attention only as other forced plants do, and occasionally pruning away any straggling shoots to keep the plants as compact as possible. The perfume from them, also, is more delicate than from the preceding varieties.—*Walter Child, Croome Court.*

THE FERN WORLD.*

In all ages of gardening Ferns have been general favourites, holding their places while many other claimants for the plant lover's esteem have passed into comparative oblivion. Go where we will, in gardens large or small, we find them lending their graces and heightening the beauty of the other plants arranged with them. Even where no glass houses are, the hardy Fern-nook or rockery may often be met with, and failing that the Fern-decorated *jardinière* or Wardian case in the dwelling-house is frequently one of the prettiest and most cherished objects, and one which the owner, if bereft of, would miss more than many other valuable things. Notwithstanding, however, the widespread love exhibited for the Ferns, it is surprising how little of that information respecting them, which adds considerably to their interest, is possessed by their owners.

To pleasantly spread such information in his previous works on Ferns has been the author's object, and the great demand for each of his books testify in the best possible manner to their appreciation by the public. It is the great encouragement which he has met with in this direction which has determined Mr. Heath to enlarge, amplify, and still further embellish with numerous illustrations and coloured plates his already well known *Fern World*, the result being that in the new edition under notice he has succeeded in producing a work of surpassing merit, pleasantly written, scientific enough, and containing information on every point respecting Ferns likely to be of use to the amateur, either as a student of these lovely plants in their homes, or as a Fern collector, raiser, or cultivator.

The author, in the First Part of this work treats of the germs of Fern life, conditions of growth, structure, classification, distribution, uses, and the folk-lore of Ferns; the Second Part relates to Fern culture, soil and aspect, general treatment, propagation, Fern gardens, rockeries, houses, &c. ; the Third and Fourth Parts to Fern hunting and rambles through Fern lands, all of which subjects are dealt with so skilfully, and expressed in such brisk and cheerful language, as to render them pleasant reading without diminishing their practical and scientific merit. Part V., extending over some 250 pages, is taken up by a careful description of our British Ferns, accompanied by excellent nature-printed coloured plates of each of the leading kinds of this part of the book. It will be well to quote the author's own remarks, as they give a fair specimen of the many interesting facts conveyed throughout the whole work.

Mr. Heath says, "Although the descriptions of Ferns given in Part V. of this work have been restricted to the British species of these beautiful though flowerless plants, it must be remembered that the same species are widely distributed over the world, occuring, amongst other places, more or less throughout America and the English-speaking dependencies of the British Empire. Of the fifty species of Ferns, for instance, which are inhabitants of the United States of America, no less than sixteen, or about one-third, are also natives of Britain. Canada, also, includes a considerable portion of the British Ferns amongst its Cryptogramic flora ; and throughout the whole of North America are to be found no less than thirty of our forty-five British species. One-half, too, at least, of our British Ferns are to be found in the Himalayan Mountains. If we turn to the Antipodean range of the Fern world, we find that New Zealand, with its glorious wealth of Fern life, contains a not inconsiderable number of the British species ; and it is worthy of especial remark that both Britain and New Zealand are the richest in Ferns in their respective latitudes. The author, therefore, trusts that Section V., no less than the sections of the volume which relate to the whole world of Ferns, may possess an interest for English readers beyond the narrow limits of the British Isles."

A careful perusal of the work under notice enables us to say that it is one of general interest throughout, and one which will be sure to gain converts to the pleasures of Fern study. What could be more pleasant than when holiday-time comes to take the author by the hand, through the medium of his pleasant book, and accompany him to those lovely scenes of natural beauty, embellished by the graceful frondage of the Ferns, which he so graphically describes and illustrates. There, aided by the life-like pictures as a means of identification which can admit of no doubt, even those who have no knowledge of Ferns can in a short time learn all about them, and at the same time pass the hours, pleasantly and profitably enjoying those sweets which a study of nature's works always brings. Such a sweeping direction as "Throw physic to the dogs," like most other such, are not applicable in all cases, but as a cause of the demand for it arises from *ennui* with its attendant horrors, which fasten on so many with such terrible results ; as a remedy which we are sure would bring a radical cure in many cases, we venture to recommend a study of our British Ferns in their native wilds, with the aid of Mr. Heath's book, to all so afflicted ; and as prevention is even better than cure, even the most robust should take the hint and avail themselves of this pleasant and health-giving relaxation. To all who are interested in Ferns, their habits, structure, and cultivation, *The Fern World* cannot be too highly recommended.

Ferns in the Garden (from "The Fern World.")

* The Fern World. By Francis George Heath. Fourth Edition. Sampson Low, Marston, Searle, and Rivington.

ORIGIN AND HISTORY OF THE FLORISTS' AURICULA.*

(*Concluded from p.* 535.)

Let us now make a brief study of an Auricula with reference to the facts that are before us. In certain characters it is constant. The leaves are stout in texture, often leathery, sometimes slightly cartilaginous. The flowers are always in a many-flowered visible umbel, never, like those of the primrose, appearing singly from a concealed umbel. The floral bracts are short, never like those of P. calycina, longer than the flower stalks. The corolla is distinctly contracted below into a tube and expanded above into a salver ; it is never contracted into a cup or goblet, as in P. sikkimensis. The dusting with protective meal is not a distinguishing feature ; but its abundant appearance as a decorative character of the exhibition flower is strikingly characteristic, and though it may be said that by long continued crossing and selecting its appearance there may be regarded as the work of the artist called Man ; yet his work is limited, not only by the capabilities, but by the disposition of nature. The powder belongs to the face of the flower, although its quantity and arrangement may be an exaggeration of nature's intentions. The show of yellow in the colouring of the flower is a constant character. This is a colour wanting in many of the supposed parents. It should be borne in mind that the flowers of highest quality represent long-continued and severe selection ; and therefore in an exhibition, or even in the general stock of the cultivator, we do not see the entire character and possibilities of the flower. The seed-bed offers the raiser many that he will simply destroy, because of their non-conformity to rules ; and amongst the condemned will be many of the so-called fancy flowers, that have no body colour, and approximate to the species. It should be remembered, too, that all the edged flowers have green edges ; for although classed as green, grey, and white, it is only the relative density of the meal that makes the

* Paper read at the Primula Conference by Mr. Shirley Hibberd.

difference. It has been boldly declared that this green colour is a monstrosity, indicative of a return of the flower to the status of a leaf, but we will defer the serious consideration of that proposal until we see the flower take the form of the leaf in addition to a touch of colour, which, from the florists' point of view, is one of its distinguishing beauties. It would be more reasonable, perhaps, to regard the green colour as a remainder of the original colour of the flower, for, according to the doctrine that has found general acceptance, the flower should be first green and then yellow, with a potentiality of changing to red, and ultimately to blue.

Considering Professor Kerner's proposal in connection with these facts, it may not be irreverent to say that it leads us nowhere. We are to derive two groups of plants that differ by larger degrees than many that are recognised as distinct species, from a parent plant that is a reputed hybrid, and that possesses only a few of the characters required. We are assured that the purple and marone colours that are so prominent in the edged Auriculas cannot be derived from a species known as affording only shades of yellow. Those who make the declaration evidently forget the wide range of colouring of the common Primrose, wherein we have almost every colour except true blue. Linnæus grouped Primroses, Oxlips, and Polyanthuses as forms of one species; and that view, though for long repudiated, is now generally accepted, and the point is especially insisted on by Bentham in his *Handbook of the British Flora*. Between yellow and blue there may be somewhat of a gulf fixed, especially in the variations of a species; but from yellow to shades of red and purple is a transition far from uncommon. We have examples not only in the Primrose, but also in the Chrysanthemum, Hyacinth, Tulip, Pansy, Carnation, Hollyhock, and Antirrhinum. If you wander about in search of a source of the red and purple tones in show Auriculas, you will never find means to account for the brilliant violet-blue body colour of the variety known as Colonel Champneys, while others may be found that are apparently equally far removed from the possibilities of the botanical colourist. The truth appears to be that the colours we cannot by direct descent account for are in reality self-evolved, and belong to the category of changes that accompany and follow cultivation. In other words, these colours, with other characters that might, with equal reason, perplex us, are, in a certain sense, laid on by the hand of the cultivator. It is the fear of the botanist, who cannot recognise any merit in his brother the florist, that prompts him to find in this or that flower that the hand of man has left untouched, the sources of properties that the florist has developed by long continued cultivation in view of an ideal model, towards the realization of which he is ever striving, but never attaining, though happy in the endeavour, and justly though quietly proud of what so far has been actually accomplished. To obtain the two great classes of Auriculas from Primula pubescens is a greater extravagance on the part of Professor Kerner than any florist has ventured on as yet; but the florists have discovered long since that seeds derived from show flowers do not produce alpine varieties; and, on the other hand, it is all in vain to hope for edged varieties from the seeds of the alpine section. The general acceptance by the botanists of the proposal of Professor Kerner shows how much they need in their researches the aid of men who have acquired experience in the raising of new varieties of garden flowers, and in the management of garden plants generally.

Parkinson, two hundred and fifty years ago, had a green flower with a purple edge. That must have been in existence long anterior to the writing of the *Paradisus*. It is not extravagant to entertain the supposition that it had been in existence hundreds or thousands of years before. In the same collection were striped flowers, and these appear to have increased until in the early part of the eighteenth century they abounded. Then, again, we hear of an edged flower called Honour and Glory in the year 1732, when Sir Thomas Moore described it. Since then the edged flowers have increased in number, and now constitute a race that has all the needful characteristics of a species. The green has proceeded outwards to the margin and settled there; the stripes have moved in the same direction and formed a ring within the margin; and the farina has accumulated around the centre to form what is termed the paste; while a rich tone of yellow marks the centre, and gives accent to the green of the primal flower, the result being an arrangement of colours in four orderly masses, three of them in circles of definite geometrical proportions.

The Carnation offers a nearly parallel example, for here we see the flakes of the flower moving outward to the edge to fashion the Picotee. It is like the action of centrifugal force, the colours appearing desirous of moving off into space. What is termed the thrum does not appear to demand special notice in connection with the origin of the flower, but I shall not seriously interrupt the study of the subject by remarking that Charles Darwin found the short styled flowers the most productive of seed, and thus the taste of the florist in this respect is in strict accord with the frugal notions of nature. The rich yellow of the thrum is another feature favourable to the flower, which is as hardy and vigorous as any of its kindred, although commonly represented by the traducers of the florists as a debilitated thing that requires a man and a boy to hold it up.

The Auriculas naturally divide into two groups, the Alpines leaning to Primula villosa, the Auriculas to Primula Auricula. There does not appear to be any necessity for the admixture of Primulas that has been hypothecated for the formation of these flowers. The facts of history suggest that in all their more distinctive forms, these two sections represent only two species, and that each in its essential characters is self-contained and self-containing. We have no proof at any time of distinct hybridity, but it must be acknowledged as a fact, favouring the view of a considerable range of parentage, that the allied species breed freely together. The Primulas that most often come into contact with man are, like him, of a sportive nature. The Laced Polyanthus might perplex us with its golden edge, and there are many edged Oxlips in the present exhibition, and some that display stripes and incipient edgings, and that are probably in a condition of change corresponding with the Auriculas of Gerarde and Parkinson.

THE DAFFODIL.*

(Continued from p. 533.)

I NEXT speak of the characters and geographical distribution of several of the wild forms, and I may first remark that our knowledge of wild forms of Pseudo-Narcissus is increasing rapidly, and that every year new varieties are being added to our list, or the true home of some old garden variety is being discovered. N. Pseudo-Narcissus, as a species, is confined to Europe, and extends from the Atlantic on the west, and the latitude possibly of Edinburgh northwards, to about the longitude of Berlin eastwards. It has been reported as native of Hungary and other parts of the Austrian empire as far east as Transylvania, but Herr Willkomon, Prof. of Botany in the University of Prague, has told me that he does not believe it to be indigenous in those parts. It is unknown in Turkey or Greece. Its headquarters may be considered to be the region of the Pyrenees, and it is most abundant in Southern France, Northern Spain and Portugal, and Northern Italy. Whether it extends quite to the south of these latter countries is uncertain. It is convenient to adopt, as Mr. Baker has done, the five species of Linnæus as subspecies or sections under which to classify the known wild varieties. These sections are—1, Pseudo-Narcissus; 2, major; 3, minor; 4, bicolor; 5, moschatus.

I say I adopt these divisions of names for convenience, but I cannot say that they are satisfactory, though I have no better to offer. As the number of wild varieties found grows upon us, we find it more and more difficult to adjust them according to these sub-species. All arbitrary definitions break down. Whether we take colour, or size, or structure, we find from end to end, from the most concolourous to the most bicolorous, from the smallest to the largest, an unbroken series of links, and if we try to make a set of characters to fit particular names, they utterly fail when applied in practice. The minors, the majors, the Pseudo-Narcissus, the bicolors of Portugal, of the Pyrenees, of the Maritime Alps, all differ, and have some characters of one name, and some of another, and I therefore adopt these names, with this proviso, and as having, not only no real limitation as sub-species, but no consistent characters reaching beyond the individual variety we may accept as their type.

As for the first, the Daffodil found wild in England has generally been adopted as the type of the species, and of this section. In Devonshire, where it is most abundant, it varies most in size, in substance of flower, in deepness of colour of the corona, and in width and recurving of its mouth. The corona, however, is seldom much recurved in English varieties. A form now known as scoticus is found in Ayrshire, taller and stouter, and with larger flowers than the type, and earlier in flower, and in its recurved corona presenting a beautiful example of crenation. It is improbable that it is indigenous to Scotland.

I must next mention that I know three places in England, one being in Oxfordshire and two in Dorsetshire, where typical Pseudo-Narcissus grow mixed up with concolorous forms, both white and yellow, presenting similar characters to the type. With them grow others resembling the bicolor section. After cultivating these forms and examining them, I believe that they are due to different varieties of foreign origin, planted together by design or accident, the offspring of which are hybrid. The largest development of the section Pseudo-Narcissus is found in Italy where varieties called Telamonius and princeps are found in the valleys and lower slopes of the Apennines, the former having the most twisted leaf of any Daffodil I know, and the latter the longest corona, sometimes exceeding 2 ins. in length, or more than two and a half times the length of the tube. From the Pyrenees themselves, amongst thousands of Daffodils, I have never received any of exactly the English type, though it may exist there, but the prevailing Pseudo-Narcissus of the lower slopes of the Pyrenees, extending west almost to the sea level near Biarritz, is an elegant very pale early Daffodil, which we have imported under two names, pallidus præcox, and variiformis, the latter name very suitable, as it is a very variable Daffodil both in shades of colour, form of corona, and relative proportions of the parts of the flower. It carries its flowers at nearly every angle to the horizon, and the leaves are distinct in appearance, being hardly at all glaucous. It seems to have been unknown to Haworth, who, in his twenty-nine species of Trumpet or Ajax Daffodil, does not even enumerate any into which it could possibly be made to fit. This Daffodil has scarcely any character which is not inconstant and variable.

The forms included under the second section, major, are mostly concolorous, and of rich yellow. They have often been distinguished as Spanish, but at least one, the spurius of modern gardens, is probably native in Italy, and not yet known to be wild in Spain. The Tenby Daffodil, quite naturalized in South Wales, but of which the true habitat is unknown, belongs to this section. So does that very fine Daffodil, the maximus of gardens, which will probably be found native somewhere either in North Italy or Spain, when the countries have been more closely searched in early spring. The nearest wild approach to this form I have yet seen was exhibited by Mr. Ware last year to the Daffodil Committee. He had received it as collected wild near Saragossa, after which town it has been named. Two or three forms, belonging, I believe, to this section were sent to me last summer by Mr. Alfred Tait, who collected them wild near Oporto. They are tall elegant flowers, with slender and much-twisted perianth divisions, not imbricated, and I think are new to cultivation. They may develop more when I have grown them longer. These double readily when planted in Mr. Tait's garden, and the double form is an ugly monster. Major is rather ill defined as a section.

Of the third section, minor, the assumed type, as recognised, I believe, by the Narcissus Committee has only just now been identified in its wild state; but its exact counterpart in all characters except size, N. minimus, is abundant on mountains in the North of Spain. The variety most common in gardens, now called nanus, though I shall presently give reasons for thinking that the name is wrong, abounds near Bayonne, where the French Botanists call it minor; but the recognised minor, with large lobes, and generally with free divisions of perianth, was found in the Maritime Alps recently by Mr. Scrase Dickins near Grasse. Concolorous and bicolorous forms of it grow there not in separate clumps, but mixed up together in the same clumps, and I have had this season two or three boxes of flowers of it sent to study.

*A paper by the Rev. C. Wolley Dod, read at the Horticultural Club, April 14th.

Of the bicolor section the characters are:—The leaves thick in substance, very broad and large, not acute or tapering, but rounded off suddenly at the ends; it is late-flowering, the corona is cylindrical or ventricose, slightly lobed, and the perianth divisions often large and loose. Two distinct wild forms are well known—1, Lorifolius, which is found in the Pyrenees in North Portugal, and probably in the Apennines; and 2, N. muticus of the French botanist Gay, a very distinct Daffodil, covering hundreds of acres on the French side of the Pyrenees near Garvarnie, and in other parts. It is so distinct in its character that Haworth, though he had never seen living plants, assigned to it a separate genus called Pileus, and divided it into five species. This is the bicolor of some French local botanists, and we do not know yet any wild form which comes nearer the bicolor of gardens, though we may expect to find some. As regards muticus, which is sometimes called abscissus in English Catalogues, the large broad leaves with rounded ends, the straight cylindrical corona, its late flowering, and other characters claim for it a place in this section. It seems strange that so distinct a Daffodil has never been figured in any English work.

The last section, Moschatus, or the White Daffodil, is very interesting. The only form of it we yet know for certain in its own home was rediscovered about six years ago by Mr. E. N. Buxton on the Spanish slope of the Pyrenees whilst chamois hunting, about 6000 ft. above the sea level, near Mount Perdu. It was in May, and at that elevation the flowers were just out. Mr. Buxton at once laid down his rifle, and supplied himself with roots of this new prize, which were the first wild ones brought to England in recent times. Since then this habitat has become known to French collectors, and many thousands of bulbs have been imported thence to England. It has always been supposed that other and larger forms of this section are to be found wild in Spain, but we do not know for certain that any have yet been found, and we want trustworthy information on this point. A character of this section is that the separation of the perianth divisions is marked by a conspicuous line continued nearly to the bottom of the tube. This completes my short notice of the principal known wild forms, but the list of known wild forms will constantly increase, and is growing from year to year. A very distinct variety was sent to me by Mr. Alfred Tait from Portugal early in last month, but not in sufficiently good condition to describe its character. Another remarkable form of Daffodil was sent by the same gentleman with perianth divisions reflexed so as to meet in a point, and with no tube. It is thought to be identical with the N. cyclamineus adopted by Haworth from old authors who figured it. If not a hybrid, it seems to demand a species to itself, for it can hardly find a place amongst N. Pseudo-Narcissus.

I have followed Mr. Baker in adopting Haworth's names, though I feel all the while that several of them are misapplied. It seems inconsistent to adopt an author's names when the characters given by that author to the plants he describes under those names are manifestly at variance with the characters of the plants to which we apply them. For instance, Haworth's N. minor was a flower with imbricated perianth divisions, whilst we now apply it to a flower of which a distinctive mark is its free perianth divisions, and the same inconsistency applies to N. minimus. Again, the N. nanus of Haworth was a pale sulphur-coloured Daffodil with leaves ½ in. wide. Our N. nanus is a full yellow, with leaves narrower than those of minor. I am at a loss to know what variety Haworth intended by the name rugilobus, which he classes under the section Pseudo-Narcissus; but it is now transferred to one belonging evidently to the bicolor section, and identical, so far as I can judge, with lorifolius. The same uncertainty attends several others of the names of Haworth in their recent application.

(To be continued.)

THE POTTING OF PLANTS.

Whether we raise plants from seeds or by cuttings, the manipulation, as regards potting, is a progressive one in bringing them to a state of perfection. The practice in potting plants as regards detail in many instances differ, according to the preconceived ideas of some and the rule of thumb practice of others. There are those who recommend one system which others disapprove, still both may succeed in arriving at pretty nearly the same results in the end. In the successful growing of all kinds of plants, there is an absolute necessity that, whatever the species may be, a knowledge of its general character and requirements are essential to secure a satisfactory issue. Now one of the most important considerations conceivable in plant cultivation (assuming that due regard is paid to the compost) is the drainage of the pots in which the plants are growing, and this is of paramount importance when they receive their final shift in potting. After this has been done, plants have to perfect themselves in the production of both flowers and fruits.

When the plants are shifted into large pots, abundant drainage material is required, so that in the application of water the same may readily percolate the whole mass of soil contained in the pots; it is in this way that the plants obtain their food supply; the water passing through enables the roots to take up and assimilate all convertible matter contained in the soil, and in the course of time the soil becomes exhausted of its convertible constituents, hence the practice and necessity of applying manure in a liquid form, so as to replace and maintain a constant supply of food stimulants to bring the plants into a satisfactory state of fruition, and in effecting this object the drainage of the pots has to play a very important part in the matter. One of the best modes with which I am acquainted, whether the subjects under treatment be Vines, Pines, or Chrysanthemums, Pelargoniums, Fuchsias, &c., or I may say all plants that are designated gross feeders, is instead of using potsherds, as is commonly done, to put a small pot inverted over the large hole in the bottom of the pot into which plants are to be finally placed to finish their work, and to fill the space that surrounds the inverted pot with charcoal and crushed bones. In adopting this plan not only is effective drainage insured, but the roots of the plants have a more abundant supply of food, and the worms, should there be any, are prevented from making ingress to the pots.

Plants rarely do well when worms are located in the balls of earth in which they are growing, and should the plants be large and well grown, it is difficult to expel them unless recourse is had to lime-water, which may not be convenient. When plants are grown in the West Kent garden pots they are more immediately under the control of those in whom the management is vested, and should an examination of the roots be necessary, the work is done with the greatest ease and facility.—*Man of Kent.*

FRUITS, FLOWERS & VEGETABLES.

Keen's Seedling and Black Prince Strawberries.—I can fully endorse the praise a "Surrey Gardener" bestows on the old Keen's Seedling Strawberry, which is seldom seen now, as the rage seems to be for new inferior sorts with striking names, or old sorts under new names, which appear to be more taking to some. Old hands, however, have learnt to stick to the old maxim, "Hold fast to that which is good," a maxim which many of us might follow with advantage. When this variety once establishes itself in a soil suitable to its liking, nothing can surpass it, and for a dry soil it is one of the best general cropping sorts that we have. In the garden in which I served my time it was the favourite amongst many others, and it is so still. Vicomtesse Héricart de Thury seems to be a good sort, and with many it proves so, but I do not think there is such a wide gulf between the two, as it appears immaterial which one of the two anyone may happen to get. As to its being urged against Keen's Seedling that the fruits are of irregular size, I consider this the beauty of a Strawberry, thus showing it to be a free setter. Black Prince was done away with in the before-named garden at the time I was there, more than twenty years since, though it was acknowledged to be the earliest and of good flavour, but was discarded on account of the smallness of its fruits and its requiring three times more ground than Keen's and others to give the same result. I have grown it since, and still see it occasionally, but do not think much of it, except for its earliness. Of course, I am alluding to their outdoor culture. Black Prince, Vicomtesse Héricart de Thury and Keen's Seedling, outside, follow closely upon each other's heels, and from this fact I should infer that the result would be practically the same indoors.—*B. L.*

Keen's Seedling Strawberry.—I wish to support the statement made by a "Surrey Gardener" respecting the merits of this fine old variety. As a forcer it has never yet been surpassed—if equalled. Vicomtesse Hericart de Thury is a good setter, but its acid flavour when ripe renders it unpopular. I am afraid "Surrey Gardener" will eventually abandon Black Prince, as, although very early, it is so very small, and as good useful fruit may be picked the last week in February from robust well-ripened plants of Keen's, I consider the Prince is not worth growing in quantity for forcing. I send you a few fruits of Keen's Seedling, similar to those we have been gathering since March.—*John Crawford, Coddington Hall, Newark.*

The Poinsettia.—Mr. Marsden's paper on the Poinsettia, at p. 536, contains sound information. His mention of pits reminded me that a great deal has been said of late years about growing Poinsettias in cold frames, and so much has been written in favour of such a practice, that last year I mustered up courage to try them in cold frames, but it will take a great deal more than has been written to induce me to try it again. Warm pits or frames with a mean bottom heat of 68° or 70° is the best place in which to grow them; a chink of air at all times in summer and early autumn, and the plants well up to the glass, will insure large well-developed bracts in due season.—*J. U.*

Soot and the Onion Maggot.—Good soot properly applied is a preventive to the attacks of the Onion Maggot; I have proved it to my own satisfaction at all events. I also think it a great pity that it is not more frequently applied to crops in the kitchen garden, for it is one of the best of fertilizers and insecticides. The plan mentioned by Mr. Walker is a good one, but it is open to the objection of requiring valuable space in the houses and also of entailing extra labour in transplanting them at a very busy time. And what should we do for the usual quantity of small onions for salading, &c., in early Summer?—*J. U.*

Gladiolus Colvillii "The Bride."—I can strongly recommend this chaste and floriferous plant to the attention of amateurs for cultivation in pots. If freely supplied with water when in full growth, and kept close to the glass, there is no further trouble with it. Of course the flower spikes must be kept clear of the glass or they will grow deformed. Five corms placed in a 6-in. pot will be quite sufficient, and a compost of two parts loam, one part leaf-mould, and one of sand will suit them admirably.—*J. U.*

Tiger Flowers.—The Tigridias are amongst the showiest of our garden flowers. The new white variety I obtained from Mr. Bull as soon as it was introduced, and was more than satisfied with it; the rich satiny white is set off by the blotches of crimson in the centre, and when a few of them are grown amongst the batch of T. pavonia grandiflora, they have a most telling effect. These plants also do well in pots, and should be taken in hand by amateurs. The soil recommended for Gladiolus will also do well for these, and the same general treatment will suit both. Tigridias are very frequently kept too dry during the winter months, especially if they are stored in a warm house, they then grow "finer by degrees and beautifully less." When stored under such conditions they ought to receive water on an average once a week, but if they are kept in cold frames whilst at rest, then water must be applied more carefully.—*Reader.*

A Perpetual Fruiting Holly.—We have here what I term a perpetual fruiting Holly tree, and the reason I term it perpetual is that for the past ten years I have never known it to be without berries, no matter at what time of the year. Even now it may, I think, safely be considered late to look for Holly berries, but lest you or the readers of The Gardening World may be incredulous, I send you a spray for inspection. The tree is standing amongst other shrubs such as Yews and Laurels, and at this time of the year the bright coral berries are particularly pleasing against their dark green foliage; sometimes I am almost tempted to look upon it as a rarity. Is it so?—*C. C.* [The berries are as bright and plump as in mid-winter. We cannot say if the variety is rare, but it is certainly not common.—Ed.]

Primrose Alice Wilson.—There are so many good varieties of Primroses now that it is exceedingly difficult to obtain a really distinct and meritorious novelty; but this task Mr. G. F. Wilson has accomplished in the production of the lovely variety Alice Wilson, Certificated at South Kensington last week.

The flowers are not so large as some others we have, but the colour is unique, a fine blue-purple, the former tint predominating and giving the flower a very novel appearance. It is, of course, in the style of its parent, Scott Wilson, which is the best of its kind; but around the yellow eye there is a slight ring of reddish crimson that serves to show up the blue shade of the other portion still more, though it is not sufficient to be conspicuous itself. In company with the common Primrose or some of the nearly white varieties, like Harbinger, we should think this lovely Alice Wilson would look uncommonly well.

Peas not Vegetating.—I have been very much annoyed this season by Peas not vegetating, and on mentioning the circumstance to a nurseryman, he said that he had sold hundreds of packets of British Lion and Alfred the Great, and I was the only man who had found any fault. This to me looks curious, because not one seed in ten came up. Another firm supplied me with Stratagem, which are anything but satisfactory; and yet another with Ne Plus Ultra, of which not one plant has ever appeared; whilst my own-saved Peas, William I., Evolution and Webb's Wordsley Wonder, are all perfectly satisfactory. I should like to know if any other of your readers have had a like experience.—*R. Gilbert, Burghley.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—Now that we have really genial weather, let not the free ventilation of the houses be neglected, for pure air is life to the plants. In really fine weather it is a good plan to open wide the doors even of the hothouses for a short time during the middle of the day, as such a course causes the air to be changed in every part of the house, not even the most out-of-the-way crannies escaping. Every portion of the houses under the stages must be kept moist, and in order to economise the rain-water stored in the house, and with which it is so important to water the plants, water for damping-down or cleansing the houses should be brought from some other source. It is better to think of this in time, as the supply of rain-water soon runs out in dry weather if used for all purposes. Any of the plants which have not been repotted, and which, by their growth and pushing root, show that they are ready, should be re-potted or basketed at once, and such plants should above all be protected from the sun's rays.

Any unshaded houses in exposed situations should at once be fitted with roller-blinds of a material adapted to the plants beneath. Nothing pays better or tends more to simplify Orchid culture than careful shading, even the Mexican Lælias, Barkerias, &c., being easier to grow under a thin shading in summer, unless a house can be found for them where the sun's rays are broken by overhanging trees, in which case they require no blind. The fire-heat in the cold houses should be discontinued for the season, and reduced to the lowest possible limit in the other houses.

The Temperatures for the Month of May should be—Warm or East Indian house, 70° to 75° by day, 65° at night; Cattleya or Intermediate house, 65° to 70° by day, 60° at night; Cool or Odontoglossum house, 60° to 65° by day, 55° at night.—*James O'Brien.*

Orchid Nomenclature.—In consequence of a communication from the Council of the Royal Horticultural Society, it was resolved, by the Scientific Committee, on Tuesday, that a sub-committee be formed to co-operate "with the Society's Provincial Show Committee, with a view to the holding of a conference on the nomenclature of Orchids during the Show to be held at Liverpool." The following gentlemen were selected from the Scientific Committee for the above purpose:—Sir J. D. Hooker, Messrs. Ridley, J. O'Brien, and A. H. Smee. It was suggested that Mr. Harry Veitch should be requested to form one of the Committee.

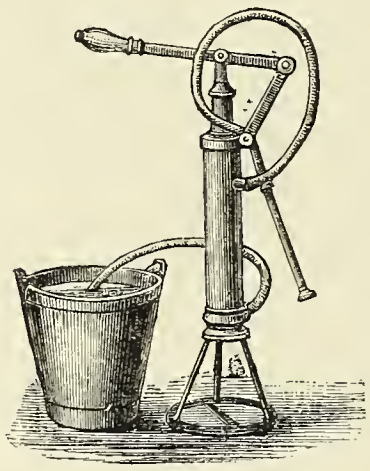
Fumigating Orchid Houses (see p. 509).—The best way of filling an Orchid house with nicotine vapour is to put a brick in the fire, and when it is red-hot to drop it into an old saucepan in which has been placed a pint of Tobacco juice. In about three or four minutes a small house will be filled with Tobacco vapour, which will kill all your insects without in the least injuring any plant, flower, or bud. This is the way we now treat our houses.—*Otto Ballif, Argenteuil.*

[With the preceding note from M. Ballif, who has charge of M. Godefroy-Lebeuf's collection of Orchids, we received a copy of a recent number of the *Moniteur d'Horculture*, in which our correspondent, after mentioning the various plans adopted for raising vapour in the houses, all of which were objectionable in some way or other, states that he was recommended to try the red-hot brick by an old practitioner in the neighbourhood of Paris, and it succeeded marvellously.—Ed.]

The Lovatt Collection.—At the first day's sale of this collection, which took place at Stevens' Rooms on Wednesday, first-rate prices were obtained for the choicer lots. The highest bid made during the afternoon was £78 15s. for a plant with 13 leads of Cattleya Warneri, "extra fine, large dark variety." A grand specimen of Cymbidium Lowianum realised £73 10s.; and an extra fine broad petalled variety of Lælia purpurata, with about 50 leaves, fetched £56 14s. Other notable prices obtained were 10 guineas for Epidendrum prismatocarpum; £44 2s. for Cattleya Mendeli; 15 guineas for Dendrobium Ainsworthi; £10 for Masdevallia Harryana; 17 guineas for Oncidium macranthum; £11 for Brassia Lawrenceana; 19 guineas for Cœlogyne cristata, Chatsworth variety; and 12 guineas for Cattleya crispa majus.

A NEW SPRAY PUMP.

To facilitate the distribution of that admirable insecticide, Fir Tree Oil, in large houses, Mr. E. Griffiths Hughes, of Victoria Street, Manchester, has recently introduced a new form of spray pump, which



Hughes' Spray Pump.

having had an opportunity of testing, we can heartily recommend as a good article, not alone useful as an effective and economical distributor of insecticides, but for ordinary syringing purposes. With the exception of the two pieces of flexible tubing, the pump is made of brass and neatly finished, and the arrangement of the handle is such as to give the operator much greater power over the pressure than was the case with the older forms of pumps of this character, and the adjustment of the jet and nozzle is so nicely arranged that the spray is perfect.

SOME CHOICE SPRING FLOWERS.

I am afraid that the number and glorious auriferous glare of the Daffodils at a late meeting of the Royal Horticultural Society served to put in the shade the pretentions to notice put in by many charming hardy plants scattered up and down the tables. One saw little else but gold and yellow, from the splendid specimen of Oncidium Marshallianum, shown by Sir Trevor Lawrence, down to the humblest Daffodil that appeared among the many thousands of blossoms. It was a day of Daffodil worship; if a visitor attempted to look at anything else he was instantly buttonholed by an enthusiastic member of the Daffodil Committee, and asked if he believed that the group of Daffodils comprehended in the Magnicoronata of Baker are identical with the Ajax of Haworth, and the Pseudo-Narcissus of Parkinson, or whether the Swan's Neck Daffodil was properly called Peter Barr, seeing that he, worthy fellow that he is, by no means sports a masher's style of collar.

Take the beautiful Anemones, A. coronata, several groups of which were shown. Why are they called Wind Flowers? Pliny tells us the Anemone was so named because it never opens but when the wind is blowing. Another authority states that the English name of Wind Flower seems to have been given to the Anemone because some of the species flourish in open places exposed to the wind, before the blasts of which they shiver and tremble in the early spring. There is a curious myth attaching to the Anemone. It is said by Brow to have sprung from the tears that Venus wept over the body of Adonis, a story that seems to suggest that the tears of that frail and loving goddess were soon blown away. All sorts of fancy names are now given to these Anemones—Poppy Anemones, French Anemones, &c.—but they are still the Wind Flower, of half century ago, and well deserving a place in the garden.

Great quantities of Anemones are grown in Holland, double and single, and they come to this country in the form of dry roots in autumn with the other Dutch bulbs. Some really good varieties can be obtained in this way, and if seeds are saved of some of the best of them, the foundations of a fine collection are soon raised. Seeds can be sown in spring, in a shallow box or pan, using a light sandy soil, and be placed in a cold frame or any suitable place where it can be shaded from the sun by day and kept fairly moist, The seeds will soon germinate, and when the plants are strong enough they can be planted out of doors in a prepared bed, and if carefully looked after, many of them will flower next spring. The beautiful scarlet Wind Flower was very attractive. It is the richest scarlet, and the most beautiful and graceful of all winter and spring-flowering plants. This is so cheap as to be within the reach of all, and as the roots can be had in September, if planted early the flowers may be gathered from Christmas, and by successional plantings from August until May, a continued display can be made, but such a prolongation of bloom is only within the reach of those who have a large collection. A. blanda, the winter Wind Flower, was very pretty also; it has deep lilac-blue flowers, and it blooms in the very dawn of earliest spring. A. pavonina, the Peacock Wind Flower, was also to be seen. The flowers are smaller than those of the common garden Anemone, but usually very double from the great number of narrow-pointed petals filling up the centre of each. Sometimes the central petals are green Its usual time of flowering is in May.

Some pretty species of Fritillaria were also present, among them F. Thunbergi and F. tristis, a curious species with small elegant black flowers and slender stem. There was Ophrys arunifera and O. arachnites, representing the Bee-Orchis, curious and interesting plants. Sisyrinchium grandiflorum was there, with its large purple bells springing from grassy tufts in early spring, and its white variety, album. Others were Gladiolus Watsonianus, crimson; Orchis longiflorum and O. pauciflora, the rose-coloured giant Dog's-tooth Violet, Grape Hyacinths in variety, Trillium ovatum, Tulipa Clusiana and T. Greigii, Triteleia uniflora, and the beautiful Freesias, F. Leichtlini and F. refracta alba.

I did not take down the names of all the species and varieties, but simply those which appeared to be the pick of them. Would that they were more grown; but most of them are not everybody's flowers, and in these days the tendency generally is to grow subjects of easy culture and which cause the least trouble.—*Q.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

By this time the Alocasias which were placed in heat will have started well into growth, sufficiently so to select those of the Machroriza variegata var. for potting on; in doing this, and where good variegation is desired combined with a good specimen plant, care must be exercised. If the third leaf is more than half variegated, it will be a rather difficult matter to grow it successfully, but if rather under half variegated a good plant is certain to follow ordinary treatment. These plants when well grown are very valuable for staging in conservatory groups during the summer, and the pleasing green of their bold foliage is a great relief to Palms and Ferns.

Poinsettias must be looked to, and brought into some position where they can be syringed to excite them into

growth. Where it is necessary to increase the stock, it should be done either by means of eyes, which may be made similar to those of the Dracæna, and inserted thickly in the pot and placed in a brisk bottom heat, keeping them rather dry than otherwise until they fairly start into growth. The old plants may be headed down quite close, but no water need be given for a few days at least. Take care that they are not allowed to make much growth before they are shaken out—and repotted, of course, into smaller pots—placing them where they can be shaded in a nice growing atmosphere, and when they have started they may be placed in the pits and kept as near the glass as possible; as the days lengthen and become warmer plenty of air should be given and the plants syringed freely. Many growers plant them out on a warm border during the summer, but with us the plan does not succeed.

As the plants of Solanum are removed from the conservatory or decorative house, they should be headed down and placed in the cold frames where they will have time to start preparatory to being planted out for the summer. Callas, too, can now be spared and stowed away, gradually withholding water until they are planted out; these require a rather cool and moist position. It is also preferable to divide them at planting-out time rather than have to disturb them too much when potting up in the autumn. Keep the bedding stuff well ventilated preparatory to being placed out of doors, removing the lights as much as possible during the day; damp down and syringe freely in the stoves.

THE FORCING HOUSES.

With cold drying winds, and high firing to maintain the proper temperature, great care will need to be exercised in the way of watering and damping down, more particularly in the Vineries. If the borders are well drained, no fear need be entertained of giving too much; in fact, could it be ascertained, the fault lies, as a rule, in the opposite direction, and very frequently the cause of failure to obtain good Grapes lies in their water supply being insufficient. For my own part I think it would be difficult to give too much, always provided the borders are well drained.

The Muscats in flower will need a lot of attention to secure a good set, more particularly as with the cold winds so little air can be admitted. Be extremely careful that the house is as dry as possible for three or four hours about mid-day, and go carefully over the bunches with the rabbit's-tail brush. So far, we have an abundance of pollen, and all look to be going on satisfactorily, but however satisfactory it may appear, it behoves one to be extremely careful at "setting" time with this queen of Grapes. Keep the Peach borders well attended to in the way of watering, but as they are generally of a heavier nature than those of the Vine, such frequent applications at present may not be necessary. Nevertheless, where borders, as is frequently the case, are much restricted, more must be given, and it is also much better to flood the borders than water with the cans. Now and again, both with the Vines and Peaches, a good sprinkling of guano on the borders at closing time will be of the greatest assistance to the occupants.

Melons are now growing away freely, and in most cases showing an abundance of fruit, some of which we have set. The succession lot are also making a good start, and another sowing must be made, or just when Melons are most in demand there will be a break, which is an awkward matter sometimes; it is much better to have a set or two of plants to throw away than to be at a loss. Cucumbers require now an abundance of liquid manure; stop hard, and when the plants show signs of exhaustion replant the house, and a much better return will ensue.

THE KITCHEN GARDEN.

The spring-sown Cauliflower and Brussels Sprouts have now made a good start, and the lights will be removed from them to keep them as stocky as possible; the ground having been prepared for them, they will be transferred to their permanent quarters as soon as large enough; also the early batch of Celery. We are now pricking out our main batch on a sheltered border outside, where it can be covered in case of frosty nights, by this means much more sturdy plants are obtained than if in pits or frames.

Keep the ground between the rows of all crops frequently stirred about with the Dutch hoe, more particularly between the Lettuce; as slugs appear unusually numerous, we have applied a good dusting of gas-lime, always with the best results. If not already done, pot off the seedling Rhubarb singly into 4 in. pots, keep close for a few days, after which harden off preparatory to planting out; we have marked our stools for next seasons forcing, and since we adopted the seedling plan have no difficulty in getting plenty of Rhubarb at the beginning of December. A good dusting of soot and lime along the rows of Peas, before the soil is drawn to them, will be of great benefit and keep slugs away. Make another sowing as soon as necessary, choosing ground, if possible, which has been double-dug this season; take occasion during this stormy weather to use the roller upon the walks as frequently as possible.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*April 27th.*—A singularly bright and pleasing little show was that held at South Kensington on Tuesday, and favoured with more genial weather, we were pleased to see a greater number of visitors enjoying the floral feast. Daffodils again formed the bulk of the flowers staged, and a surprising amount of interest seemed to be taken in all the collections, the exhibitors of which were Mr. T. S. Ware, Messrs. Barr & Son, Messrs. Collins Brothers & Gabriel, and Mr. Walker, of Whitton. Mr. Ware also contributed a charming group of hardy plants, including several varieties of Primula Sieboldi, and a pan of Anemone Robinsoniana, a mass of delicate mauve coloured flowers, which was admired by all. Messrs. Paul & Son, the Old Nurseries, Cheshunt, sent another beautiful group of Roses, mostly Standards, with fine trained heads of flowers and foliage, of the leading varieties of Teas which seem more adaptable to this mode of treatment than the more robust Hybrid Perpetuals. The Messrs. Paul also contributed a select group of Herbaceous and Rock plants, conspicuous among which was a good form of the showy Doronicum austriacum, several pretty mossy Saxifrages, and the rich coloured Aubretia deltoidea grandiflora. Mr. J. Walker, of Thame, brought up a superb lot of cut blooms of Roses, consisting of Marechal Niel, in quantity and very fine, Niphetos, and other leading varieties. Messrs. W. Cutbush & Son, Highgate, staged an admirable assortment of flowering greenhouse plants, such as several varieties of Erica, Boronias, Tetretheca, Staphylea colchica, Choisya ternata, forced Lilacs, &c., and various old-fashioned hard-wooded plants now too little grown. Mr. G. Stevens, nurseryman, Putney, had a very fine lot of small well-matched and freely-flowered Abutilions, including all the best varieties in cultivation; and Mr. H. B. May, Dyson's Lane, Edmonton, contributed a large and effective group of small decorative Ferns, such as he grows on an extensive scale for market, and which included a host of seedling forms of that most useful variety, Pteris serrulata cristata. From Mr. B. Gilbert, florist, Dyke, Bourne, came some very fine richly-coloured flowers of the old double scarlet Anemone, or what the French call Double de Caen. Mr. G. Bethell, gardener to the Duke of Marlborough, Blenheim, showed a large well-bloomed specimen of Epidendrum leuchochilum, with fourteen spikes, and was awarded a Cultural Commendation. Messrs. J. Page & Sons, Twickenham, sent a neat white variety of Odontoglossum crispum; and Major Lendy, besides a flowering specimen of Oncidium undulatum, and a very fine new variety of Cattleya Mendeli alluded to below, had a spike of Cattleya Lawrenceana, with six flowers a good variety of Odontoglossum Wilckeanum, &c. Messrs. T. Cripps & Sons, Tunbridge Wells, also sent Cattleya Lawrenceana in flower. Mr. Sidney Ford, Leonardslee, Horsham, showed a leader of Wellingtonia gigantea bearing numerous cones; and Mr. R. Dean staged a pretty group of Primroses and Polyanthuses.

In the new plant department, First Class Certificates were awarded to Major Lendy, Sunbury House, Sunbury-on-Thames, for Oncidium undulatum, a fine specimen of this showy orchid, with one strong branching spike of flowers, in which olive-green in two or three shades, white, and a tinge of violet, are very prettily contrasted; and for Cattleya Mendelii Lendyana, one of the largest and finest varieties we have seen, remarkable not only for the size and substance of the sepals and petals, and the rich colour of the lip, but for the length of the throat of the latter, which is much greater than usual, and gives to the flower a more massive appearance. To Mr. J. Linden, Ghent, and Mr. Gilbert, gardener to R. B. White, Esq., Earlsfield, for Cypripedium Hyeanum, an alleged hybrid, in habit of growth resembling Lawrenceanum, but having large olive-green flowers, with the dorsal sepal white, striped with the same shade of green. To Messrs. F. Sander & Co. for Odontoglossum luteo-purpureum leucoglossum, a very fine large flowered variety, of a rich chestnut-brown colour, sepals and petals yellow at the base, and the lip broad, fringed, brown in the centre margined with pale yellow. To Messrs. James Veitch & Sons, for Amaryllis King of the Crimsons, of medium size, and rich glowing crimson colour; for Amaryllis Duchess of Albany, deep crimson, barred with white; and Amaryllis Duchess of Edinburgh, a handsomely shaped flower, tinted white, with crimson venation. To Mr. H. B. May, Dyson's Lane, Edmonton, for Pteris cretica var. H. B. May, a seedling variety of the albo-lineata type, but crested; a distinct neat compact habited plant that promises to become a useful decorative subject. To Mr. R. Ruffett, gardener to Earl Cowper, Panshanger, for Beaumontia grandiflora, a noble East Indian shrub, with large elliptical leaves, and large white fragrant bell-shaped flowers, closely resembling those of a Brugmansia in appearance. A grand old plant seldom seen in flower. To Mr. R. Dean, Ealing, for a very fine Jack-in-the-green Polyanthus named Crimson Beauty, in which the rich crimson blossoms are backed up by a large green calyx. To Messrs. Paul & Son, Cheshunt, for H.P. Rose Gloire Lyonnaise, the "new yellow H.P.," which is yellow only in the eyes of its French raiser, being white faintly flushed with lemon. To Mr. T. S. Ware, for Narcissus Henry Irving, an attractive variety with the perianth divisions yellow, and the trumpet of a rich golden hue; and for Narcissus Nelsoni aurantius, a very pretty form, with small pale orange corona, and the divisions of the perianth white. To Messrs. Barr & Son, for Narcissus Leedsi var. C. J. Backhouse, a fine variety with a bright orange crown, and yellow perianth divisions; and for Narcissus Leedsi var. Duchess of Westminster, also a notable form with lemon coloured corona, and the perianth divisions white. Mr. J. H. Krelage, of Haarlem, sent a batch of broad leaved seedling Fritillarias, three of which were selected for Certificates, though we cannot say that they deserved them. The selected varieties were E. H. Krelage, Siege of Haarlem, and Van Lerius.

At the meeting of the Fruit Committee, Messrs. Carter & Co. exhibited samples of a large-growing long red Radish, named Knickerbocker, which were said to be fleshy and of good flavour. It was referred to Chiswick for trial. Mr. Crump, The Gardens, Madresfield Court, Malvern, sent some good samples of the Newland Sack Apple, which he described as being the best and largest of the late-keeping varieties grown at Madresfield, and a certain cropper. The Committee formed a high opinion of the variety, which does not appear to be much known out of the Malvern district.

Obituary.

The death of Mr. Andrew Turnbull at the Garden House, Bothwell Castle, on the 18th inst., has removed a well known figure from the horticultural world of Scotland. Mr. Turnbull was born at Legerwood, Berwickshire, January 18th, 1804, and served his apprenticeship at the Haining, near Selkirk. In the year 1821 he removed to the Duke of Buccleuch's gardens at Dalkeith, then under the able management of Mr. McDonald, who soon discovered that in young Andrew Turnbull he had an assistant of rare value. He soon promoted him to be foreman in the plant department, and in due course to be general foreman, and the writer of this obituary notice had it from Mr. McDonald's own lips, that of the hundreds of such men that had passed under his charge, he never had a better than Andrew Turnbull. His expression was, "Whatever you placed under Andrew's charge was sure to be well attended to." When Lord Archibald Douglas succeeded his father in the Douglas estates, he applied to Mr. McDonald for a gardener for Bothwell Castle, and he recommended young Turnbull, who entered on his duties in 1828, and no man ever more faithfully discharged them than he did, gaining the high esteem and friendship of six successive employers, including the present Earl of Home. All these noblemen and noble ladies, including the present Earl, were exceptionally kind to everyone employed on their estate, and Mr. Turnbull, while exacting justice for the employer, was an excellent exponent of the latter's kind feeling for the employed, thus retaining the respect and esteem of both.

When Mr. Turnbull entered on his duties at Bothwell Castle it was then the leading garden in the west of Scotland; there were then few great gardens as we know them now. Bothwell Castle was, and is now more than ever, surrounded by mining and manufactures, and its noble proprietors in consequence did not add to the glass structures, as in other circumstances they would have done, the result being that in that respect it fell behind many gardens of the present day; but for a well managed kitchen garden, for its collection of hardy herbaceous plants, and for its Heaths, it had few equals. It is generally known that Mr. Turnbull raised more fine seedling Heaths than any man, and that of these plants he was a most successful cultivator.

When Mr. Turnbull began his career at Bothwell Castle he first directed his attention to improving the herbaceous Calceolaria with eminent success. His Lord Douglas, a splendid large purple flower now lost, has never had an equal of its colour. When the writer had the good fortune to enter under Mr. Turnbull, in 1832, he was just beginning to raise seedling Heaths, and he has continued to do this up to a very recent date. When I heard from him a few weeks ago, he remarked that he had taken advantage of the bad weather to get most of his Heaths shifted and staked. I replied a week ago sending him some blooms of a new Orchid he was anxious to see, but never heard from him again, thus closing a correspondence that for forty-nine years has been uninterrupted.

Mr. Turnbull was one of the first cultivators of Orchids in Britain, and though his facilities were small he grew some remarkable specimens, one of which is at this moment the finest probably in Europe—I refer to his grand plant of the autumn-flowering Cattleya labiata, which for forty years has produced from eight to twelve spikes of bloom annually.

For a number of years Mr. Turnbull has had charge of the whole grounds, including the farm at Bothwell Castle, which he has managed with that upright honest fidelity to his employer that was a striking characteristic of his nature. If he abhorred anything it was double dealing of any description. His was a soul of transparent honesty. Mr. Turnbull was never married, a most excellent sister kept his house till her death some twelve years ago. He had saved a little money which he lost in the City of Glasgow Bank when it failed. The writer went to see him on that sad occasion, and found him as brisk and cheery as ever, and as ready with a joke. No man had a keener appreciation of a well-told amusing story, or could laugh more heartily at one. His word was his bond in all things, and take him all-in-all he has left few his equals. His remains are interred at Bothwell Churchyard beside those of his sister and brother.—*W. T.*

Thomas Edwards, of Banff, the naturalist, who became famous through having the story of his life written by Mr. Smiles, died at his residence in Banff on Tuesday last. Edwards was seventy-two years old, and had for several years enjoyed a pension of £50 from the Civil List.

QUESTIONS AND ANSWERS.

Boxes *v.* Pots.—*S. C.:* To a great extent it is a matter of fancy; but for our own part, we prefer the shallow boxes, as the seedling plants pricked out in them always seem to do better than those put in pots.

Auriculas.—*Young Florist:* The best time to fresh pot them is immediately after they have done flowering this month; and from the present time to the end of September they should be kept on the north side of a wall or high fence.

Chrysanthemums.—*F. T.:* They will be quite safe outside now, but if you can put a light over them at night, for a week or two yet, it will be all the better.

Books.—*Young Gardener: The Gardeners' Assistant* is an expensive book, we admit, but it is worth the money, and you should endeavour to get it if you can, in preference to buying cheaper works.

Basket Plants.—*Flora:* For indoor culture, the trailing Campanulas, Tradescantia discolor, common Musk, Mother of Thousands, Saxifraga sarmentosa, Vinca major elegantissima, Chlorophytum orchidastrum; and among Ferns, Asplenium bulbiferum. For outdoors, all the small-growing Ivies are available; and the Moneywort, Lysimachia Nummularia, and its golden-leaved variety; and the common Periwinkle, are easily managed and suitable subjects. See a note on this subject in our number for March 13th.

Communications Received.—W. B. H.—St. Brigid.—J. R.—W. P.—J. T. P.—W. C.—T. Robson.—J. C.—Gosford.—X. Y.—H. A. C.—F. K.—J. R. T.

TRADE CATALOGUES RECEIVED.

William Bull, 536, King's Road, Chelsea, S.W.—New, Beautiful and Rare Plants.

Henry J. Jones, Hope Nursery, Lewisham.—Select List of New and Good Plants, Seeds, &c.

W. B. King & Co., Wherstead Road, Ipswich.—Universal Horticultural Manures, Fertilising Moss, &c.

James Cocker & Sons, Sunnypark, Aberdeen. — Florist's Flowers.

LONDON SEED TRADE.

April 28th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a very small attendance on Market to-day with proportionate business doing. Clovers of all kinds continue firm at the very low values which are now ruling, but the demand is decidedly slow, in fact, buying from hand to mouth seems to be the order of the day. English Red of the lower qualities is plentiful and difficult to place; the higher grades, however, are still in moderate request, and command full rates. The trade in Grasses is more brisk, both Italian and Perennial, also Natural Grasses for permanent pastures are moving off in considerable quantities, but there is no change in value. Spring Tares are now scarce and getting dearer. Lucerne firm. Canary and other Bird Seeds unchanged.

COVENT GARDEN MARKET.

April 29th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
New Grapes ..per lb.	3 0	8 0	Pears .....per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Strawberries ..per lb.	2 0	6 0
Pine-apples, Eng., lb.	1 0		Canadian Apples, brl.	12 0	21 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0	3 6	Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 6	5 0	Onions, per bushel ..	5 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket..	2 6	3 6
Endive, French, doz.	2 6	3 6	Spinach, per strike ..	2 0	
Herbs, per bunch....	0 2	0 4	Tomatos, per lb.	3 0	4 0
			Turnips, per bunch ..	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, 12 b.	3 0	6 0	Narciss, various, per dozen bunches	2 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums, per 12 sprays	0 9	1 0
Azalea, 12 sprays....	0 6	1 0	— scarlet, 12 sprays..	0 4	0 9
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	1 0
Camellias, 12 blooms.	1 6	4 0	Primroses	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primroses, dble. white	0 9	1 6
Cyclamen, 12 blooms.	0 4	0 6	Roman Hyacinths, 12 sprays	0 6	1 0
Daffodils, 12 bunches..	0 6	6 0	Roses (coloured)	2 0	6 0
Eucharis, per dozen..	6 0	9 0	Roses, Tea per dozen	0 9	2 0
Gardenias, 12 blooms.	1 0	4 0	Spiræa, doz. bunches	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Hyacinths (Dutch), per box	1 6	5 0	Tuberoses, per dozen.	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	Tulips, 12 blooms....	0 4	0 6
Lilac (French), bunch	2 0	7 0	Violet, 12 bunches ..		
Lilies, 12 sprays	0 6	1 6	— Parme.....	4 0	6 0
Marguerites, 12 bun...	4 0	8 0	White Jasmine, bun.	0 6	0 9
Mignonette, 12 bun...	3 0	9 0			
Narciss, 12 bunches..	2 0	6 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Genista, per dozen ..	8 0	12 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen ..	24 0	42 0	Hyacinths, per doz...		
Begonias, per dozen..	6 0	12 0	Lilies of the Valley, pots, per dozen....	12 0	24 0
Cineraria, per dozen..	6 0	10 0	Marguerites, per doz.	9 0	12 0
Cyclamens, per dozen	12 0	24 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen ..	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz..	30 0	60 0	Pelargoniums, doz .	9 0	18 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	4 0	8 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen....	9 0	15 0
Ferns, in var., doz. ..	4 0	18 0	Tulips, per dozen pots		
Ficus elastica, each..	1 6	7 0			
Foliage Plants, various, each.....	2 0	10 6			

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	s.	d.
12 DISTINCT GOLDEN TRICOLORS, to include Masterpiece, Prince of Wales, &c.	3	0
12 DISTINCT SILVER TRICOLORS, to include Mrs. Laing, &c.	3	0
12 DISTINCT SILVER VARIEGATED, to include Mrs. Carr (double pink), &c.	2	6
12 DISTINCT GOLD AND BRONZE, to include John Jenner Wier, MacMahon, Exquisite, &c.	2	6
12 DISTINCT DOUBLE AND SINGLE IVY-LEAF, to include Gloire d'Orleans and Madame Crousse ..	2	0
25 ZONALS AND NOSEGAYS, to include Henry Jacoby, Mrs. Gibbons, Eureka, Niphetos, &c.	3	0
25 GOOD VARIETIES NAMED FUCHSIAS	3	0
25 ,, ,, ,, COLEUS	3	0
12 ,, ,, ,, DOUBLE PETUNIAS	2	0
25 ,, ,, ,, CHRYSANTHEMUMS	3	0
25 HELIOTROPE, in sorts	4	0

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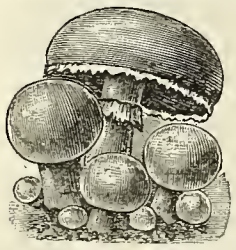

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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on Tuesday next, May 11th.
FIFTH PROMENADE SHOW.

CRYSTAL PALACE GREAT FLOWER SHOW of season, May 21st and 22nd.
For Schedules, apply W. G. HEAD, Superintendent.

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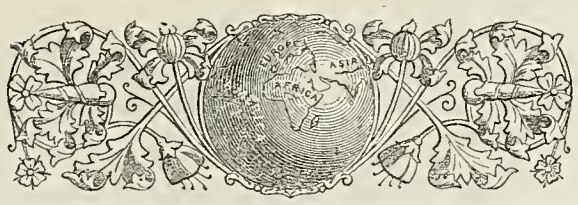


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, MAY 8, 1886.

Practice with Science.—We have on more than one occasion recently drawn attention to the formation at Birmingham of a Mutual Improvement Society, the members of which are the gardeners of the locality. The society has been in existence only a few months, and is consequently still in its infancy; but there are many indications visible to the quiet observer that there is abundant vitality in it, and every reason for hoping that it will be long-lived. There are already 200 members, who subscribe 2*s.* 6*d.* annually; and contributions amounting to upwards of £50 have already been received from friends of the society for the purchase of books, so that in a very short time the gardeners of Birmingham will be in possession of a library of their own, which will, no doubt, consist of books of special interest to them, as there will be no need to spend anything on general literature, the free lending libraries of the town supplying such books in ample abundance to meet every inhabitant's requirements.

So far the meetings of the society have been chiefly occupied with lectures delivered by local men; the average attendance of members being about 100. The first was by Mr. A. W. Wills, a well-known amateur, and a man of science, his subject being "The Mutual Relations of Plants and Insects." The next by Professor Hillhouse, M.A. (Mason's College, Birmingham), on "The Scientific Value of Gardeners' Experience." The third was by Mr. J. W. Oliver, on "Leaves and Roots—their Relations to the Air and Soil." The fourth was by Mr. W. Dean, entitled "A Fifty Years Retrospect of Horticulture." The last lecture for the session was delivered by Mr. Edward W. Badger, F.R.H.S., his subject being "Practice with Science." The lecture was chiefly addressed to the younger members, in the hope of stimulating them to be something more than mere routine gardeners. The value of theoretical knowledge was forcibly set forth, and the way to obtain it indicated at some length. The merely practical gardener, familiar with the "how" of gardening, was urged to strengthen his position, and enlarge the range of his knowledge by learning the the reasons for all his operations; in other words to make himself as familiar with the "why" as he is with the "how" of gardening. The value of such knowledge was illustrated by explanation of the uses of and reasons for a series of the most familiar instances of garden operations, the aim of the lecturer apparently being to enforce his recommendations of combining practice with science, by showing that a scientific principle underlies every practice of the gardener's art; and how much more interest will be taken in his work by an intelligent man who does everything as the result of reasoning rather than merely because it is the usual way to do it. No attempt was made to glorify scientific at the expense of practical knowledge; on the contrary, the value of practical experience was fully recognised, though at the same time it was shown how much light is thrown upon it by sound scientific knowledge. A very useful part of the lecture was the list of books recommended to the young student, Mr. Badger not contenting himself with the bare mention of their names, but giving a general notion of their contents, and suggesting the order in which they should be studied.

We understand that when the meetings of the society are resumed in the autumn the business will include the reading of practical papers on cultivation by the members, and the exhibition of specimens illustrative thereof. Discussions on these papers will invariably ensue, and the results will no doubt be very beneficial. We heartily congratulate the members of the Birmingham Society on their success so far, and on the bright prospects of their future.

GARDENING MISCELLANY.

Meetings for next week.—*Tuesday:* Royal Horticultural Society, meeting of Fruit and Floral Committees.—*Wednesday:* Exhibition of Orchids in the Birmingham and Edgbaston Botanical Gardens (two days).—Opening of Mr. B. S. Williams' exhibition of Orchids and other plants, at Holloway.

Messrs. W. Richardson & Co., Darlington, were awarded a Silver Medal by the Society of Architects, at the recent Architectural and Building Trades Exhibition in London for their Patent System of Ventilation applied to Horticultural Buildings.

Mr. Angus MacLeod, late foreman at Wemyss Castle, Fifeshire, has been appointed gardener to the Marquis of Headfort, Headfort House, Kells, Co. Meath, in succession to Mr. Ireland.

Mr. B. S. Williams will open his annual exhibition of Orchids and other flowering and fine-foliaged plants on Wednesday next, and from that date to June 26th will maintain a display which, judging by his previous achievements, will be at any time worthy of a visit.

Late Daffodils.—The blooming season is this year being considerably extended. Recently, when looking over some large patches of the common Poeticus, growing in a market garden under trees, it was seen that though there were plenty of buds there was not an indication of one of them expanding, and the double white Narciss is later still in the same garden. Doubtless the cold weather—treacherously cold at nights—is having a retarding influence, indeed, it is keeping many things back. There is a danger that it will dry up some of the blossoms of the fruit trees, from

which cultivators are expecting so much this season. Alas! in gardening matters there are so many things beyond the control of human agency.

Begonia growers may be interested to know that the earliest batch of plants in the Forest Hill Nursery are just coming into bloom. Already conspicuous among the singles are those fine varieties, Princess Victoria, Lady Lewisham and Golden Gem, very fine; while in doubles, Little Beauty, Marquis of Stafford, Marquis of Bristol, and Louis d'Or, are in rare form. If Messrs. John Laing & Co. carry out their present intentions, we shall see these flowers at Forest Hill next autumn in such numbers as have never been seen before.

A New Park for Sheffield.—The Corporation of Sheffield has just acquired the beautiful piece of woodland on the south side of the town, known as the Endcliffe Wood. It is intended to lay this out for the use of the public, and as it is within a mile of the centre of the town and easily accessible, it will be a boon to the townsfolk, Sheffield not being too well off in the matter of public parks. The Endcliffe Wood occupies the slope and valley near the Botanical gardens, and is nearly a mile in length. The slope is covered with large trees, chiefly Oaks, and the river Porter runs along the valley, and in its course works three old water wheels, one of which will be retained as a picturesque object; in fact, it is intended to preserve, as much as possible, the rusticity of the place. Broad walks will traverse the wood and rustic bridges will span the stream at various points, while along the boundary will be a carriage and foot way 75 ft. wide, planted on each side with trees. The dams, which have worked the water-wheels, will be converted into lakes for bathing, skating and water-fowl, and the outlets will be transformed into waterfalls, there being a fall of some 80ft. or 90 ft. in the course of the stream between one end and the other. The natural beauty of the woodland is such that, when embellished a little, few towns will be able to boast of such a delightful public park as Sheffield. The work of laying out the place has been entrusted to Mr. William Goldring, of London.

Scottish Horticultural Association.—At a meeting of this Association held on Tuesday night at 5, St. Andrew Square—Mr. Milne, President, in the chair. The Secretary read a paper by Mr. W. H. Divers, Kettou Hall, Stamford, on the "Culture of the Double Varieties of Primula sinensis." The Double Primula is the most useful plant we have for winter flowering, and he thought that in a very few years, when its culture was better understood, it would be very largely grown by persons who had a large supply of flowers to maintain during the winter months. The old double white, or alba plena, was used, when cut, for wreaths, vases, bouquets, button-holes, and sprays. He thought the reason why it was not more extensively grown was, that it had obtained a bad name with many on account of failures in propagating it, as it would not strike under the treatment given to ordinary succulent plants. A discussion on the paper followed, and it was resolved to send a letter of thanks to Mr. Divers. Mr. Tod afterwards read a paper on "The Flowers that Bloom in the Spring." Those flowers, he said, were peculiarly fitted to rouse poetic ardour, notably the Snowdrop and Primrose, the latter of which was threatened with extinction owing to its vulgar popularity as a political emblem.

MR. BULL'S ORCHID SHOW.

When, a few years ago, shrewdly noting the signs of the times, and especially the waning interest taken in the leading Horticultural Society, and the consequent falling off in the size and quality of its exhibitions—Mr. William Bull determined to hold an annual exhibition in his own nursery; few could have anticipated the remarkable development of the idea that has since taken place; or have had even the faintest notion that such a superb display, of one tribe of plants, could be made by any one man for such a lengthy period as from the first week in May to the last week in July; indeed, that such a venture should be attempted, let alone be successfully carried out, speaks volumes for the enterprise of the Exhibitor, the resources of his establishment, and the wonderful wealth of beauty to be found among Orchids—the nobility of the Floral World.

Regarded from whatever point of view—artistic, cultural, or instructional—each of the preceding displays seemed to be as perfect as man could wish them to be, and yet to our mind the present eclipses them all. The general style of arrangement adopted is the same as before—that is to say, the colour effects are brought out strongly by the judicious admixture of Ferns, small Palms, and other foliaged plants of a handsome character; and we have the same extremely useful groups of well marked varieties of individual species; but we note fewer masses of any particular kind of Orchid, and this we regard as a prominent feature of the present exhibition—it is composed of a greater number of genera and species, and is, besides, richer in fine varieties or types of well known plants. In this respect we may indeed, appropriately use a florists phrase, and say "its all quality," for in no other words could we adequately convey an idea of the perfect beauty of the flowers themselves, and the exquisite taste displayed in their arrangement.

Entering the exhibition house from the grand conservatory,—which has supplied the handsome Tree Ferns which adorn the conservatory attached to the Queensland court at "The Colonies," without their being missed here—the visitor is at once arrested by the marvellous beauty of a group facing the door, of various forms of Odontoglossum vexillarium, dotted with Masdevallias of dazzling colours, and overhung with noble arching spikes of Cymbidium Lowianum, surmounted again by a grand cluster of blossoms of the bright yellow and brown Oncidium Marshallianum.

The genera most largely represented are those of Cattleya, Odontoglossum, and Cypripedium; the numerous species of the latter adding variety of a welcome and pleasing character, while the two former genera contributed most to the general floral feast. Taking Cattleyas and Lælias together, we may note the presence of some grand forms of the lovely C. Mendelii. The variety named grandis is a noble flower, with broad sepals and petals of a delicate shade of mauve, and the lip exceedingly rich in its hue of purple. C. Mendelii triumphans is a lovely flower, pure white with the exception of the rich purple labellum, rendered all the more conspicuous by its rich lemon centre. That Lælia purpurata is here, goes without saying, for no exhibition at this season would be complete without it, but in Lælia purpurata Schroderii we have a novelty of a chaste and lovely character. It is apparently a natural hybrid between C. purpurata and C. grandis, with pure white sepals and petals, and the white lip elegantly veined or pencilled with purple and shaded with violet. The new C. Lawrenceana is represented by several plants of different shades of colour, including a very dark one, and a still more distinct variety than all, one named oculata, a light coloured form with a yellow throat. C. Skinneri, in its ordinary form, furnishes numerous bits of rich rosy crimson; but in C. Skinneri superba we have a form, the flowers of which are considerably larger in all their parts.

In Odontoglossoms the exhibition contains many fine things. The lion of the hour on the opening day was a splendid variety of crispum, named Chelsoniense, a flower of great breadth and substance, with crisped or fringed edges, pure white, with a few bold chocolate spots on the sepals and lip. O. citrosmum and its varieties are a great feature. In juxtaposition with O. citrosmum roseum, of a delicate rose shade, is the variety, album, pure white, with the exception of the yellow blotch in the centre. Then near by is the variety, aurantiacum, in which the sepals and petals are coloured as in the typical citrosmum, and the lip rose coloured, with a bright orange centre; and still another, named punctatissimum, a fine round flower, with the sepals and petals flushed with pink, and faintly spotted, and the labellum of a rich shade of rose. The feathery spikes of O. cirrhosum, numerous varieties of O. Rossi majus, including excellens, the central blotches and bars of which are of an intensely dark shade; O. maculatum erosum, very bright yellow; O. Roezlii, in variety; and O. histrionicum, a yellow ground flower, with large purple-brown blotches, are all conspicuous features at different points.

At the farthest end from the door of the central stage there is a noble specimen of Cymbidium Lowianum with three spikes, representing in the aggregate 5 yds. of flowers, one of the spikes bearing twenty-seven fine blooms. In front of it is the new Oncidium undulatum, and near at hand are one or two distinct varieties of the Cymbidium last named. That named atro-purpureum has a longer labellum than the ordinary type, and its colour instead of being Indian red is a rich crimson-maroon. Another variety, albo-sanguineum, is greater in width than any of the others, the slightly more recurved lip of the same colour as atro-purpureum, and the centre pure white; while in contrast with the above was the old but still distinct C. aloifolium.

Other notable plants consist of Trichopelia crispa superba, a large deep-coloured variety; a new species of Maxillaria, not yet named, with pure waxy white flowers, and the lip striped and spotted with dark brown, and crested with yellow; Oncidium nigratum, with small, pretty flowers, white, barred with very dark brown, and yellow, cinnamon-spotted lip: Oncidium macranthum aurosum, with pure golden yellow blossoms; and the pretty Oncidium Jouesianum. We have not attempted to name a tithe of the species and varieties here to be seen—the limits on our space forbid such a proceeding—but we cannot close these remarks without recording our inability to do the display full justice. It must be seen to realise all its excellencies.

THE INDIAN AND COLONIAL EXHIBITION.

The wondrously interesting and beautiful Indian and Colonial Exhibition opened with so much state *eclât* by Her Majesty the Queen on Tuesday last, will be found to contain very much that is of value and interest to gardeners; indeed, not one of the preceding exhibitions have possessed for horticulture one tithe the importance that the present one does, and it is to be desired that as the outcome of the gathering, the science we love and practice, may be eminently benefitted thereby. Apart from the actual knowledge of a purely technical kind offered, there is such a wealth of information calculated to enlarge our conceptions of what the world is like outside of England, that we shall be cursed with conceit and self-sufficiency indeed, if in the widening of our knowledge, which must follow a study of the exhibition, our minds are not broadened also, and some sense experienced that there is beauty and enterprise, as well as wealth and intelligence outside our sea-girt isle.

The Indian Court.

India, that vast Asiatic region which we hold so firmly, because now governed so justly, is so tropically placed that here horticultural produce has perhaps less interest than has that of any other colony, still there are features which will attract the gardener, and specially so the mimic stalls and shops in the southern annexe, where may, in the economic section, be seen in one green fruits and vegetables; in another, dried fruits and seeds; and in a third, all kinds of herbs and perfumes. These are arranged so naturally and without efforts at special attractiveness, that more interest will probably be shown in them than in other more pretentious shows. In the West Indian department sugar cane may be seen, not growing, but as grown, and a vast amount of information relating to an article of such first-class importance in our domestic life will be afforded in a most practical way. Much interest will be taken in the pretty decorative baskets and ornaments for feminine adornment, made from the scarlet, mauve, and black seeds of various West Indian plants, and probably many of these elegancies will find their way into country homes, momentoes of a pleasant visit to the "Colonies." In this department also may be seen numerous pleasing

Illustrations of Native Flora,

And gardeners will easily recognise plants with which we have long been familiar. In writing of floral pictures we are fain to give the palm in this respect, as far as we have been enabled to inspect the exhibition, to the very enterprising colony of Victoria, for there, in the divisional partitions, may be seen coloured illustrations of the native plants of that region that excel in beauty and elaboration anything we have so far seen at home. Not merely are the plates most beautifully executed, but they are, as it were, crowded with subjects with which we are by no means so familiar as is desirable, and lead to the hope that our home flora may in time be vastly added to by natives of this Australian region. Above these drawings will be noted with interest some very large ones, roughly but very truthfully executed by a home artist, of Victorian plants; this style of decoration presenting a vivid and pleasing contrast to the baldness shown at previous exhibitions.

Australia generally, and Victoria specially, has a display of native Ferns in some large half-span glass-houses, which border the central path above Old London, that will exibit Fern life in reality and in luxuriance. These forms, many of considerable height and dimensions—transferred from Chiswick, where, under Mr. Barron's care, they have so admirably prospered—have been placed in irregular fashion in these glass erections, and will present very attractive features both to home gardeners and colonial visitors generally. Somewhat akin to this Fern display are the fine rocky gulches which Mr. Dick Radcliffe has erected at the extremity of the Victorian transept, and clothed so admirably with Ferns and suitable rock plants, added to which are the numerous quadrupeds of native character which people, as it were, the gulches, and a charming effect is produced, which will certainly attract public attention. Just above, and in the adjoining courts may be seen artificial examples of native Grapes, which are intended to emphasize the important South Australian wine product. A gigantic picture of

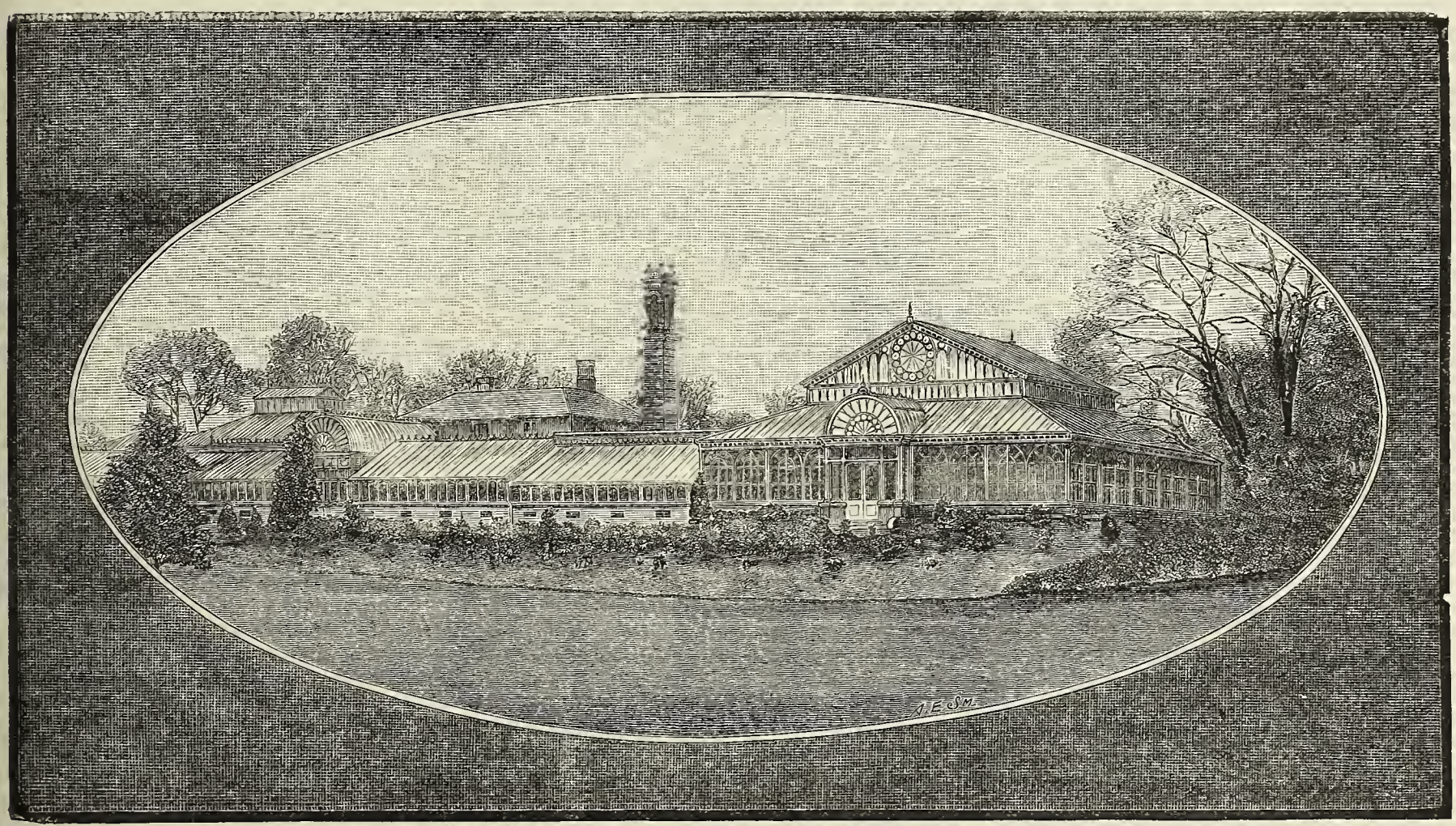
The Gum Trees of Australia.

Gardeners know something of the once popular Gum Tree, or Eucalyptus. Here it is not hardy, and only when it does well is it ornamental; but in western Australia the Eucalyptus is a noble forest tree, and at the far end of the court of that colony is a big scenic drawing which shows the stems alone of some noble fellows that gives a very natural aspect to the view. But just beneath lies some samples of Eucalyptus-wood, and specially attractive is a huge trunk, some 5 ft. through, of the Eucalyptus marginata. The base of this big stem has been clean cut through, then polished and varnished, showing a blood-red hue of the most beautiful kind, and shining like a mirror. This example should encourage the employment of this grand form of the Gum Tree for furniture and other uses. Just above this tree block stands, at the north end of the noble Canadian court, a trophy of which Canada may well be proud. At the farther end of this great transept is displayed a noble trophy of wild animals. The one to which we refer consists of the

arrangements that we hope some of our leading Orchidists may take example and give to us in their gardens something similar, as a relief to the monstrous flat staging so common now. This effort of the Messrs. Sander will be greatly appreciated during the summer. We learn that the floral decorations of the entrance hall on Tuesday were arranged by Mr. Weeks, of Chelsea; they were very gay and effective, although the plants on the floor were materially hidden by the numbers of persons present.

The Conservatory.

Really the most charming effect in which plants played a part was seen in the conservatory, where the raised banks of seats, crowded with gaily-dressed people, were set in a framework of noble Palms, Ferns, Camellias, Rhododendrons, &c.; and although amidst the interest created by the moving scene below it is possible few noticed it, yet we thought this effect one of the most pleasing in the display. We must not omit special mention, however, of Mr. T. S. Ware's



The New Range of Glass in the Birmingham Botanical Gardens.

A Victorian Vineyard

Is full of interest, not only from its technical nature, but also because it seems to depict a life-like scene in this interesting colony. Some pot Vines in a stand near, arched over and full of growth, are not natives, of course; indeed, the pots are ominously stamped with the well-known name of Matthews, of Weston-super-Mare, but they convey to the minds of visitors something more of the growth of the Vine naturally than do the odd and stunted half-standard plants seen in the stand of the Chateau Tabilink Vineyard. One of these Vines—of course, now dead—is twenty-four years old. All are on stems about 2½ ft. in height, and have mop heads, which it is easy to see are cut hard back every year. They present a case of hard pruning such as would delight the soul of the severest restrictionist; but it would seem, according to colonial knowledge, that the plan is productive of the best results. Victoria also grows fine and rich-coloured Gourds, and in more than one huge glass case may be seen numerous wax models of fruits, especially Apples and Pears, which show that the colony is capable of competing with the most favoured nations in fruit production. Home fruitists will regard these models with interest, because so many are of sorts with which we are familiar.

products of civilisation—the garden and agricultural products of the colony.

Canadian Fruits, &c.

Here, in addition to corn, seeds, grasses, &c., the gardener will be attracted to the singularly interesting show of natural Apples, Pears, and other fruits preserved in air-tight glasses, and showing in all cases beautiful samples. The Dominion of Canada certainly contains some fine fruit-growing districts, and these may presently become formidable competitors with the United States in sending tons of their fruit produce. We have here referred simply to these special exhibits in this grand collection of products and manufactures of Outer and Greater Britain, which we think may specially interest our readers. It need hardly be said that there remains many more features of special interest, which we have been unable to note.

The Orchid Show.

Messrs. F. Sander & Co. have prepared in a glass-house on the west side of the Indian Court a very beautiful Orchid show, the plants being arranged amidst small Ferns on rock banks, prepared by that veteran, Pulham of Broxbourne. This house differs so much from the ordinary style of Orchid houses in its internal

splendid collections of Daffodils, Tulips, Primulas, and other hardy plants—many of them rare and choice—which gained, as they deserved, a large measure of admiration. In various parts of the Exhibition will be found plant houses in which are placed representatives of the Flora of the various Colonies, and which, to a great extent, have been furnished by Messrs. James Veitch & Sons, Mr. Bull, Messrs. E. G. Henderson & Son, and other Nurserymen. To these departments we must refer more fully on another occasion.

A more beautiful exhibition—one generally to our insular minds more novel, or one more interesting has never before been seen in this or any other country. We trust gardeners universally will endeavour to see it, and in seeing it permit their often too limited range of thought and political and geographical ideas to be broadened. The grand pageants attending the opening on Tuesday last, which we were favoured to see from a good position, was eminently worthy of a noble show, which should help to teach us in reality that like or dislike; it is true that all men are equal, that one is as good as another, divergence in speech or colour of skin notwithstanding, we are all men and brethren.

HYACINTHS IN DERBYSHIRE.

It has been said more than two or three times that Hyacinths will not flourish in the open borders in the mountainous parts of Derbyshire. I have always wondered what justification there could be for that statement, and have concluded that whenever there has been a failure to get this lovely flower in perfection, there has been mismanagement, or, what is quite as bad, want of management of any kind. In the planting of bulbs I have often observed that would-be gardeners take the first that come to hand, and just plunge them into the ground anyhow everywhere—of course quite as surely to fail in obtaining results as when holes are dug in meadows, and sapling trees stuck in in the expectation that they will thrive, as a matter of course. I am confirmed in my opinion that care in selection and subsequent good management will be followed by admirable Hyacinths, even in the most unkindly parts of hilly Derbyshire, this being what I have just seen at Middleton Hall, near Youlgreave, a village not far, in turn, from Bakewell.

Middleton Hall is the seat of Mr. Thomas William Bateman, renowned thereabouts as an amateur mechanician of the first rank, and as an antiquary rich in the possession of an abundance of fine old armour and similar relics of the past. Perched almost upon the summit of the Middleton Hills, the grounds are exposed to the keenest of the winds. It is pleasent to observe, nevertheless, how beautiful are the Hollies and some few other evergreen shrubs. Paying a visit yesterday to Middleton Hall, I was perfectly amazed at the spectacle that layed before me. Upon the lawn in front of the house were great plantations of Hyacinths of every colour—some of the beds restricted to single varieties, others presenting the most delectable intermixtures it is possible to imagine. In perfect harmony with the tasteful arrangement of the colours was the intrinsic excellence of the flowers. Among all those countless blooms there was scarcely an instance of a failure. There was an evenness, too, that could be compared only to that of a phalanx of the best soldiers in the world drawn up for review, every individual a counterpart in point of merit of ever other, and all developed in the same measure and degree, except at the extremity of one of the beds, where an aged Yew intercepted the rays of the sun; but even then it was simply a matter of brief delay. A sight more ravishing of its kind it has never been my good fortune to behold. The forty miles journey would have been well repaid had it been to view these wonderful Hyacinths alone.

Curious to know something of the history of the display, I learned from the head gardener that Hyacinth growing has been a speciality at Middleton Hall for many years, the bulbs, received from Manchester (Messrs. Dickson, Brown & Tait), being planted at the usual time, and protected, as long as needful, by a layer of cocoa-nut waste. That Mr. Tait has many times visited the great bulb gardens in Holland, purely for the sake of providing his customers with the very best, is in Manchester well known, and I am glad to be able to bear my personal testimony to the unquestionable success of his enterprise and perseverance. The charm of the present spectacle is enhanced by many of the larger beds being united by means of narrower ones, which constituted a kind of train; so impressed was I by the brilliancy of the display, that I took some pains to determine the quantities used for the various beds. In two of the beds there were about 400 flowers each, in six colours; in a series of five connected beds there were about 550 more; several other beds had about 300 a piece, either mixed or uniform in kind; the total running up, as nearly as I could estimate, to between 2,000 and 3,000. In addition to the Hyacinths, all in the full glow of their radiant beauties, there were many beds of Tulips, the flowers well advanced; there were traces also upon every hand of countless blooms of Scilla, Crocus, and Snowdrops, which had already played their part.

I think that success so glorious as I have just witnessed, deserves to be put upon record; it speaks immensely alike for the skill of the manipulator, and for the admirable quality of the materials employed. No one, it is very plain, need ever despair of having a show of Hyacinths every season that will make one think of the Garden of Eden, though he may live in the bleakest of situations. Mr. Bateman has shown us how to move in the first instance.—*Leo H. Grindon, Manchester, May 4th.*

THE BEST HARDY PRIMULAS.

(*Continued from p.* 550).

P. farinosa (The Bird's-eye Primrose).—A rather slender-growing species, about 9 ins. high, very pretty and effective in small colonies or groups on the rockery in damp shaded situations. It is a moisture-loving plant, and does not so much object to the sun if it is continually moist at the roots. Its flowers are of a light lilac-purple shade, and are very pleasing. An additional interest attaches to this plant, inasmuch as that it is a native of bogs and moist pastures in several of the northern counties of England and also in Scotland. It produces numerous flower-stalks, continues for some time in flower, and is, in fact, a most pleasing and interesting plant.

P. integrifolia.—This is a rather diminutive species from the Pyrenees, very pretty and effective, and of easy culture. It grows about 4 ins. high, and has handsome rose-coloured flowers. It is better suited to the damp and rather elevated positions on the rockery, where, if planted in free open soil and supplied with moisture during its growing season, it will be sure to thrive. Firm planting is very essential to this plant, and, indeed, to all the small-growing kinds, which are not so capable of taking care of themselves. A few broken bricks or stones mingled with the soil will assist in maintaining a uniform moisture about the roots, which is very necessary.

P. marginata.—This is one of the most distinct and pleasing of all the Alpine Primulas, and is readily distinguished from all else by its mealy foliage and white margins. It is very hardy, of dwarf and free growth, and roots deeply in well-drained fissures of sandy loam, or in a bed of deep soil in the open border. Its flowers which are large and freely produced, are of a violet-rose colour, and appear very early in the year. It is an exceedingly lovely plant for the rockery or the border, and should receive every encouragement. One particular I would note respecting it is the manner in which the old stems lengthen, and which, in time, leave the stem bare. When this happens they should be at once lifted and re-planted, or if it can conveniently be performed, earthed-up around so as to encourage the formation of roots about the stem. When this is accomplished they may be transplanted the more readily, always burying them up to the leaves. This lovely plant is a native of various mountain ranges in Southern Europe, and also Dauphiny and the Taurian Mountains.

P. japonica.—This is probably the largest species of this genus—a plant of bold and prepossessing appearance, and which I have grown with grand rosettes of leaves fully 2 ft. across. It is wonderfully distinct both in leafage and in its whorls of purplish crimson-magenta flowers, on stems about 18 ins. or 2 ft. high. It is to the untiring energies of Robert Fortune, after a series of attempts to bring it into this country, that it was ultimately introduced in the early part of 1871. It appears to have first been seen by Mr. Fortune ten years previously, in the basket of a florist, near Yedo, the capital of Japan, from whence, as signified in its specific name, it was introduced. It was in the year 1873 that I made its first aquaintance, or, more strictly speaking, that I had possession of my first plants of it. At this time everyone was doubtful as to its complete hardiness, hence the plants were wintered in a warm frame. The same year, however, we risked a plant for experimental purposes out of doors, on the bank of a running stream, where its roots could reach the water. Here its wonderful and rapid, vigorous growth surprised all who saw it, and eventually it passed through the winter unharmed, and early in the succeeding summer its rosettes of leaves attained upwards of 2 ft. in diameter, and if memory serves me rightly, it sent up three of its grand spikes of brilliantly-coloured flowers. After such a description of some of the earliest plants of this lovely Japan Primrose, I need hardly refer further to its cultural requirements, which, briefly, are these:—A deep well-enriched soil to sustain the original vigour of the plant, and a position partially shaded and damp, though well drained. This "Queen of Primroses" has the good qualities of being, therefore, perfectly hardy, of free growth and vigorous constitution, a wonderfully free seeder, and, finally, one of those members of this great genus that can take care of itself. It may be made at home and perfectly happy in many and various positions, for example, in the woodland, the herbaceous border, the rockery, and the loamy portion of the bog garden; it revels in the latter in company with Osmundas, Lady Ferns, Scolopendriums, and the like. I may add, as a matter of fact, that this has proved one of the most valuable species commercially of the entire genus. The seeds should be sown as soon as ripe in pots or pans in sandy loam, and when of sufficient size, prick off into other pans, or if in quantity, select a single light and place it on a temporary edging of bricks, placing in some good soil, and having pricked them out, shade them if necessary till they have obtained a good hold of the soil. One word more, there are some varieties of this Primrose though anything but abundant, and it is worthy the attention of the hybridist. Why not endeavour to impart the brilliancy of its flowers and the vigorous constitution to some of the other species of this lovely genus? I say again, why not?

P. longiflora.—This charming species partakes of the general character of the Bird's-eye Primrose, P. farinosa, but in many respects is totally distinct, primarily in the lilac tube or corolla being fully three times the length of that of P. farinosa; the divisions of the calyx are more distinctly pointed and triangular, and the flower-stalks much taller. In short, it is a handsome plant generally, and succeeds under precisely the same condition as P. farinosa, and being an equally free seeder it may be grown in company with it. Like its congener it is deciduous in winter time, and all that is visible is a little conical mealy ball just peeping through the soil; in this state it passes through our severest winter with impunity. It comes from Austria and the Swiss Alps at an elevation of 6,000 ft. or 7,000 ft., flowering here in the lowlands during May and June.

P. luteola.—This is a lovely and vigorous growing Caucasian species, delighting in rich loamy soil with an abundance of sharp grit; the leaves are about 6 in. long, light shiny green, and with abrupt serratures on the margins; it grows 15 ins. or 18 ins. high, with large heads of bright yellow flowers, and certainly one of the very best of the yellow flowered section given a partially shaded spot in deep soil. It is an excellent plant for the open border, and should be well supplied with moisture during the growing season. As a pot plant for frame culture it is charming and deserves special attention.

P. minima (The Fairy Primrose).—The deeply-notched or jagged leaves forming the rosettes of this diminutive plant give it an exceptionally distinct appearance, and the large flowers, often 1 in. in diameter, which issue from them not infrequently are so numerous as to hide, or nearly so, its tiny rosettes from view. Had The Gardening World a circulation only in the southern and middle counties of England, I should, in all probability, have omitted this little gem from among those which I have here selected; but seeing, happily, that its pages are read far and near, north and south, I will give the readers the benefit of my experience in connection with it. It is one of those so-called miffy and fastidious subjects for which a great variety of soils have been tried, such as mixtures of granitic rock and so forth, while others have discarded these for tufa and others for calcareous soils. From experience, however, I have learned that it is not essential to have any of these, though, if we follow nature, we should incline to the calcareous, on which it is found in the Eastern Alps of Switzerland. It is, however, not confined to these limits, since it inhabits the highest mountains of Southern Europe, almost to the limits of eternal snow, at some 8,000 ft. elevation. That this little gem inhabits these wind-swept mountain heights on the verge of perpetual snow is a circumstance connected with its successful culture. In our lowland home we may imitate soils, but can we fashion our damp, foggy, and smoky districts to meet the requirements of this little plant, which has been educated otherwise? I say nay. By constant care we can grow it in the south in fully exposed raised positions of rock, with abundant depth of well-drained soil on an even surface; but away north in Scotland it grows amazingly with little or no care bestowed upon it—a veritable proof that it is a colder clime, a freer air, and the bracing winds which it prefers to any admixture of soils. I have never been a searcher after a great variety of soils for choice Alpines, and believe that these are much overdone, as substitutes, where I deem it necessary, I employ broken brick rubbish and occasionally old mortar, the latter more particularly among the choicer crustaceous Saxifrages. The flowers of the fairy Primrose come in May and June, and

are of a bright rose, some forms occasionally white, and a charmingly pretty sight it is to see a potful of this little gem in full flower.—*E. J.*

(To be continued.)

CHOICE HARDY PLANTS.

Among the many choice subjects shown at the last meeting of the Royal Horticultural Society was the beautiful delicate blue Anemone Robinsoniana. This is an undoubted form of A. nemorosa, but an American introduction, with flowers of a deeper tint of blue than is seen in A. nemorosa cœrulea, a selection from the Wood Anemone made in this country. But though so finely shown, it was not so blue as I have seen it, and this was probably owing to its having been flowered in a cold frame. Mr. T. S. Ware had this and the double white Wood Anemone, in very fine condition. If anyone who loves choice hardy flowers wishes to have a day's keen enjoyment, let him go into the Kentish or Hertfordshire woods where these Anemones abound, and he will find many pretty rose-coloured selections worth bringing away. He may perchance find some double forms among them. And who could not help admiring the fine double scarlet Anemone sent by Mr. Gilbert, of Dyke, Bourne, Lincolnshire. This represents a fine selection grown in that part of the country, and it is one of the best of hardy plants. Then there was Adonis vernalis, a panfull of which came from Cheshunt; it must be planted in a good deep light loam, rather moist, and then it will do well; but it is seldom seen. Mr. Paul's clump of Doronicum austriaeum was very fine, with its large circular golden yellow flowers; a delightful subject. Had Wordsworth seen a healthy plant of this in full bloom, he would never have supposed the little Celandine had sat for its portrait to the artist who painted the "Rising Sun." Plant this in a good deep and rather sandy loam with some leaf mould in it. But what shall be said of Menziesia empetriformis, a tiny shrub, neat in habit and of exquisite beauty, producing numbers of rosy purple bells, bright and pleasing in shade, in clusters on a dwarf heath-like bush, seldom more than 8 or 9 ins. in height; it seems to do best in a rather moist sandy peat soil, in a fully exposed situation. Mr. George Paul had a specimen plant, and Mr. Geo. F. Wilson brought from his garden at Heatherbank some lovely clusters of blossoms.

Megasea cordifolia purpurea is a very fine form of the large-leaved Saxifrage, rich in colour, and a valuable border plant. And who did not admire the pretty white Buttercup, Ranunculus amplexicaulis, white as snow? It has been accurately described as "an Alpine Buttercup, with the purity of flower of a Snowdrop." It is said to flourish in the London clay, so there need be no difficulty in succeeding with it. Near it was the rich blue vernal Gentian, Gentiana verna, a plant not often seen in good health in gardens, because certain conditions are required to have it in form. It should be in a good, deep, sandy loam on a level spot of rockwork; it wants perfect drainage, abundance of water during the warm and dry months, and perfect exposure to the sun. It flourishes best when some grit is mixed with the soil. Then there was Primula ciliata purpurea, a lovely garden form that is well adapted for pot culture; in fact, all the varieties of P. ciliata are well deserving of culture in pots, growing them in a cold frame, and giving them the same treatment as Alpine Auriculas, Hemerocallis Kwanso variegata was shown by Mr. Ware, a fine selected variety, the leaves very handsomely striped with green and yellow. I can scarcely imagine that the variegation will come so good on plants grown in the open ground; but it is a charming thing for cultivating in pots for warm greenhouse decoration at this season of the year, and I think it will make a good table plant. It deserved the Certificate of Merit awarded to it.—*R. D.*

Grammatophyllum speciosum.—At the Government Botanical Gardens at Buitenzorg there is now flowering an Orchid of gigantic size, bearing this name, and displaying no less than twenty-eight flower-stalks. Each of them is on the average 8 ft. long. On one stalk alone there are seventy flowers, of which fifty were all open together at one time. The flower is generally 5½ ins. in diameter. Each flower-leaf is 2¾ ins. long and 1½ ins. broad.—*Tropical Agriculturist.*

SCOTTISH GARDENING.

Seasonable Notes.—Chrysanthemums are justly very popular, and much has been written as to how splendid blooms in abundance may be had at the proper season. In the north it is found that one cannot always control the influences of a backward season, nor get our blooms to open early in November. Last season many experienced great difficulty with their Chrysanthemums, and we heard complaints from growers living wide apart, regarding the tardiness of the flowering of their plants, and many did not flower at all. The unusually early frost had much to do with this paucity of blossoms. Though one often sees plants do fairly well outside without much protection; yet it is quite different when they have been subjected to a warm temperature, as they were last September, and then suddenly be exposed to 10° of frost, when the wood was full of sap and the buds forming. We were not altogether exempt from misfortune, and had to deplore injury to some new and choice kinds which we had not seen in flower. It is therefore necessary that one should have means to protect them when sudden changes of temperature take place.

Many have to place their plants out at this season, exposed to all weathers; but if some framework was erected which could be covered with Frigi-domo at night, much of the difficulty and anxiety of Chrysanthemum-growing would be averted. One need not suggest what is the most advanced practice in growing these into fine specimens, as abundance of matter has appeared in the horticultural press during the last season from the best authorities. Glass in the early season to ward-off frost, and the same in autumn for the same purpose is very necessary. To have the plants in flower early, and the latter of great size, with the addition of liberal culture, it is of great moment not to stop the shoots after May, and some do not stop them at all. The greater strength of the shoots, with foliage to the base, the finer the flowers. Small shoots give flowers of reduced size. Late stopping is productive of late flowering. Some small growers have not time and means to propagate by cuttings; but to meet this difficulty, old plants may be topped back and the smaller shoots removed. When they have broke out into fresh growth they may be shaken out of their pots, the roots be trimmed-in, and re-potted into sandy loam, giving very little pot room. The young shoots should have a little of the new soil placed among them to cause emission of roots from the stems, which give a great stimulus to vigorous and healthy growth. The pots are soon filled with healthy roots, and should be shifted into rich loam (potting firmly) before the roots become pot-bound. A good space is left for a surfacing of rotted cow-manure and loam mixed, to be given after the flower-buds are formed; liquid manure may then be given freely.

To save labour and meet all our necessary requirements we have often put a dozen or less cuttings in the pots and shifted them on, getting large plants for the conservatory purposes, which were neither potted singly in the usual form nor stopped at all. One of the most successful growers around London pointed out to us his exhibition plants, standing on cocoa-nut fibre in the full sun, with the most careful attention paid to details. The growth was near perfection, but the plants were from the stools of standards which had done duty the previous season. We give this latter hint to some of our friends who suppose there is much mystery in producing the grand plants we have seen at Liverpool, London, and other shows. To save labour we have often planted out specimens in very firm soil, cutting out holes and ramming the roots firmly in them, and some time before the plants were lifted they were cut round the roots with a spade, potted with very little check, stood in the shade a few days, well-watered over head, then placed where abundance of sun might reach them, and where protection could be hastily utilised.

Eupatoriums are by some propagated yearly planted out and otherwise treated like Chrysanthemums, but such a practice does not answer well in late cold districts. It is better to grow them on at first with glass protection, and retain them in pots. The flowers are larger when the plants are turned out in open borders, but then it is much later when they come into flower, and the inflorescence is scanty as compared with the produce of plants in pots. These plants are of easy culture, of great value for show and cut-flowers, where glass and better plants are scarce.

Plants for Winter Flowering.—It is not inopportune to refer to the growing of plants in general for winter flowering, as now is the time to take active measures to secure success. Get the plants into early growth so as to give them a good long season to prepare the flower-buds and to ripen them. By a long rest, then moving the plants slowly by forcing, and all other things being equal, one may say that this is a summary of the culture which leads to success of both flower and fruit forcing. Some of the leading plants, which should have this attention, are Camellias, Epacris, Azaleas, Spermannias, Cytisus, Coronillas, Aotus, Oranges, Roses of sorts, keeping every bloom off, Ericas, hymalis and Wilmoreana, and some others, Acacias, most kinds, Habrothamnus, &c. These may all be had from autumn till spring in full flower, till the late lots come in at their natural place; Kalmias, Rhododendrons, Ghent Azaleas, Lilacs, Scarlet Horns, Syringas, Laburnums, Forsythias, Berberis Darwinii, and other hardy shrubs grown in pots, with healthy root action, growth completed early and well set with matured flower-buds are of much value during the short days when flowers are scarce. Luxuriant growth with such plants late in the season defeats any attempt at a display of early flowers.

Thinning Crops in the vegetable garden will now be claiming attention. It is well to do this piecemeal in some cases where seeds have been sown thickly (to give an extra chance under untoward circumstances), and they are likely to crowd themselves to their own destruction, attention to half or quarter thinning should not be delayed; this applies to Beet, Carrots, Lettuce (these are often sown thinly—thinned to 8 ins. apart, and the thinnings planted out in the shade for a successional crop), Onion, but where vermin are troublesome, thinning must be done with caution. Parsley, too, must be planted out thinly for standing the winter—rather poor land gives medium growth, which enables these to winter well. We have abundance now of such Parsley which seemed to pass the winter unscathed. Parsnips may soon require thinning—on rich land they are liable to decay at their crowns when not thinned out well.—*M. T.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

The warmer days are hastening the growth of vegetables generally, but the cold nights still do some injury, checking the advance of the more tender kinds like Peas, and the disastrous frost of last Saturday has done more damage to the fruit blossom than can yet be perceived. The flowers often show no signs of injury for several days after a frost, and the delicate petals do not seem to be affected; but if a few blossoms be carefully examined they will be found dark in the centre, and where this is the case the embryo fruits are almost invariably killed. It is to be hoped that the damage will be confined to a small district, and where the trees are not so forward as they are in the south of England, they will probably escape. The show of bloom was so abundant that it appeared as if we were to have a plentiful harvest of fruit to compensate for other deficiencies this season; but as regards the earlier districts, we fear this anticipation will not be realised, and in our own garden we shall have to rely upon small fruits.

Fortunately Gooseberries and Currants are showing well, and have not suffered in the slightest. Raspberries are advancing well, and Strawberries are strong, so that we shall not be deprived of these useful fruits, though our store of Pears and Apples may be reduced.

Peas are coming on satisfactorily now, but the birds give us much trouble, except where we employ the cotton in lines as previously advised; the earliest-sown Peas have, however, made the least progress, and those sown last month have overtaken some that have been in the ground twice the time. Spinach is growing freely, and a week or two of fine weather will give us a picking of this useful vegetable. We have some young Celery plants nearly ready for placing out, and the trenches have been prepared for them. We usually take out the soil about 6 in. deep, lightening up the bottom of the trench and, if the soil is poor, a little

old manure is dug in, but we do not find that an excessive quantity of manure is beneficial to Celery in its early stages, and if the soil is of fairly good quality we dispense with the manurial additions entirely. This is not of so much consequence for early Celery, but if the later plants are grown too grossly they never keep well, and are much more readily injured by frost or rain.

Vegetable Marrows are great favourites with us, and a number of seedlings are advancing for planting-out when danger from frost is past. One portion of the garden is sheltered from the north and well open to the south, for several reasons it is not quite adapted for most vegetable crops, but it is exactly suited to Vegetable Marrows. We make up a few mounds, about 6 ft. apart and 2 ft. or 3 ft. high, and on each of these three plants will be placed. A good quantity of old manure is well incorporated in the soil of these mounds, the top of which is about a yard square, hollowed-out saucer fashion, and the plants are placed in a triangle, the apex of which points to the south, and one Vegetable Marrow is placed at each angle. About three beds planted in this way give us a plentiful supply for our own use and some to give to our neighbours.

Scarlet Runner Beans are indispensable, and we have sown a quantity lately. They are, moreover, ornamental, and many a trellis or wall can be clothed with greenery by their means which would otherwise remain bare and unprofitable. For town gardens it is one of the best summer vegetables that can be grown, and the supplies furnished by the leading seedsmen are enormous. Some Cabbage and Cauliflower plants have been placed out this week in rows 18 ins. apart, and the plants 15 ins. asunder in the rows. We usually dibble the seedlings out in beds before placing them in their permanent quarters; but this season they were sown very thinly, and have made such slow progress that they will be better in their rows at once. Some others for succession we have, however, dibbled-out, and these will be transplanted a little later, when they have made some growth.—*Scolytus.*

THE QUALIFICATIONS OF PLANT COLLECTORS.

In your issue of February 20th, and, I believe, also in one or two previous numbers, you answered inquiries from "A Young Botanist" on the subject of plant collecting. The advice given by you was certainly good as far as it went; but a thorough knowledge of his profession is not the only essential qualification to ensure a successful career in the life your inquirer seems anxious to embrace. As an old collector of upwards of twenty years' experience in this country (India), having travelled through almost every district, from the Kyber Pass on the north to the extreme south of the Malay Peninsula, and from the Persian Gulf on the west to Sikhim on the east, I may be allowed to know something of the game, and my experience is that for a man to be a successful collector in addition to being thoroughly well up in the class of plants he has to collect, he must also possess many other qualifications.

First, he should have the constitution of a horse to withstand not only the effects of a strange climate, but also the many vicissitudes found in camp life. Above all, he should be self-reliant, ready to turn his hand to anything, and always prepared for any emergency that may arise. Pitching one's tent in the heart of a jungle, perhaps hundreds of miles from the nearest civilised station, is a very different matter to a pic-nic in the New Forest; but while a man should be as brave as a lion, he must also be as wise as a serpent, for he will have to deal with men of various creeds and castes—some of them simple good-natured people, but the majority a low cunning set, very difficult to manage, especially if they once detect the slightest sign of weakness. Then, again, a man should be a good shot, not only for self-protection against beasts and reptiles, but also to provide himself with the delicacies of the season, otherwise he will fare very badly in certain districts. Preserved provisions are all very well to fall back on in time of need, and that is all that can be said in their favour.

I, of course, refer to the old fashioned type of plant collector, a man who is not afraid to leave civilisation behind him, and take to a jungle life for three or four months at a time. The modern Orchid collector is quite a different individual; he does things in a much more luxurious style, and rarely goes beyond the bounds of civilisation. He stays in his hotel, dak bungalow, or rest house, as the case may be, sends out a body of native collectors, generally wood-cutters, who are often well acquainted with the habitats of the various species. These men bring in plants in shoals, the good ones are selected, a liberal price is paid for them, and our energetic (?), long pursed, modern collector moves to fresh fields and pastures new. In the good old days before this class of men came into the field Orchid collecting was very different work to what it is now, as the following incidents will show.

Early in 187—I was up the Irrawaddy river on a collecting tour, but more particularly in search of a certain Dendrobe, which a short time previously had caused a great sensation in England; I was laying at a place many miles beyond our frontier station, where I had determined to make a halt for a few days before commencing our return journey. As the place was teeming with Orchids, the head man of a large village close by came to visit us, and when he was informed what my business was he seemed considerably astonished. He could not understand what the white man (the first he had ever seen) could want with jungle plants, and when it was explained to him that they were to be sent across the *Kali pani* (ocean), he was incredulous; I was humbugging him or, what was far more worse in his eyes—a fool. It took us not only an hour's palavering, but also two or three brass utensils as presents before I could propitiate his highness. I then produced my book of drawings, first showing him the more common kinds, which I knew were to be had in abundance, and gradually led him on to what I more particularly required, reserving my plate of Dendrobium —— till the last. He had recognised many of the others I had shown him, and gave us their vernacular names, and it was an anxious moment for me when I turned up my trump card. Did he know it? or was I again to be disappointed, for that unfortunate plate had perhaps been through the hands of fifty men of his class without being recognised. My anxiety may be imagined when I state that I had got as far up the river as it was safe to venture in those days. The old man looked at it thoughtfully, first shook his head, then suddenly a brilliant idea struck him—had I ever seen the plant in flower myself? Yes! Was the plate exactly the right colour? At first I replied in the affirmative, but on second thought remembered that one of the colours had been rather overdone—a purplish crimson had been given where a deep pink or rosy crimson would have been nearer the mark—I explained this, showing him from another plate the proper tint. There was no longer any hesitation, he knew it well, and it was plentiful enough, and so it had been for the last thirty or forty miles of my journey, and none of the other men had recognised the plate simply because it was wrongly coloured.

Orchids Bought with Beer Bottles.

I had wandered through miles of forest myself, and lived in a miserably country boat for nearly a month without any return, simply for this reason, and so it is with many of the Orchid plates published. The following morning my old friend returned with upwards of a hundred plants of the true Simon Pure, and the next thing to be done was to strike a bargain for them, not a very easy matter as a rule where natives are concerned; money was of no use at that time, these men did not know its value. I produced a lot of brass utensils, cloths, and other articles that I had brought for the purpose of barter, and he set to work to make his selection. In the midst of this laborious task, his eye happened to fall on an empty beer-bottle—here was a prize indeed—I noticed the old man's actions, and knew at once that he meant business. After a critical examination, he enquired if I would give him this in exchange for the plants; it was now my turn to bargain, and after much haggling over it, it was agreed that he should bring in another hundred plants for it. During his absence several other men came in from the village; as soon as they saw the kind of Orchid I wanted, and the price for which their head man had bargained, they started at once to collect them. Here was a good thing certainly, but where were all the bottles to come from, The first thing to do was to overhaul my stores; I found I had only thirty-three bottles of beer left, and there was nothing to be done but to draw the corks and empty the contents into the river. By the following evening every bottle had been bartered away, and still more plants were coming in; I showed every article I had brought with me for the purpose of trade, but it was of no use, bottles, and nothing but bottles would they have.

Well, I had still seven bottles of whiskey left, and I could do nothing but sacrifice them, so their contents followed the beer into the river, and I set to work to sell them to the best advantage. Here was something new for them, being of clear glass, and, of course, I explained to them that they were very superior to the others, and they evidently thought so, as one man commenced by offering 300 plants for a bottle, this was quickly followed by 350, and, at last came a spirited offer of 400. Had I stuck out, I might have got even a better figure, but I knocked lot one down at that price, and the rest were quickly taken up at the same rate. This was probably the first public auction ever held in the kingdom of Ava (now a dependency of the British Crown). With the assistance of the natives it did not take us long to pack the plants and get them into the boat, and being a beautiful moonlight night I started down the river; I cannot say that the journey was a very agreeable one, joining the temperance league under compulsion, being a disagreeable circumstance, especially when the only suction available is that from an Indian river, frequently teaming with decaying vegetable and animal matter; it is unpleasant in the extreme. We arrived in Rangoon, however, without any mishap, and with probably the cheapest cargo of Orchids ever landed. This is how one of the first large shipments of Dendrobium —— sent to England was collected and paid for. I have frequently been up the same river and landed at the same place, again and again, and my old friends are glad to greet me, but bottles will not go down with them now, they know the value of our silver currency and can drive as close a bargain as men of any nationality I know.—*Judex.*

MR. W. B. LATHAM.

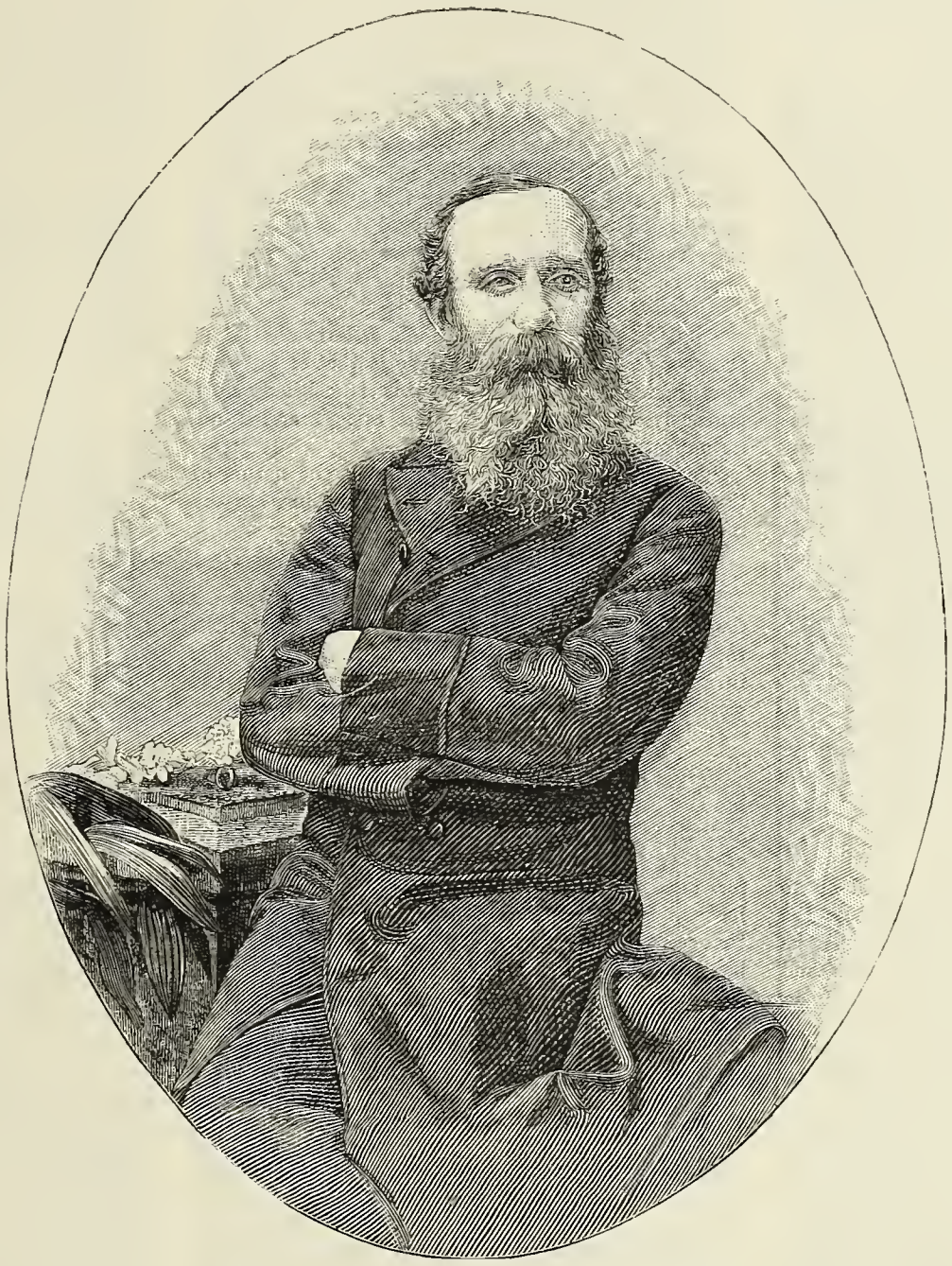
The subject of the portrait we, to-day, present to our readers was born in 1835 at Bicknacre, a small village near Malden, Essex, and at eight years of age his parents removed to the neighbourhood of Wandsworth. He was educated at the National Schools there, and when thirteen years of age went to work in the garden of William McNeil, Esq., of Wandsworth Common, who subsequently removed to Charlton, taking young Latham with him. Mr. McNeil was an ardent lover of gardening, with a good knowledge of hardy herbaceous plants, and cultivating a choice collection of them, young Latham had a capital opportunity of acquiring a knowledge of those plants, which still continue to be great favourites with him. He left here after three and a half year's servitude, and was then apprenticed to the late Mr. Robert Neal, of the old Wandsworth Common Nurseries, which at that time contained a large collection of hardy trees, shrubs, and Roses, as well as a collection of herbaceous and Alpine plants. He remained here about three years, during which he took up the study of British plants and collecting specimens; and at that time many a good British plant could be found growing on Wandsworth Common. An old schoolfellow, the late Mr. C. Wilford, then at the Royal Gardens, Kew, was often a companion in his rambles, and together they collected a large number of plants to be found in that part of Surrey.

A desire for change and a wider field for improvement became a natural wish with Mr. Latham, and at the suggestion of Mr. Wilford he went to Kew and saw Mr. J. Smith, ex-Curator of the Royal Botanic Gardens, and some two or three months after succeeded in obtaining employment there. For the first six months in the large Palm-house, and during that period he made a complete list of all the plants in that department, as well as in each of the other departments to which in succession he was removed, thus gaining a knowledge of the plants in each. The propagating department proved of unusual interest to him, for in this all new plants received from all parts of the world, packed in Wardian cases and in other ways, were unpacked and seen to, and much instructive knowledge was obtained as to successes and failures. "Whilst in this department," writes Mr. Latham, "I made the acquaintance of a very interesting plant in a way not soon forgotten—the Stinging Plant (Jatropha urens), which was kept in a locked-up small private stove, so as to be out of the reach of all save those whose duty it was to attend to it. In watering it one day with my sleeves turned up, it stung me in the wrist, giving me a severe shock, which caused me great pain and a swollen

arm, and on showing it to Mr. Smith, now the venerable ex-Curator, next day, he smiled and told me that I had come off much better than he did some years previously, for he was insensible for some two hours after having been accidentally stung by the same plant."

From the propagating department Mr. Latham was removed to the Heath-house, a house devoted to the culture of Ericas only, then under the management of Mr. Thomas Brown, who was so well known as a most successful cultivator of hard-wooded plants, and for years was connected with Messrs. Rollisson's nurseries at Tooting. From the Heath-house to the Stove was his next change, and then to the Orchid-house, and at this period that most interesting aquatic plant, Ouvirandra fenestralis, was sent home from Madagascar by the Rev. W. Ellis. Thus, to use Mr. Latham's own words, "I finished my two years and a few months at Kew, ever since thankful that it was my great privilege to have had the opportunity of serving in this truly national garden, and forming the acquaintance of men who have since held high positions in horticulture." Mr. Latham then had a desire to get to Chatsworth, at that time under the care of the late Sir Joseph Paxton, to whom he had previously applied, and after a lapse of a few weeks, Sir Joseph wrote stating there was a vacancy, and to go as soon as possible. Reluctant to leave Kew and all its associations, where *study* was a necessity, as at that time no lessons or lectures were given on botanical or horticultural subjects, still, Chatsworth was an object to be obtained, and a fortnight after receiving Sir Joseph's letter, Mr. Latham found himself at the Palace of the Peak, and spent the first day in looking round the extensive gardens and grounds in company with an old Kew associate—a privilege always accorded to all new comers. Here we must again use Mr. Latham's own words. "At Chatsworth I found a large collection of Orchids, embracing many noble specimens of Phalænopsis, such plants as one now rarely sees in collections; Dendrobiums grand masses of Cœlogyne cristata on blocks of wood; Cattleyas, Saccolabiums, Ærides, Pleiones, and many others. There is a fine plant of Amherstia nobilis, and the Victoria Regia, is in the highest state of perfect cultivation here. The noble conservatory excited my admiration, and in my opinion it is the finest known; a wonderful building with its marvellous collection of rare, tropical, and sub-tropical plants, many of them of immense size. I also found a large collection of hardy trees, shrubs, and other plants, and gardening generally was in a high state of perfection. The scenery is of the grandest description, and massive rocks have been built up in the grounds, and amazing instances of landscape gardening skill is apparent everywhere. Fruit-growing is done on a most extensive scale here. Pines in large quantities and in first-rate style; and a very close system of pruning fruit trees, much more so than I had previouly seen practised, is adopted now with the very best results. Outside of the gardens and grounds of Chatsworth I found on the hills and in the dales of Derbyshire ample occupation for the study of British plants, and added to my collection many not previously met with, and early morn and late in the evening in summer time I had opportunities of searching for novelties. I shall never forget meeting with a great treasure one Sunday when I started very early and returned very late, happy in the possession of one plant I had found, not previously in my collection, Parnassia palustris, and I had about forty miles walking that day."

Mr. Latham remained at Chatsworth some months, and having a desire to have experience in continental horticulture, he mentioned the subject to Sir Joseph Paxton, who readily consented to write to the late Professor Decaisne, at the Jardin des Plantes, Paris, and some three months after Sir Joseph Paxton received an intimation from the Professor that there was an opening in the Jardin des Plantes, and that Mr. Latham may go at once. The wages, Sir Joseph informed him would be two francs a day, and lodgings and living were dear, so that unless he could get some assistance from friends, he would find it difficult to live on such small wages in Paris. With a determination highly creditable to him, Mr. Latham decided to take the offer and not trouble his friends, seeing which, Sir Joseph with his customary kindly, frank manner said to him "Well, Latham, I admire your courage; here's £5 to pay your expenses and have a little in hand, and if I can be of good service to you at any future time, let me know," and this concluded his stay at Chatsworth. A few days after Mr. Latham saw the Jardin des Plantes with a letter of introduction from Sir Joseph Paxton to the late M. Neumann, the Curator, who at once placed Mr. Latham under the care of M. Houllett, whose courtesy and kindness is to this day gratefully remembered by Mr. Latham and others.



W. B. Latham.

Curator of the Birmingham Botanical Gardens.

This establishment, although not so extensive as Kew, possessed a large collection of plants, many of which Mr. Latham had not previously seen. Quoting his own words "A large plant of Lapageria alba, at that time the only plant in Europe, attracted my attention, and the collection of hardy plants was extensive. I saw Paulownia Imperialis in flower there for the first time, and the finest collection—about 400 species—of Graminaceæ I had yet seen, many of them most beautiful species, seen by me for the first time. Great facilities were given to young gardeners to attend lectures, whilst many visited the large Peach and Nectarine growing establishments outside of Paris, when, by the payment of one franc each, the head of the establishment gave them instructions in pruning, training, &c. I found Sir Joseph Paxton had rightly predicted that I should find it difficult to live upon two francs a day, but I did it for six months, and then with a rise of salary of half a franc a day I remained another eight months, and during that time visited some of the best gardens and nurseries about Paris."

On his return to London Mr. Latham obtained employment in Messrs. Parker and Williams' nurseries, at Holloway, and after six months in the plant department that firm sent him as head gardener to Lieut.-Col. Perkins, Birtley Hall, Chester-le-Street, Durham, where he remained eight years, having charge of one of the finest collections of Orchids in the North of England, and a very large collection of exotic Ferns, greenhouse, and stove plants, the Victoria Regia and Amherstia nobilis amongst them. On the retirement, in December, 1867, of Mr. Catlin, Curator of the Birmingham Botanical and Horticultural Society's garden, after twenty-one years service, Mr. Latham was selected from about 200 candidates to succeed him. At this time the collection of plants was somewhat limited for a good botanical garden, which had existed for thirty-five years; and of trees and shrubs there were the remains of a fine collection, planted when the gardens were first made, and for the formation of a large archery ground, Mr. Latham received instructions from the committee of the garden to destroy one of the best—if not the best—collection of Cratægus and other Rosaceous trees and shrubs in the United Kingdom. It was a horrible piece of vandalism which Mr. Latham earnestly tried to avert. The collection of plants was speedily increased, some by purchases, and many by the liberality of friends. The glass accommodation was added to by the erection of two houses for the growth of plants, and subsequently the large, handsome conservatory was built.

The absolute necessity for still further glass accommodation led to a special appeal to the friends of the

garden for additional funds, and in a short time nearly £4,000 was forthcoming. In July, 1885, a large portion of the old structure was pulled down, and an extensive block of new glass houses was built (see illustration on p. 565). At the present time, the collection of plants in these gardens cannot be surpassed, excepting at Kew. Orchids receive marked attention, and visitors to the gardeus next week, on the occasion of the first Orchid show held in Birmingham, will there see an exteusive and well-grown collection. Mr. Latham deserves more than passing praise for the good work he is doing, and for the admirable cultural condition of the vast collection of plants under his care. He has troops of frieuds in Birmingham aud the surrounding districts, and few men are held in higher estimation or more kindly regard by all who know him.

ON THE ROOT-STRUCTURE OF PRIMULACEÆ.*

By Dr. M. T. Masters, F.R.S.

For practical purposes it is very serviceable to cousider a living plant in the light of a piece of mechanism, constructed and put together to do certain work as efficiently and as economically as circumstances permit. The comparison may serve our purpose without it being necessary to point out where it fails, and wherein lies the great difference between a machine begotten of its predecessors, aud who had the like structure and endowments with itself, self-sustaining, supplying its own power from sun, air, and water, built up and adapted by its own energy, and one constructed by the art of man, dependent ou artificial means for its support aud its power, and with no innate faculty of self-adjustment to varying circumstances. Availing ourselves, therefore, of the comparison we may proceed to discuss what it is our machine is called on to do, how it is enabled by its conformation to do what is required of it, and, incidentally, how we may help or mar its action. The Primulaceæ will afford us as good illustrations of these matters as any other family of plants. It is the group which is expressly selected to furnish a text for these remarks, and which, moreover, are, as prescribed, to be limited to a part only of the machine —the root. It is permissible, however, on such an occasion to use the term root in the broad sense in which it is usually employed by gardeners, and not in the more accurate and strictly limited sense in which it is made use of by physiologists.

The Requirements.

What, then, is our machine—the root—called on to do? In all cases to lay hold of the soil and secure the plant mechanically. How it does this will be sufficiently though incidentally illustrated later on, and is not a subject on which we as cultivators need linger long. The plants we have now to deal with may be lifted out of the ground by frost, but they are hardly likely to be washed away by floods or uprooted by winds. To pot firmly and press the crown firmly into the soil in transplanting are lessons which common experieuce teaches, lessons which the couformation of the root to be presently noted, do but accentuate.

Another universal duty imposed on the root is to feed the plant. This is soil-food and there is air-food. The leaves, stimulated by light and heat, collect and transform the one; the roots, influenced by heat, absorb and digest the other. How they do these things is beyond the purpose of this paper to explain, but reference to any modern botanical text-book, and in particular to the truly marvellous revelations contained in the chapters on root movements in Darwin's *The Power of Movement in Plants*, will supply the information and afford indications of the processes of absorption, of solution, of fermentation, of transformation, which, with or without the agency of minute Bracterian organisms, constitute each root-tip, each root-hair, a laboratory and a workshop. Each root-tip, each root-hair, moreover, is as sensitive as a nerve, not only responding to a touch, but transmitting impressions from the spot touched to adjoining cells. It is as mobile as a muscle, turning towards what is useful to it, bending away from what is noxious or obstructive, threading its way through the soil, and adapting itself to circumstances as if it really possessed intelligence. It acts like the brain, says Darwin; and truly as a sentient organ, receiving and transmitting impressions and directiug the course of growth and movement, it would be hard to say wherein its inferiority to the nervous system of the lower animals consists.

In the case of annual plants which live their life within the compass of a few weeks or months, there is little else for the root to do than to secure the plant in the ground and to go in search of food and turn it to account when found.

But in the case of pereunial plants such as most of our Primulaceæ, another duty becomes incumbent—that of providing a store-place for water and for food. The food so stored, principally starch and allied substances, is not absorbed directly by the root and packed away, but partly by root-action and soil-food, partly by leaf-action and air-food, is mauufactured in the leaves and afterwards transferred and deposited in the root or in the root-stock.

A similar formatiou of starch takes place in annual plants, but it is used up in process of growth, or stored in the seed to be turned to use by the seedling plaut when it begins life on its own account. In any case the storage requirements of an annual are small in comparison with those of a perennial. To ascertain how and in what manner the food is obtained, transforued, stored, and employed is surely to put ourselves in possessiou of information, of any that could be named, the most important for cultural purposes.

Another phase of work which falls to the lot of the root *(sensu latiori)* to achieve is that of propagation, and by observiug how this is effected spontaneously we may surely obtain some useful hints for our own artificial procedures.

Such, then, in very general terms, is the nature of the work to be donc; such, in merest outline, are the requirements of the case.

The Mechanism.

In the following remarks it is proposed to give a few illustrations of the machiuery by means of which the work just alluded to is done, for while the work is in all cases the same, the machinery by which that work is accomplished is manifold in detail.

Annuals.

Very few cultivated Primulaceæ come under this head. Some of the Androsaces and Anagallis are annuals; but speaking from a cultivator's point of view, they might be passed over if it were not for one circumstance, frequently ignored or overlooked, though one of great importance—the fact that seedling plants even of those species destined to be perennial are, to all practical intents, annuals. Barring the slender resources stored up in the seed, the seedling plants have a little store to draw upon, and thus, like the annuals, they must have good food within easy reach, and be provided with rapid means of utilizing it else they wither away.*

Centunculus minimus.—A weed no cultivator would bestow a thought upon, unless it were to compass its destruction, may, nevertheless, serve as a useful illustration. It sends down into the soil a slender tap-root, which speedily ramifies just below the surface, branches and branches again till it, as it were, invades a considerable area of soil. There are no great "hold-fast" roots—none are needed, but, on the other hand, there is a great multiplication of small fibres, and a consequent extension of absorbent surface. Notice, too, that there is no caulicle; in other words, the radicle comes straight away from beneath the two cotyledons, without there beiug any perceptible internode (stalk) between the base of the seed-leaves and the top of the root, In a seedling Primrose may generally be observed the radicle, giving off branches, then an erect cylindrical portion bearing the cotyledons or seed-leaves, but sometimes reduced to very small dimensions; this is the caulicle or tigellum. Above the two seed-leaves is the plumule, consisting of the first leaf or leaves above the cotyledons. In these seedlings it is curious to see how, whilst the primary roots descend vertically, the secondary ones pass off horizontally.

It is quite clear that the seed in Centunculus was not buried deeply, for the caulicle is a minus quantity. It is clear also the soil for such a plant should be light, open, rich, and well drained. Contrast this with the germination of Primula reticulata, in which not only is the tigellum very long, but the two cotyledons are also raised on long, erect, or ascending stalks, as if the plant grew in the clefts of the rocks, and had a long distance to thrust its seed-leaves into the light and air The requirements of the seedlings are, it need hardly be said, of the same character. We all know the care that is requisite to secure the germination and the rearing of these delicate organisms.

"In the morning sow thy seed, and in the evening withhold not thine hand." *Eccles.*, xi., 6.

The mode of growth of the Androsaces is similar. They are, it is true, for the most part not annuals, but in their root-growth some of them (the cæspitose species) follow the mode of anuuals. The seedling plants have roots of the annual character, with a long radicle giving off numerous branches. The adult plant has little provision for storage, but consists of a dense tuft of leaves, from the axils of some of which proceed long slender runners, like those of a Strawberry, and which bear at their ends a tuft of leaves like the parent from which they sprung. From the under surface of this tuft proceed roots like those of the Centunculus, and, like them, destined, not for any lengthened use, but only for a temporary purpose; no long time indeed elapses ere the tuft throws out new runners aud thus repeats in another generation the process of its own genesis. It would seem from this peculiar mode of growth that the Androsaces speedily exhaust the area in which their roots spread, and having done so haste—

"To-morrow to fresh woods and pastures new."
Milton, *Lyeidas*, t. 193.

Whether this is not an indication of value to the cultivator I leave to others who have had more experience to decide. My own want of success with these plants cannot in fairness be attributed only to neglect of the indication!

Perennials.

In these, as for annuals, there is need for daily supplies during the growing period, and further, there is the necessity for replenishing the stores. It is necessary, therefore, to consider the root-growth of these plants from two points of view—that of food-collecting and that of food-storage.

The actual absorptiou of water is, of course, effected in the same way in the roots of perennials as in those of annuals, but the perenuial habit allows more time wherein to work, and frequently secures a wider root-range than is possible in an annual. In a perennial, *cæteris paribus*, the roots can travel further, or penetrate deeper in search of food, than in the case of an annual.

In an annual the roots, as gardeners say, "keep at home," and there is not much necessity for a system of conduits to convey the water from its source to the stem; but in perennials it often happens that the best food supply is at some considerable distance from the stem, and the consequence is that the fibrous roots collect the liquid from the feeding-ground, aud couvey it in so many conduits to the stem. The thicker root-fibres have, as everyone knows, little or no power of absorption, that faculty being mostly limited to the thinnest extremities of the root-fibres, and to the root-hairs (where present). Of course the number, length, and degree of branching of the roots depend very greatly on the physical nature of the soil in which the plant happens to be growing—

"Pinguibus hæ terris habiles, levioribus illæ."

But when due allowance is made for these circumstauces each plant has more or less its own distinct character. The roots of most species of Primula, for instance, are very different from those of Androsace, and indicate different requirements. But even iu the same genus we get variations in this respect. In the common Primrose aud Polyanthus, in P. cashmeriana, P. capitata, P. amœua, P. auricula, P. denticulata, P. nivalis, P. longiflora, P. cortusoides, &c., the roots are generally rather thick and fleshy, descending more or less vertically for some little distance without branching, and then giving off short nearly horizontal branches with few root-hairs (except in P. auricula) in which, in some cases at least, the roots are covered with a velvety coat of hairs. Such roots are not surface-feeders, but are capable of penetrating to a considerable depth in search of food, while their succulent habit and reserve store of water obviate the necessity for that dense uet-work of fibrous roots that other species present. Primula rosea, P. Kaufmanuiana, P. involucrata,

*For the communication of numerous specimens illustrative of these notes I am specially indebted to Mr. Dewar, of the Royal Gardens, Kew; Mr. Barron, of Chiswick; Mr. Correvon, of Geneva; Mr. Douglas, and other friends. For some of the drawings I have to thank Mr. Sandgren, of Kew.

* "Some [seed] fell upon stony places, where they had not much earth: and forthwith they sprung up, because they had no deepness of earth: and when the sun was up they were scorched: and because they had not root, they withered away." *Matthew*, xiii., 5, 6.

and P. cortusa Matthioli, afford instances of this densely matted and comparatively superficial root development. They have few, if any, large root or conduit fibres; but, on the contrary, an intricate mass of fine fibrous roots, penetrating in every direction, and availing themselves, as it were, of every scrap of soil within reach. Surely we have here an indication of the necessity in cultivation of supplying these plants with ample depth and breadth of light, rich, moist, not to say wet soil. The utility of a mulch in hot dry weather is also indicated as a means of preventing the drying up of the surface roots.

In some of the Androsaces we find provision for keeping the roots moist and free from the risk of drought. In seedling plants of A. elongata, for instance, the caulicle is very long and the slender radicle descends vertically for a long distance without branching, and then gives off near its tip a leash of much branched fine filaments.

In *Soldanella* we have a tuft of rather thick fibres, which descend vertically into the soil, and are unbranched till near the points, where they give off numerous relatively short horizontal fibres.—*Paper read at the Primula Conference.*

(*To be continued*).

FRUITS, FLOWERS & VEGETABLES.

St. Brigid's Anemones—Choice Spring Flowers.—I feel some hesitation in differing from your correspondent, "Q," p. 556, in his notes on Choice Spring Flowers, when alluding to Anemones he says, "seeds can be sown in spring in a shallow box, using sandy soil, and placed in a cold frame shaded from the sun . . . and subsequently transplanted." I think, after many years experience, much the best plan is that recommended by Mr. Burbidge, Trinity College Gardens, when stating the best method of treating seed of the St. Brigid's strain of Anemones, raised on the Hill of Howth, drawn attention to by him, and now put into commerce by Messrs. James Carter & Co., High Holborn, London, for the first time this season. I may just state, I think, it will be generally admitted no Dutch strain of the Crown Anemones (A. coronaria), single, semi-double, or double can approach in size and brilliancy those found in numbers of Irish gardens, and of those Irish strains—maintained by a rigid process of seedling selection—St. Brigid's is one of the best. Briefly, sow any time to the end of the present month; mix sand with the woolly seed; have the bed or border with a warm southern aspect, as rich as possible with old hotbed or cow manure; don't transplant except the superfluous plants. The present moist weather just suits seed sowing, cover very slightly with sandy soil, and when the plants are large enough thin out the weak ones.—*W. J. Murphy, Clonmel.*

Peas not Vegetating.—I notice that your much esteemed correspondent, Mr. R. Gilbert, has been rather unfortunate this season in some of his Peas not vegetating, and especially the two new ones, British Lion and Alfred the Great, as no doubt during the season he would have given us his impartial opinion of them. New Peas are like new books, there seems to be no end to them, and as Mr. Gilbert has before remarked, one cannot purchase them all as they make their appearance, and especially when offered in small packets at the rate of £1 per quart. But what one has not another may have, and all gain by an interchange of opinions as to their merits. I might say that my samples of seed have been very good and sound, and all that have been sown are now showing themselves, with the exception of Ne Plus Ultra and other general cropping sorts which were sown last week, but which appear to be swelling nicely. It certainly looks curious that there should have been these failures in the hands of such a veteran as Mr. Gilbert; but the best of men cannot always succeed.—*B. L.*

Charcoal "Nuts" for Covering Stages.—The adoption of charcoal "nuts" are now becoming general for the covering of stages in plant-houses, and charcoal has certainly some good qualities to recommend it. It does not become green or dirty so readily as in the case of spar, gravel, and other material which is often used, though a good absorbant of moisture, and by its use there is a saving of time and labour in obviating the frequent overhauling and washing of spar, and the continual scratching of the surface as required with sand, &c. It harmonises fairly well with the plants and flowers, and is not so glaring to the eye as spar, sand, &c. Its use for the drainage of plant pots I prefer to crocks, especially for first shifts in the case of Fuchsias, Pelargoniums, Chrsyanthemums, &c., as when in repotting any of these, the whole ball of soil and charcoal are turned in, so that there is no picking out of the crocks between the rootlets which frequently get amongst the drainage, and are often broken.—*B. L.*

Tiger Flowers.—Judging by the remarks of your correspondent, "Reader," at p. 555, anent Tigridias, it would appear that he has some experience of wintering them in heated structure, seeing that he gives instructions for their treatment under such conditions. Permit me to say that I consider artificial heat during the resting period of Tigridias, *i.e.*, from November to the end of March, both unnecessary, and at the same time injurious, and that any wintered under such conditions would not surprise me by partial or total failure as the result. Tigridias are so nearly akin to hardy that they cannot be kept too cool in winter time, and any application of artificial heat cannot do other than keep them in constant excitement, while occasional waterings would only accelerate the same. Anyone possessing a cellar or shed from which frost may be excluded and where Potatos, Dahlias, Gladioli, tuberous Begonias, and such things can be wintered in safety, need not fear for Tigridias; and in such a place they will not, if properly and gradually ripened off and lifted about the middle of November, need a spot of water during the time above stated. The point to be specially aimed at in storing these and similar half-hardy bulbs away for resting is to place them in as cool a place as possible, consistent with safety and where the atmosphere is uniformly moist; this will keep them sound and plump—a thing to be desired—and if placed in boxes, and covered with cocoanut fibre, better still. This is far better than heated structures, or even a cold frame, as in the latter, if left in the soil, they not invariably deteriorate.—*E. Jenkins.*

Primula rosea and P. obconica.—Now that this class of plants is prominently before the public, it may be worth while calling attention to the great difference there is in beauty, size, colour, &c., in some plants over others, although obtained from the same packet of seed or bought from the same source. This was most marked at the show at South Kensington in the case of plants of the above named kinds. In P. rosea the colour is most vivid, but in this respect the plants that were obtained here when first sent out quite eclipse all those that have been obtained since, and are quite equal to the improved form called grandiflora, which we are increasing at the expense of the others. In P. obconica the difference is just as marked, as from a packet of seed we obtained a goodly number of plants, among which there was one that out-distanced all the others (I observed the same form in one of the collections at the show), the blooms are as large again, and far better shaped; we are seeding this, and the trade should increase these good ones in preference to the others, although they may have to charge more for them, but the public would be the gainers by their so doing. It may be worth asking if any reader of THE GARDENING WORLD has tried crossing this latter with rosea, and with what results? No garden is complete without obconica, rosea, denticulata, Cashmeriana, viscosa, nivalis, and intermedia.—*Con.*

Violets.—Your correspondent "M. T.," in his Scottish notes last week, has some remarks on Violets. I should like to know what sorts he has seen growing in the north. Here we succeed fairly well with Victoria Regina and The Czar. I had a few plants of Marie Louise sent me three or four years ago, and prepared for them what I considered a good bed on a south border, and placed a frame over them in order to give them a fair start; but they only made slow progress, and by autumn were smothered with red spider, which rather surprised me in this moist cold climate. Last year The Czar was similarly affected on a west aspect, but on north and east borders they kept moderately clean; likewise, some on a south border, but shaded by trees during the middle of the day. When practising in Kent, I grew the Neapolitan, I believe, as well as it can be grown, both in pots and planted in frames, and the plants were always prepared on a south aspect and generally succeeded our winter Lettuce, but red spider never gave us any trouble. Bickley and Chislehurst in Kent were notorious for the Neapolitan Violet. Last year I called upon an old acquaintance (Mr. Neighbour, Bickley Park), who must have grown the Neapolitan well years before I was born, and I found the frames and pits that were so familiar to me filled with Marie Louise, which he considered better in every way. If one could be informed of the varieties that succeed in certain localities in the north, it might afford a useful hint as to other localities in which they might succeed also. I think it is useless trying them within a radius of three or four miles of large manufacturing towns, and I doubt if many are grown within a dozen miles of THE GARDENING WORLD office.—*W. P. R., Preston.*

Collinsia verna.—Has this beautiful species become lost to gardens? I have not seen it in flower for years; the last time was at Messrs. Barr & Son's bulb grounds at Tooting, where it was growing on the sides of some bulb beds, in the light sandy soil peculiar to that garden. It is such a pretty blue Collinsia, and perfectly hardy; but the seed must be sown as soon as ripe, or it will not germinate. That is the rub. There are now so many plants of easy culture, that who will take thought for a plant that gives a little extra trouble, however pretty it may be? If anyone went to a seed shop and asked for Collinsia verna, they would, probably, be supplied with C. grandiflora or C. violacea, but they would not get the true thing. I do not know whether Messrs. Barr & Son grow it still, but, perhaps, seed of the true thing can be got from them; but it should be applied for in August, and sown immediately, and then a little seed should be sown annually. It is the only Collinsia that can be had in bloom in the month of April.—*R. D.*

Birds and Gooseberries.—When looking over a large piece of Whitesmith Gooseberries a few days ago in one of the London market-gardens, it was curious to notice how many of the fruits were destitute of blossoms at the end of them. The Whitesmith is one of the earliest to flower, and the blossoms appear to put forth a sugary secretion, which the sparrows and tomtits devour. Some of the berries swell after being so attacked, but many others do not.

Keen's Seedling Strawberry is one of my favourites. It is of robust habit and an excellent cropper. It has sustained its reputation for many years, and by many is still considered of the first quality. I have seen this variety on many sorts of soils, and in widely different parts of the country, and I think it will succeed in any soil that has been properly cultivated and duly prepared for it. Black Prince is a great cropper and very early; in most places it is the earliest variety grown. For jam making it is more suitable than many of the larger fruited kinds; it is an advantage to replant this sort frequently, to have it in perfection. It is sometimes used for edgings, for which it is very well suited. Sir Joseph Paxton is a good kind of Strawberry, and of a hardy constitution. It stands a wet season better than most kinds of Strawberries. If permitted, I might, in another note, have something to say on the different kinds of Strawberries and sorts of soils I have seen them grown in.—*J. R.* [We should be pleased to have our correspondent's experience.—ED.]

ORCHID NOTES AND GLEANINGS.

Orchid Flowers.—What is the best means of preserving cut Orchids for use as required?—*A. H. L.* [Where it is not absolutely necessary to allow the flower-spikes to remain whole, there is no doubt that the utmost limit of duration can be secured by removing each flower singly, and placing them, a number together, in shallow dishes of water, the end of each flower-stalk being placed in the water, and each flower supporting itself either on the side of the dish or against a neighbouring flower. So arranged, and placed in a cool shady room, it is wonderful how long some of the varieties last. For example, I have kept good in this way Dendrobium infundibulum and D. Jamesianum for eight weeks; Odontoglossum crispum, Pescatorei, Rossii, Cervantesii, &c., for from three to six weeks; and many other things for even longer periods. It seems that the single flowers keep so much longer than the sprays, because each draws its own support of water without its having to pass through a joint or be stinted by having to pass through the harder main stem. The nearness to which the flowers are brought to the water, too, of course helps to preserve them, and with many flowers which wither quickly—as, for instance, Masdevallia chimæra and its varieties—they may be speedily and perfectly restored by being carefully floated into form on the surface of a basin of water. To preserve single flowers or sprays, much assistance may be gained by placing the stems in bowls half full of water on which green moss has been placed for the sprays to rest on.

Where the sprays or spikes are required for decoration whole, they should be arranged in a vase of water, and placed in a shady situation, and where possible a large glass shade should be placed over them. Even in the dwelling-house such rare flowers last much longer under a glass shade, and as it doubles or trebles their duration, it is a good plan to get one for the purpose. In all cases Orchid flowers last best in the shade and cool, and many of them are gone in a few hours after cutting if placed in the sun.—*James O'Brien.*]

The Orchid Growers' Calendar. — The growing Dendrobes must be accommodated with as much heat and moisture as possible, and, until their growths are well completed, an unstinted supply of rain water should be given them. Good growths may be got on these plants in almost any house, even if not what is commonly called a hot-house, if they be well attended to, but stronger growths better ripened, and consequently of better flowering capacity, are to be obtained when a good amount of heat is given them when growing. Some species are much later than others in growing, and it is best to await the evidence of starting into growth before putting into heat. Bare rafts or shallow baskets are safest for those of the D. formosum section; those of the D. thyrsiflorum class, commonly called "evergreen," succeed well in pots; and for those with long pseudobulbs, which are pendulous when allowed to have their way, such as D. Wardianum, baskets are desirable.

While the growths are young, it is advisable to abstain from tying them upright (particularly where syringing is practised), as that deprives them of the natural means for shedding water from the hearts of the growths, which they all assume by drooping the points forward in such a manner that water, even if dropped into the centre, will not remain in sufficient quantity to do harm, which is not the case where the young growths are tied upright. When any require support, however, they should be looped up with a tie. All the East Indian things—Phalænopsis, &c., which are growing, should be carefully shaded and kept fairly moist.—*James O'Brien.*

The Lovat Collection.—At the second day's sale of this extensive collection, Mr. Stevens obtained good prices for several fine specimens, including the following:—Cattleya Mendeli, 30 gs.; C. labiata, true old autumn-flowering variety, 20 gs.; C. Skinneri alba, 12 gs.; Cœlogyne Massangeana, 27 gs.; Lælia anceps Dawsoni, 30 gs.; Cattleya Mendelii, extra fine variety, with eleven flower sheaths, 64 gs.; another small plant, 40 gs.; and Cattleya Morganæ, 11½ gs.

Orchids in Flower.—The following Orchids are now in flower in Messrs. John Laing & Co.'s collection at Forest Hill, S.E.:—

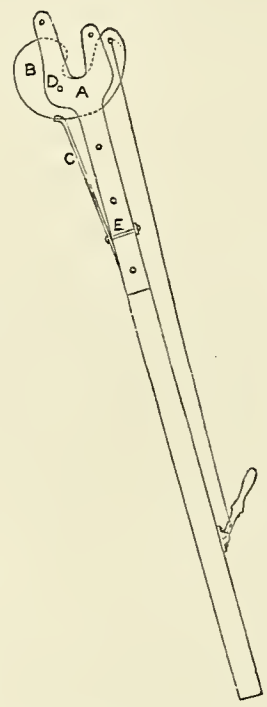
Ada aurantiaca
Cattleya intermedia
,, Lawrenceana
,, ,, oculata
,, Mossiæ
,, Trianæ
,, Mendelli
Cypripedium barbatum
,, ,, superbum
,, Boxallii
,, Lawrenceanum
,, villosum
Dendrobium aggregatum
,, Cambridgeanum
,, Devonianum
,, macrophyllum giganteum
,, Jamesianum
,, japonicum
,, Pierardi latifolium
,, thyrsiflorum
Masdevallia Harryana
,, ,, Bull's Blood
,, Lindeni
Masdevallia Shuttleworthi
Odontoglossum Alexandræ
,, ,, roseum
,, Andersoni
,, Cervantesii
,, ,, decorum
,, citrosmum
,, cordatum
,, membranaceum
,, Œrstedi
,, Pescatorei
,, pulchellum majus
,, Roezli
,, Rossi majus
,, triumphans
,, vexillarium (several fine varieties)
Oncidium concolor
,, cucullatum
,, varicosum Rogersi
Phalænopsis amabilis
,, grandiflora

Mossing the Stems of Aërides and Vandas.—The practice of "mossing" up the stems of Aërides and Vandas that have lost their foliage, seems to me a mistaken policy, for so far as I can see it has little or nothing to commend it. In the first place, so far as I have observed, it does not encourage the formation of new roots, for they, as a rule, come higher up where there is foliage, or from the old roots. And in the next place, to say the least of it, mossed stems look more unsightly than the bare stems of the plant would. By keeping the atmosphere of the house moist, and a bit of judicious management, they will generally form new roots, so that in time the bare stems, or part of it at any rate, may safely be taken off. It would be interesting to have the opinion of others, anent this practice.—*J. S. B.*

Cattleya Mossiæ.—We have received from Mr. Excell, gardener to E. A. Leatham, Esq., M.P., Misarden Park, Cirencester, a flower off the specimen of Cattleya Mossiæ mentioned at p. 509 as having thirty-six sheaths. It measures between 8 and 9 ins. across, and is an unusually good variety. The plant we are informed is now bearing between ninety and a hundred of such flowers!

A NEW TREE PRUNER.

We have been favoured by Mr. W. B. Glasscock, The Gardens, Shirley Park, Croydon, with a sketch of a new tree pruner, which has advantages over other tree pruners to strongly recommend it. As will be seen from the accompanying illustration, the cut is made in a downward direction instead of upwards, as in pruners of similar design. By this means the work is rendered much lighter, and the fork being introduced beneath the boughs, instead of having to be raised above them, also tends to lighten the labour. It also makes a cleaner cut, with half the force required with other pruners. The sketch may be explained thus:—A is the



A new Tree Pruner

branch holder, made of two forked plates; B, the cutter-blade, working between the forked plates; C, steel spring, working on the back edge of B, to keep the cutter in an open position; D, bolt connecting spring to holder.

ON SETTING MELONS.

The best articles on the Melon that ever were written would be pronounced incomplete if details as to setting the fruits were omitted. Consequently, the proper balancing of temperature, moisture, and air at this critical period are minutely set forth and discussed according to the writer's ability. As to water, we are rightly told to withhold it from overhead or in the shape of atmospheric moisture, and all gardeners of experience recognise the soundness of the advice. But when we are told to reduce the supply to the roots, the reasons for such teaching are not so obvious, and why it should be applicable to the Melon more than any other fruit-bearing plant it is not easy to perceive. Nothing proves so disastrous to the Cucumber as to allow the roots to get at all dry. Large or half-grown fruits may hold their way under the ordeal, but those newly set or setting will surely succumb. Withholding water from Melons grown in frames for a few days at the time of setting seems more reasonable, not that it has much effect on the roots, for they are fortunately revelling in the stack of manure underneath, but is conducive to a dry atmosphere inside the frame. In houses devoted to Melon culture we have this agent under command, so that any water applied to the roots should have no influence on the atmosphere of the house.

Too much importance, I think, is also attached to the admission of air into the Melon-house at the time of setting the fruit, and I have this season proved that it is of no more consequence than to setting a Cucumber, and that Melons can be set without the ventilators being opened at all, providing there is the required degree of top and bottom-heat. Having a small space to spare in the end of one of our span-roofed Pine-stoves, two pots were plunged and planted with Melons and the fruit set like Cucumbers. At first only an odd female flower expanded, and set at intervals of two or three days; but as we were not going to be content with less than two fruits, and these on strong shoots, quite ten days was lost by not having three or four opened on the same day or within two days, and having to move the odd ones which took the lead, as is their habit if there is a few hours' disparity in their age. A set was at last secured, and when we came to thin the fruit there were eight or nine on each plant, six so even in size that it was difficult to decide which to retain till we fixed on those furthest apart and on the strongest shoots, and they are now three-parts swelled, whilst those in a well-constructed Melon-house, planted at the same time, are only setting, as we were unsuccessful with the first laterals and some of the sub-laterals, which I attribute to want of top and bottom-heat, which was at times 8° less than that of the Pine-stove, but always 5° lower.

This higher temperature was the means of bringing the pot-plants into flower some days before those in the Melon-house, though these received considerably more sun when it pleased to shine.—*W. P. R.*

PATENTING HEDGES.

It could only have occurred to our Yankee friends to conceive of patenting any method of planting a hedge. It is hardly even conceivable that such an idea could have found a resting-place in that ceaseless projector of notions, the Yankee brain, for such a length of time as would "lick it into shape." It is so absurd. But it is nevertheless a fact that it has not only been conceived but acted upon, and even prosecution is threatened in consequence of an infringement of the patent rights. The "Dayton Hedge Company" of Ohio is the patentee, and the "Michigan Hedge Company," which we gather from the *Albany County Gentleman* is a branch of the first-named company, is the cause of so much trouble in the district in which it claims to operate, that the press is taking the matter up with, we should think, good reason in the public interests. We have it on high authority that there is nothing new under the sun, and we certainly thought that anything new in such an ancient and well-worn subject as hedge-planting was hardly possible. We also thought, on noticing the correspondence in our American contemporary, that there must necessarily be something specially good and novel in a method of planting that had been deemed by our shrewd relatives over the Atlantic worthy of protection by patents. On examination, however, we find there is nothing in it; the system being that of bending or laying the stem of the plant underground, which was practised more or less both in this country and in America by the great-grandfather of the oldest inhabitant of either country. To our old-world insular intellects the claim of this American "Hedge Company" appears incredibly absurd; but as we gather from our contemporary that the agent of the company, in fulminating his threats of prosecution of those who infringe the patent rights in question, has 150,000 dols. to do it with, we are constrained to believe that to a certain section at least of the Yankee mind it has bottom in it.—*Forestry.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The time has now come when the Calanthes will need attention, as by this they should be started into growth, and if left too long re-potting cannot be done without injury to the young roots. Shake all the old soil from the roots, and if it is desirous to increase the stock, remove all the small pseudo-bulbs, so that they may be potted up singly in small pots and grown on by

themselves. Those for flowering may be potted as desired in medium or large-sized pots; but, as a rule, they are far better if kept in 7-in. or 8-in. pots. The compost we find best suited to them consists of equal parts of good loam and peat, with a little half-rotten leaf-mould and a good sprinkling of charcoal; care should be taken that the pots are thoroughly drained. After potting they should be placed in some rather shady spot in the stove; but after once they have started they will make a more sturdy growth if grown in the intermediate house, placed in a batch by themselves.

Now that most of the forced things are done with, attention must be given to plants for summer decoration, and amongst the most useful are the double Petunias. We generally procure a couple of packets of seeds annually, and from them, as a rule, we manage to select some which are decidedly worth saving through the winter for spring propagating. We have already pricked-off a nice batch of seedlings, beside having a goodly stock of spring-struck cuttings; most of the double kinds are valuable for cutting, and all are deliciously scented. Balsams, too, must not be neglected; the early batch now require a good shift. Care must be taken to pot them deeply—if possible, up to the Cotyledons, using a rich open soil, and avoid pressing; anything approaching firmness will cause failure. At present they must be grown in a genial temperature, but as the weather becomes warmer they may receive plenty of air, always being careful to keep them fully exposed to the light and as near the glass as possible.

We have removed all the bedding Pelargoniums to a shelter provided out of doors, where we cover them up at night, and so we have made room for the hundred and one other plants from the houses, which is a relief, as they had become greatly in the way of the work on the Vines and Peaches. A pinch of seed of Browallia Roezlii, sown now and grown on like Balsams, will be found extremely useful for cutting purposes, and also for staging amongst other plants in the greenhouse, the bright blue of its flowers being very effective; another batch sown about the middle or end of June, will be useful for using amongst the early section of Chrysanthemums. Gradually harden off all bedding plants, removing the lights as much as possible during the day, and watering freely.

THE FORCING HOUSES.

As soon as it is perceived that the early Peaches have taken their final swelling, give the border a good watering, using artificial manure freely, and let this be continued every week until the fruit approaches ripening, when less must be given; syringe abundantly morning and evening, closing the house early and allowing the temperature, with the sun-heat, to run as high as 90° in the evening; a crack of air may be put on, and left on all night. Keep the growths in each of the houses regulated frequently, so that the fruit may receive all the sun possible to ensure high colouring.

We have to day thinned down our crop of Muscats, and thanks to a little extra attention, as advised in last week's calendar, we have a famous "set," so much so, that we must commence thinning at once, or some of the clusters will be quite spoiled; the succession houses are also nearly ready for the same operation to be performed, so that, for a few days, Grape thinning will be the order. The Lady Downe's Vinery is now ready for disbudding and stopping, and the plants having been removed, this must be attended to. See that the borders are regularly and abundantly watered; shut up early to save firing, which it is as well to dispense with when possible. Take care that supports are placed under the Melons before they become too large or damage may be done; we use for the purpose a square piece of galvanized wire netting, and it answers admirably.

THE KITCHEN GARDEN.

The first sowing of Scarlet Runners should be made without further delay, and also one of dwarf French Beans—the variety Pale Dun we find the most trustworthy, but if extra long ones are required for exhibition, a few rows of Canadian Wonder may be sown. All the late kinds of Broccoli, curled, and Asparagus Kale, late Savoys, and such like, should be sown at once, and after being covered, a good dusting of soot and lime sprinkled over the surface of the ground before being raked down. The main crop of Beet may be sown at any time; the first sowing is just bursting through the soil. All our seeds have come through remarkably well, both indoor and out; the main crop of Carrots are well up.

We have made another sowing of Peas and Beans, and have still one more of Ne Plus Ultra to put in, which will, we hope, carry us on to the end of the season. We have sent a dish of late Peas, and one of forced Asparagus to the dinner table on the same day (October 17th), but the seasons will seldom allow of its being done. The bed of Sea Kale for next season's forcing will now need looking to, the flower heads must all be cut away well down to the soil line, any stray crowns dug up, and the ground between the rows forked up and put neat and tidy; sow Radishes and small salads frequently, and water copiously if the weather is at all dry. To-day we are planting out our first forced batch of Strawberry plants; should the season be favourable they will give us some useful pickings after the main beds are over.—*Walter Child, Croome Court, May 4th.*

FLORICULTURE.

Alpine Auriculas.—I find that nine out of every ten persons that look at my Auriculas prefer the bright-coloured varieties of the Alpine section to the more select-edged varieties of the show class. I have a dozen or fourteen grey and white edged in bloom, but they say they are all alike; Mercury (Alpine), with its broad margin or shining maroon is far more attractive to them than Geo. Lightbody, the chief of the grey-edged class. They admire Lord of Lorne, but can see no beauty in the fine new green edge, the Rev. F. D. Horner. This is a real acquisition; a good green that quite displaces Prince of Greens, from which it is in all probability a seedling, but much more refined, and with a decidedly stronger tube. But this is a digression.

My Alpines are just now at their best; they are late this season, but in admirable bloom. There are early and late-flowering varieties, which is an advantage, as it serves to prolong the blooming season. We want a few more good white centres; centres that maintain their colour from beginning to end. Some open white, or nearly so, and change to a dead white—a ghastly looking centre that one turns away from with something akin to disgust. Some open a delicate sulphur or deep cream; in the early freshness of the expanded pip there is a gleam of gold in it; with age this flies away, and so to a truss that has young and waning blooms upon it a confused appearance is imparted, which is objectionable.

Among the best of the white or cream-centred flowers are Susie Matthews, having a maroon and bright crimson ground, with shading of pleasing greyish lilac, fine and attractive; George Lightbody, deep crimson-purple, shaded with pale purple; Tenniel, in the same way, but paler in the edge, perhaps, when in good condition, the most charming of all the cream centres; Queen Victoria, plum colour, with bright purple shading; and Mr. Dodwell, one of the varieties that opens sulphur and changes to cream; maroon ground, shaded with lilac-purple, good pip and truss. I have seen at Manchester the old Conspicua and Mauve Queen, both with soft creamy centres, very finely shown; but they seem to have gone out of cultivation in the south, or nearly so. I repeat there is much room for improvement in this class.

Of golden centred flowers with shaded edges there is now a very fine lot, and the new varieties raised at Slough during the last three years include flowers that seem to come very near to one's ideal of perfection. There is King of the Belgians, with its finely formed pip, and maroon and bright crimson shading; Prima Donna, in the same way, but with more fire in the shading, a beautiful Alpine; Vesuvius, of similar character, with fine bold pip and truss, very bright, but apt to come rough; Mrs. Thomson, crimson shaded; Mrs. Ball, a lovely Alpine, maroon shaded with crimson and purple; Diadem, an old and charming favourite when well caught, but has the fault of the pale golden centre changing to cream. William Fowle, Thomas Moore, Fred. Copeland, President, Mariner, and Sensation are all fine and striking flowers, but less broadly shaded than those already named; but they help to make up a good variety.

Of what may be termed self flowers, or varieties with so little shading that they may be classed under this heading, there are Colonel Scott, John Ball, Mercury, Napoleon III, and Phœnix, all very fine indeed; in fact, the richest, brightest, and most durable golden centres are apparently in association with maroon margins.

All that I have named are well worthy of cultivation, and some who do not care to attempt to grow the edged and self varieties of the show section might cultivate some of these beautiful Alpines, they are worthy of the best attention. They do well in a compost made up of good yellow loam, leaf-mould, some well decomposed manure, and a little sand, and they should not be overpotted. It is astonishing what fine heads of bloom can be produced on plants grown in small pots. If anyone will inspect the fine collection of Alpines grown at Slough during the blooming season, they will find the main of the plants in small pots. I am just now repotting all my young stock, using such a compost as that I have named above. By potting early, the plants make a good growth during the summer, and make fine specimens the following spring.—*R. D.*

Cinerarias at Forest Hill.—During the past week or two Messrs. James Carter & Co.'s annual growth of seedling Cinerarias have been in fine bloom in their nursery at Forest Hill. The collection consists of some 600 plants, for the most part in 16's and 8-sized pots—robust, healthy specimens of the dwarf, bushy habit which of late years has been introduced with so much advantage to the plant. By careful selection the strain is constantly being improved, the aim of the firm being to encourage a good, free-growing, yet dwarf habit, with great flowering capacity, and the flowers bold and striking in colour without any tendency to coarseness; something that will make a gay show in the conservatories of those with whom "form," as understood by the florists, is not the be all and end all of Cineraria culture. Not that "form" is wanting in the strain; on the contrary, in this respect there are hosts of sorts among these seedlings that for shape and purity of colour would hold their own in any company.

Self coloured flowers most largely predominate, and for general decorative purposes, they are preferred by many to the bi-coloured flowers, those in which a white ring surrounds the eye or disc, and it may be further noted that dark discs predominate over the grey ones, though even that is a point that perhaps only a florist would insist upon, and certainly in some shades of colour the grey disc forms a pretty contrast. If we were to select any one or more colours as being the most pronounced, we should say that the various shades of rose and magenta, the former especially, were the most pronounced, and certainly most beautiful in every respect. Most conspicuous also are the blue flowers in various gradations of tone, from pale sky-blue to rich deep Cobalt. The whites, too, are very pure, most of them of excellent form and substance, and those with dark discs, rendered thereby all the more conspicuous. In bi-coloured flowers we were much impressed with some in which the dark maroon edging was well balanced by the white ring round the disc. With a strain yielding such a large percentage of well-formed showy flowers, the necessity for growing named sorts by division yearly becomes less, to the great gain of all.—*Sabrina.*

The Auriculas at Rough Bank, Sheffield.—It is now twelve years since I first had the pleasure of seeing this fine collection of Auriculas in flower. During that period I have not once missed giving myself the annual treat of gazing on what I may justly call the cream of our spring flowers. This season, owing to the continuous cold and dull weather, the plants are much later than usual, which has prevented Mr. Simonite from exhibiting this year. Many of them are not yet in flower, the green-edged section being the latest. It is surprising to me that there are so few Auricula growers in and around Sheffield and other large towns, as they are so well adapted for town gardening. As a proof of this, I may say that Mr. Simonite's garden is surrounded by steel furnaces and collieries, so that anyone who is possessed of a few yards of ground and a garden frame, with the aid of the advice so often freely given by experts, may grow Auriculas well.

Although Mr. Simonite flowers his plants in a greenhouse, and can apply fire-heat to it, he uses as little as possible, just sufficient only to exclude damp. In previous seasons, when fire-heat has been given for the purpose of getting the plants into flower for exhibition, they have not been so good, either in the strength of the plants or the substance of the flowers, as they are

this season. The following are a few of the good standard sorts and seedlings raised by Mr. Simonite:—Green edge: Colonel Taylor and Booth's Freedom are very fine examples, but are eclipsed by some grand seedlings which have just been named. One, Sir Henry Watson, which has a fine yellow tube, white paste, black body, with green edge, which is quite smooth; James Douglas, and Samuel Barlow. The above are all excellent, possessing all the qualities that could be desired. Amongst the grey-edged sorts there were but few open but conspicuous amongst them was Mr. Horner's Agamannon. White-edged flowers were well represented: Conservative, John Simonite, Frank Simonite, and two grand seedlings, one called Heather-bell being of robust habit, and carrying a truss of eleven pips, which are very large and smooth. The other is named Arethusa and is of equal merit. Amongst the selfs there are some charming things: Charles J. Perry, Mrs. Douglas, Ellen Lancaster, Blue Bonnet, Sapphire, Heroine (this is one of Mr. Horner's fine seedlings), Calliope, and Mercury, the latter being a crimson raised by Mr. Simonite, which is a fine, large, and smooth flower.—*J. W. S.*

THE LATE MR. ANDREW TURNBULL.—I observe that your last issue contains an intimation of the demise of this much-esteemed old gardener, who has left behind him a name worthy of general recognition as one of the most painstaking and successful raisers of hybrid Ericas, and whose long and praiseworthy career is well worthy of imitation by all young gardeners who are anxious to succeed in their adopted profession; and I may observe that no man can possibly expect to do so unless the precepts and example of the late Andrew Turnbull be duly observed and assiduously followed. As I write I have the portrait before me of this estimable old gardener, and also portraits of several of his lovely and superb varieties of Heaths, on the treatment of which he observed, in the *Florist and Pomologist*, 1882:—"Regarding the raising of new varieties of Heaths, I have never made any mystery about it, or concealed my practice in the matter from anyone who asked me. I have no hesitation in saying that a good deal might still be done in that way were it taken up by young men; but they should be made aware that patience and perseverance are absolutely necessary for those who make the attempt." This is sound practical advice, given by one who closely observed all that is required of man in humbly aiding (and I hold this to be a great privilege) nature in her vast, interesting, and beautiful works. Such a one was Andrew Turnbull, whose mind was led to fully appreciate the beautiful objects of nature, the very fact of which very materially contributed to his long life of usefulness. I do not for one moment speak with feelings of regret for the loss sustained. It is a pleasurable memory to know that so useful a life was so long and profitably extended far beyond that of many of his friends and brother gardeners. In alluding to Mr. Turnbull's productions, Mr. Thomas Moore observes or asks in the work mentioned:—"By what strange fatality is it that the genus of Cape Heaths (Erica) has become a family of neglected plants? Once they crowded our exhibition tents, and abounded in our greenhouses and conservatories. Now, with the exception of a few free-growing market kinds, they are seen only as comparative rarities in either place. It cannot be from want of beauty that they are thus neglected, for few flowers are so chaste and lovely as are many of these." One thing is positively certain. Heaths of Cape origin and hybrid character, to do them well, impose an unremitting tax upon skill and industry. As my old friend, the late William Cole, would observe, there is nothing of the Mushroom growth or character about them. To keep specimen Heaths of large size for a series of years in fine exhibition form appears not to be the custom or practice in the present day, and those whose love for this lovely tribe predominated in days gone by who may still be living, will cherish in their minds the memory of our veteran friend, the late Andrew Turnbull.—*George Fry, Lewisham.*

QUESTIONS AND ANSWERS.

PEA.—*B. L.:* We know nothing of the new varieties in question, but will make enquiries among our friends.

WHAT IS A COTTAGER?—*A. F. L.:* For Flower Show purposes we should define a Cottager as a labourer or mechanic, living in a cottage, the rental value of which does not much exceed the average value of similar tenements in the district, and who does not employ any assistance in his garden, or gain his livelihood solely by growing Flowers, Fruits, or Vegetables for sale. Jobbing Gardeners and Gentlemen's Gardeners should be debarred from competing in "Cottager's" classes; and in the case of Market Gardening districts, all employed in such gardens above the rank of a labourer should be similarly precluded from competing. In rural districts there is not much difficulty in deciding who is a cottager and who is not, but in towns and their vicinity the case is somewhat more difficult, and can only be decided by the local committee, who should endeavour to define the term on sufficiently broad lines, as to admit to the competition the greatest number of persons living on about the same equality.

SPIDERS.—*C. K.:* We scarcely like to suggest that what you believe to be Tarantula Spiders may be only Ants, but suspect that such is the case, and if that be so, you can soon rid yourself of their presence by sprinkling fresh Peruvian Guano in their runs; or if it can be done without injury to your plants, by pouring scalding water into their runs and nests. Carbolic acid, well diluted with water, sprinkled about their quarters will also drive them away; but if it is more convenient to trap them, lay some half-picked bones about, and while the Ants are feeding, dip the bone into boiling water. Send us a few of the Spiders.

NAMES OF PLANTS.—*J. E. L., Levenshulme:* 1, Oncidium orientale probably; 2, Oncidium Wentworthianum; 3, Oncidium Marshallianum, a very bright variety; 4 and 5, Oncidium concolor. *W. C., Hawick:* Narcissus albicans.

COMMUNICATIONS RECEIVED.—W. H. E.—E. B.—B. S. W.—R. F.—M. T.—G. F.—W. B. L.—W. J. M.—W. G. S.—L. H. G.—J. & F.—W. S.—E. D.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, 544, King's Road, Chelsea.—Catalogues of Plants, including Novelties for 1886; and Select Soft-wooded and Bedding Plants.

LONDON SEED TRADE.

May 5th, 1886.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report a moderate sowing demand for Agricultural Seeds and values a little easier. English Red Clover is still plentiful in the growing districts, and considerable quantities being in farmers hands, the demand for home consumption is reduced to a minimum—this also applies to Foreign Red, of which there is a full supply. White and Alsike show no improvement in values, and notwithstanding the very low prices quoted there seems no disposition to speculate for holding over. The demand for Trefoil is more active, and large quantities have recently changed hands, but it is believed without profit to the vendors. Grasses of all kinds continue in fair request. Mustard is also being enquired for. Rape maintains late quotations, and has an upward tendency. The demand for spring Tares is now very limited, the sowing season being almost over, and values remain steady; Linseed cheaper. No change to report in Bird Seeds.

COVENT GARDEN MARKET.

May 6th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, ½ sieve	2	0	4	0	Pine-apples, St. Michaels, each	2	6	8	0
New Grapes ..per lb.	3	0	6	0	Pears .....per dozen	12	0	15	0
Kent Cobs, per 100 lbs.	40	0			Strawberries ..per lb.	2	0	6	0
Pine-apples, Eng., lb.	1	0			Canadian Apples, brl.	12	0	21	0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, Globe, doz.	2	0	3	0	Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	3	0	3	6	Lettuces ..per dozen	1	6		
Beet, per dozen.....	2	0	3	0	Mushrooms, p. basket	1	0	2	0
Cabbages ....per doz.	2	6	5	0	Onions, per bushel ..	5	0	6	0
Carrots, per bunch ..	0	6			Parsley, per bunch ..	0	6		
Cauliflowers, English, per dozen	4	0	6	0	Radishes, per dozen..	1	6		
Celery, per bundle ..	1	6	2	6	Small salading, punnet	0	4		
Cucumbers, each	0	6	1	0	Sea Kale, per basket..	2	6	3	6
Endive, French, doz.	2	6	3	6	Spinach, per strike ..	2	0		
Herbs, per bunch....	0	2	0	4	Tomatos, per lb.	3	0	4	0
					Turnips, per bunch ..	0	6		

POTATOS.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s.	d.		s.	d.	s.	d.
Anemone, 12 bunches	3	0	6	0	Narciss, various, per dozen bunches	2	0	6	0
Arum Lilies, 12 blms.	4	0	6	0	Pelargoniums, per 12 sprays	0	9	1	0
Azalea, 12 sprays	0	6	1	0	— scarlet, 12 sprays..	0	4	0	9
Bouvardias, per bun.	0	6	1	0	Primula, double, bun.	0	6	1	0
Camellias, 12 blooms.	1	6	4	0	Primroses	0	6	1	0
Carnations, 12 blooms	1	0	3	0	Roman Hyacinths, 12 sprays	0	6	1	0
Cyclamen, 12 blooms.					Roses (coloured)	2	0	6	0
Daffodils, 12 bunches..	1	6	6	0	Roses, Tea per dozen	0	9	2	0
Eucharis, per dozen..	4	0	8	0	Spiræa, doz. bunches	6	0	9	0
Gardenias, 12 blooms.	1	0	4	0	Tropæolums	1	0	2	0
Heliotropes, 12 sprays	0	6	1	0	Tuberoses, per dozen.	1	0	1	6
Hyacinths (Dutch), per box	1	6	5	0	Tulips, 12 blooms....	0	4	0	6
Lapageria, red, 12 blms.	1	0	2	0	Violet, 12 bunches ..				
Lilac (French), bunch	2	0	7	0	— Parme.....	4	0	6	0
Lilies, 12 sprays	0	6	1	6	White Jasmine, bun.	0	6	0	9
Marguerites, 12 bun...	3	0	6	0					
Mignonette, 12 bun...	3	0	9	0					

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, doz..	6	0	18	0	Genista, per dozen ..	8	0	12	0
Arum Lilies, per doz.	9	0	12	0	Heaths or Erica, var., per dozen	10	0	24	0
Azalea, per dozen ..	24	0	42	0	Hyacinths, per doz...				
Begonias, per dozen..	6	0	12	0	Lilies of the Valley, pots, per dozen....	12	0	24	0
Cineraria, per dozen..	4	0	8	0	Marguerites, per doz.	9	0	12	0
Cyclamens, per dozen					Mignonette, per doz.	6	0	8	0
Cyperus, per dozen ..	4	0	12	0	Palms in variety, each	2	6	21	0
Dracæna term., doz..	30	0	60	0	Pelargoniums, doz .	9	0	18	0
— viridis, per dozen	12	0	24	0	Pelargoniums, scarlet, per dozen	4	0	8	0
Evergreens, in var., per dozen	6	0	24	0	Spiræa, per dozen....	9	0	15	0
Ferns, in var., doz. ..	4	0	18	0	Tulips, per dozen pots				
Ficus elastica, each..	1	6	7	0					
Foliage Plants, various, each.....	2	0	10	6					

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14 by 10	for 13s. 0d..	for 19s. 0d.
14 by 12	for 17s. 6d..	for 24s. 0d.
12 by 12	for 13s. 0d..	for 20s. 0d.
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D	,, ,, very good do. ,,	24	0
E	,, ,, good do. ,,	18	0
F	,, ,, ordinary do. ,,	12	0
	DOUBLES.		
P	,, our best selectn. ea. 7s. 6d. &	10	6
R	,, our very choice do. doz.	63	0
S	,, ,, choice do. ,,	48	0
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H	,, very choice do.	18	0
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K	,, choice do.	12	0
L	,, very good selected to colour for bedding	9	0
M	,, best selected .. per 100	40	0
N	,, bedding, best mixed ,,	30	0
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CRYSTAL PALACE GREAT FLOWER SHOW of season, MAY 21st and 22nd.
For Schedules, apply to W. G. HEAD, Superintendent.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 15, 1886.

THE ORCHID SHOW AT BIRMINGHAM has been the horticultural event of the week. The year 1886 will be memorable in one respect as regards Orchids, for, though we have not an Orchid Conference at South Kensington this year to induce an assemblage of Orchid lovers, the prizes given by several of the leading Horticultural Societies, are, this season, so large, that the total exceeds that of any previous year by a considerable amount. The Royal Horticultural Society offers a number of substantial prizes for Orchids, both at South Kensington and at the Provincial Show to be held next month at Liverpool; the Royal Botanic Society, and the Manchester Horticultural and Botanical Society have made their customary liberal provisions for these plants at their respective shows. At York and elsewhere they will be made a special feature among other attractions, but, at Birmingham, a

show has been held which was devoted exclusively to the beautiful and interesting family which now so much commands the attention of plant growers.

The Birmingham Botanic Gardens has been steadily improving for some years, as we intimated in our notice, last week, of the Curator's career; and now, in the extent of the collections, and the condition of the plants, it will compare favourably with any provincial garden of a similar character. It was, therefore, peculiarly fitting that special encouragement should be extended to such a popular group of plants, more particularly as Mr. Latham is known as a skilled cultivator and ardent admirer of Orchids. Around Birmingham, too, Orchid growers have been increasing in numbers for a considerable time. Several gentlemen took the lead in forming extensive collections of the choicest and most beautiful species and varieties. These soon attracted the attention of other wealthy residents, who speedily became distinguished by a similar enthusiasm; and the result is, that Birmingham, with its suburbs, has become one of the recognised Orchidic centres of Great Britain.

A glance over the splendid array of beautiful Orchids brought together, showed that the standard old favourites are not displaced by the newer introductions. Cattleya Mossiæ, Lælia purpurata, and the other stately old plants of that class showed up with telling effect among the groups. As examples, those selected for cultural certificates may be cited; viz., the Dendrobium densiflorum, with over thirty spikes, exhibited by Mr. Cooper, gardener to The Right Honourable Joseph Chamberlain, M.P.; the Dendrobium nobile, about four feet across, bearing some seven hundred flowers, shown by Mr. Jinks, gardener to J. E. Wilson, Esq., Wyddrington, Birmingham; and the Cattleya citrina with nine large flowers, and Dendrobium thyrsiflorum with twenty-five spikes, exhibited by Mr. James Cypher, of Cheltenham. These were grand, and the healthy collection in the houses belonging to the gardens were a good supplement to the main show. Oncidium leucochilum, many Cattleya Mossiæ, C. Mendelii, C. citrina, Saccolabium germinatum, Masdevallias, &c., being in bloom in them, notwithstanding that they were drawn heavily on to make up a fine group in the exhibition house.

Also in the collection belonging to the Birmingham Botanical Gardens of great interest, were Mr. W. B. Latham's hybrid Ferns, the now gigantic Dicksonia Lathamii, a huge tree Fern of great beauty; also Gymnogramma Lathamii, a lovely hybrid between Gymnogramma schizophylla and G. decomposita, with very finely cut and handsome fronds; and another distinct thing between Alsophila excelsa and Cyathea princeps. Mr. Latham is very clever at producing such fine hybrids, and the numerous rare things in his care will, no doubt, furnish him with materials for other fine novelties. Ferns are special favourites at Birmingham, if one might judge by the number of rare and handsome things in the pretty group arranged by Mr. Spinks, of Hans Niemans, Royal Nurseries, Harborne Road, Birmingham, in whose collection the now rare Onychium auratum and other good things appeared. The same exhibitor had a specimen of Azalea mollis, with primrose, salmon and cerise trusses on the same plant, the mingling of the soft colours being delightful.

Snowstorm in May.—Snow fell on some of the higher hills in Scotland, and in the north-eastern counties of England on Tuesday, and gave a stern check to vegetation, which had begun to make good progress.

GARDENING MISCELLANY.

Meetings for Next Week.—*Wednesday*: Royal Botanic Society's First Summer Show.—*Friday* and *Saturday*: Crystal Palace Great Flower Show.

The Royal National Tulip Society.—At the "making-up" meeting held on Saturday last at the Bull's Head Inn, Manchester, it was decided to hold the annual exhibition on Saturday, June 5th, in the Botanical Gardens, Old Trafford. The schedule of prizes will be issued in a few days; and we are pleased to hear that though the society has lost many valued members by death, of late years, it can show an increase in the number of members on the roll.

Orchid Prices.—At the sale of flowering Orchids at Steven's Rooms on Wednesday, the leading lots sold were Cymbidium Lowianum, with ninety-five flowers on five spikes, 36 gs.; Odontoglossum vexillarium, a fine dark variety, 21 gs.; and another grand variety, 24 gs.; Cattleya Mossiæ, a small plant of a fine variety, 12 gs.; and a large mass of Dendrobium Falconeri, 15 gs.

New Plants Certificated in Ghent.—At a meeting of the Belgian Chambre Syndicale des Horticulteurs, held on Monday last, Certificates of Merit were awarded to Mr. Halkin, of Brussels, for Odontoglossum Alexandriæ, var. Heleniannm; to Mr. Ang. Van Geert, for Davallia fœniculacea; to Mr. B. Spae, for Rhododendron hybridum, "The Strategist"; and to Mr. Hye-Leysen, for Masdevallia Chelsoni, Cypripedium michrochilom, and Cypripedium Curtisi.

The Dandelion as an Early Window Plant.—Admiring a pretty collection of pot plants in a lady's window recently the question was asked which she admired the most. It was a surprise to learn that it was the Dandelion. She had one potted in the fall, and every day when the sun shone it put out a wealth of golden blossoms. And it was so easy to get to grow and to bloom. After all, common as the Dandelion is, there are few plants that can rival it in beauty and general interest. Not only our lady friend, but poets of high rank have sung its praises.—*Gardeners' Monthly.*

FRUIT PROSPECTS IN SOUTH WORCESTERSHIRE.

I venture to send you a few notes of a roam through some of the principal fruit-growing districts, including the vale of Evesham. Seldom indeed have the prospects of an abundant fruit crop been so evident as at present, and barring frost and blight the yield will be enormous. All who are acquainted with this district are aware, to a certain extent, of the acreage devoted to fruit growing, and can form some opinion of the loss entailed upon the holders in case of failure; certainly, for the past ten years there has been nothing like a good yield, Plums, as a rule, only giving a scanty return when the many thousands of bearing trees are taken into consideration. One of the principal kinds grown is a yellow egg Plum of local origin, and bearing the name of the Pershore Plum; this is certainly one of the most valuable of all varieties for preserving purposes, and I am told upon reliable authority that preserve made from this variety, with certain colouring added, cannot be distinguished from either Apricot or Green Gage. It is a variety quite distinct in habit from all others, and seldom fails to give a good return; this, with the Victoria and the Orleans, are the kinds principally relied upon, and are the only varieties planted in anything like quantity. Red Acton, Diamond, Prince Englebert, Cox's Emperor, Coe's Golden Drop, and Green Gage are frequently planted to some extent where the ground is good, and in some instances that I know of give a good return, notably the Green Gage. The orchards have this season been a beautiful sight—all varieties alike having been a mass of bloom: the frosts have, however, in exposed places thinned the crop down, but there is still an abundance left, even much more than the trees can be expected to perfect. Damsons too are equally promising, and the foliage looks clean and of a healthy colour.

Standard Pears, with the exception of Marie Louise, Williams' Napoleon, and Golden Sufferin, are thinly bloomed, probably due to the heavy crop all varieties carried last season; on the walls we have an excellent promise, more particularly of Doyenné du Comice, Easter Beurré, Josèphine de Malines, Louise Bonne of Jersey, Beurré Rance, and Althorp Crassane, and in several cases we must thin the crop if all now swelling hold good, as the trees cannot possibly be expected to bring them all to perfection. Apples both in the Orchards and gardens, are just now a beautiful sight with their different tints in the flower and buds, from pure white to deep pink. In my ramble I noted down the following varieties as being the most densely flowered, and they may be taken as representing the bulk of this seasons crop: Blenheim, Hawthornden, Lord Suffield, Warner's King, Sturmer Pippin, Ribston Pippin, Forester, Worcester Pearmain, Margil, Quarrenden, Scarlet Nonpareil, Golden Reinnette, Fair Maid, Ashmead's Kernel, and Kerry Pippin, whilst the following I noticed as being very thinly flowered, Keswick Codling, Ironsides, Tower of Glamis, Peasgood's Nonsuch, and Sack Apple.

There are so many varieties only locally known that it would be useless to enumerate, many of them grown for making cider. The varieties named Fair Maid and Sack Apple are both very desirable, the first-named being a beautiful sauce Apple, very white, and keeping sound and good until the end of April; although, when hanging upon the tree, one would imagine it would hardly bear handling. The "Sacks" are largely grown in this neighbourhood and usually carry good crops. It is a first-rate keeper, lasting right through May, and is equally good for either dessert or the kitchen. In foliage it is quite distinct from other varieties, being of a thick downy nature and upright habit. Bush fruits, which are extensively planted, are heavily laden, particularly Red and White Currants. The spring frosts in places reduced the Gooseberry crop considerably, but still there is a good crop left. Raspberries are thickly studded with bloom-buds, and the Strawberry-beds are a mass of trusses, stout and thrown well up, thus denoting vigour. In short, I think, given a favourable time onwards, the fruit crop of 1886 may be safely reckoned as the best in this district for the past eleven years.—*Walter Child, Croome Court.*

A GARDENER'S EXPERIENCE OF NEW ZEALAND.

You ask me to tell you how I have fared in this colony, and whether I think it is a suitable country for a gardener to emigrate to. Well, I am, as you know, not an adept at writing for publication, but I may tell you that there is very little work to do here, and a tremendous lot of people to do it; and I can further assure you that New Zealand is not the prosperous colony that interested people would have you believe it is. From what I can see and hear there are many queer ways of making money; and it seems to me that some few acquire possessions of the needful, by running away from here to England, and there proclaiming the fitness of the colony as a place for small capitalists to emigrate to. But it is greatly to be regretted that they have not some better occupation than lauding up a country that is overflowing with pecuniary difficulties. These men extol to small capitalists the quality of the land they dare not speculate in themselves. I have known, and am constantly hearing of people coming out here in search of suitable speculations, but who soon turn their attention to the next Royal Mail steamer going back to England, or seek a vessel that will carry them to some more prosperous colony than this.

I was told before I came here by several gentlemen at home, who are supposed to know all about the colony, that the wages given to a man of experience in my profession were good, and that such men were wanted here; but it is all moonshine, there are ten men here to every one that is wanted, and the wages are no better than at home, while the work is a great deal rougher. There are very few of the wealthy colonists who take so much delight in gardening as English gentlemen do, and yet there are many places which could be made truly delightful, if their owners would only spend some money on them. Then again, a man who has spent a lifetime in acquiring a skilled knowledge of the profession, is thought no more of than any unfortunate wight who takes to the spade as the last tool with which to try and earn his daily bread. You know I have been all my working life employed in gardening, and I can assure you it riles me sometimes to know that my services are worth no more than those of the veriest novice.

I unhesitatingly say that I cannot advise any brother gardener to come to this colony in the hope of improving his position in life. There are gardeners here now who are glad to turn their hand to anything, and I know one who after seeking employment for months, has just gone to take his place on a thrashing machine. I believe a certain well-known gentlemen is in England now, or shortly will be, whose mission it will be to try to induce small farmers to come here, but they had better stay where they are. Such men generally have to take farms up country, and to lay out a lot of money at starting, with the probability of not getting land enough to make sheep-raising profitable, and the certainty of having a long way to carry their produce to market. I am acquainted with one district, in which I have made enquires, and have been told by several that they were "All mortgaged up to their eyes." I know another man who came out, and after trying hard to make both ends meet, has gone back to old England greatly disappointed, and considerably poorer than when he came out here. There are apparently few people who appear to have any clear idea about the colony. I can truthfully say that I am not by nature a grumbler, and would freely encourage anyone to follow me here if I could see any chance of their doing well when they get here, but I cannot so advise them. Men who have been here for years, and who have "made their pile," tell me plainly that the colony is no good now. Years ago work of any description could be got at good rates of pay, and land could be had cheap; then money could be made, but not now. I would strongly advise any gardener at home who thinks of coming here, to consider the matter well before making a start, for I can assure them that the work a professional gardener has to do here is quite different to what it is at home, I was at a place for two years, and took to the colonial life with a good heart; I made the work a continual study, and, in fact, worked all the hours there was between sunrise and sunset, but with no advantage to myself. All the large estates here seem to be ruled by "managers," the bulk of whom have great reputations for unscrupulous dealing. Now that there is so much surplus labour in the country, they cut down everything to the lowest possible figure, and stick at nothing to gain their ends. Some of them are "managers" in name only, for knowledge of their business they have none, and as many of the employers know about as much of farming matters, the "manager" is able to hold his own. I have myself served under a "manager," who pulled some of my Tomatos up to see if there were any Potatos at the roots. But I am digressing, and must conclude; but before doing so must add a word about the Peach trees which have died wholesale during the last two years. It used to be the boast of the colonials that they could wheel barrow-loads of Peaches to the pigs; but such is not the case now.—*An English Gardener in New Zealand.*

CROWN IMPERIALS.

In the early part of the seventh century, an act of homage, unique of its kind, was paid to a lady in France. It is set forth by Folkard in his book on *Plant Lore, &c.* He states that "the Duke of Montausier, on obtaining the promise of the hand of Madlle. de Rambouillet, sent to her, according to custom, every morning till that fixed for the nuptials, a bouquet composed of the finest flowers of the season. But this was not all. On the morning of New Year's Day, 1634, the day appointed for the marriage, he laid upon her dressing-table a magnificently-bound folio volume, on the parchment leaves of which the most skilful artists of the day had painted from nature a series of the choicest flowers cultivated at that time in Europe. The first poets of Paris contributed the poetical illustrations, which were written by the cleverest penmen under the different flowers. The most celebrated of these madrigals, composed by Chapelain on the Crown Imperial, represented that superb flower as having sprung from the blood of Gustavus Adolphus who fell in the battle of Lutzen, and thus paid, in the name of the Swedish hero, a delicate compliment to the bride, who was a professed admirer of his character."

As a matter of course, this idea of the origin of the flower is purely fabulous. It is a native of Persia, and was introduced to this country about 1596. The Crown Imperial is Fritillaria imperialis, a stately species growing 2½ ft. or so in height, and bearing a whorl of drooping flowers surmounted by a tuft or crown of leaves. The two commonest are the yellow and red varieties. One occasionally meets with one or both in cottage and old-fashioned gardens, where they have established themselves and make a fine display when in bloom. Grand as it is, in the foremost rank of spring-flowering hardy plants, the bulbs have a very fœtid odour, like that of a fox, and they are powerfully acrid and poisonous. Even the honey that is distilled from the flowers is said to be emetic.

I have alluded to the single red and single yellow Crown Imperials, and stated that they are the most common. Then there are the double red and double yellow, in which case the single varieties have developed into the double form. Then there is the Crown-upon-Crown, which is something of a misnomer, because it means a variety—any variety that has produced a strong fasciated shoot, and when this happens, two instead of only one whorl of flowers are generally produced. All these are carefully marked and sold under the above name. But the chances are very likely that the double crown will not be produced the same season, so they who buy must take their chance of getting what they hope to have. There are also the Orange Crown, Orange Red, and Maxima Red, with large bronzy red flowers, both, to all appearance, selections from the single red. There are Sulphurine, Sulphur-colour, and Sword Stem, a variety I do not know, but I should think it has a fasciated stem. Then there is a single yellow variety with gold-striped foliage—that is to say, the leaves are variegated with gold, and I think there is one with silver variegation also.

Any good bulb catalogue contains a list of Crown Imperials. They are largely grown by the Dutch, and the bulbs come over with the Hyacinths, Tulips, &c., in the autumn. Generally, the Dutch-grown roots are fine.

As to soil, what suits this fine plant best is a good deep yellow loam, not too stiff, and it should be enriched at the time of planting with plenty of good manure. The soil should be deeply dug and the manure mixed in with it. They should be planted 8 ins. deep, and left undisturbed for several years.—*R. D.*

John Gough.

Gardener to G. Webster, Esq., Harefield Grove (see p. 584).

MAY FLOWERS FOR INDOORS.

The merry month of May brings a plentiful supply of plants in flower, in the market and in the shops, and those who have not the convenience for growing their own, will have a good selection among the Show and Zonal Pelargoniums, Marguerites, white and yellow, Deutzias, Dielytras, &c. But as such plants grown for market, on account of their having been highly fed, require more management to make them last, a hint or two on the subject will probably be acceptable to many. In the first place, the matter of the greatest importance with bought plants used for room decoration is to make sure they do not get dry or even partially dry, as, if allowed to do so, the numerous delicate rootlets, which their high cultivation has induced them to make, instantly perish, never again to revive them: the immediate decay of the plant is the result. This applies to all market plants, but as it is easy to give a liberal supply of water, the difficulty can well be met. Another thing worth looking to, in connection with bought plants which shed their petals easily, such as Pelargoniums, is to see that the flowers are gummed, and if not to gum them by the aid of a small bottle of floral gum, which should always be at hand with those who have indoor decorations, to do either with plants in pots or cut-flowers, as it ensures the proper duration of the blooms. Those who grow their own Pelargoniums, and other such plants, will also find it to their advantage to always gum the flowers before taking them into the dwelling house. From henceforth, the attentive watering of all the plants indoors, and their careful cleaning must be attended to, even more than during the dull weather, as the plants soon perish if allowed to get dry in summer.—*M. A., Camb.*

MR. B. S. WILLIAMS' ORCHID EXHIBITION.

Adapting himself to the circumstances of the hour, Mr. B. S. Williams has repeated the experiment made last season of holding an exhibition, extending over two months, of the Orchids and other flowering and fine-foliaged plants, for which his nursery at Holloway has been for so many years celebrated, by opening a show, on Wednesday last, which is in every way superior to its predecessor. The show-house is the large three-quarter span, 100 ft. long and 23 ft. wide, which at other times contains the large stove Palms and other fine-foliaged plants, which make his groups so

conspicuous at exhibitions, and the Orchids arranged on either side of the broad path have the advantage of a background of an unusually bold and effective character. In the fine collection of flowers now on view, excluding the Orchids for a moment, we noted some fine specimens of the Gardenia, well-flowered examples of Anthurium Scherzerianum, Franciscea calycina, &c., and among the noble-leaved plants few things were more conspicuous than some handsome examples of the golden variegated Dracæna Lindeni.

The Orchid display, which is exceedingly bright and effective, included a number of forms of Odontoglossum Alexandræ, varied as much as usual, and all good. Lælia purpurata, a favourite of Mr. Williams—if we may judge of the number he grows—is well represented by fine varieties, including a very distinct one named Bella, in which the sepals and petals are almost as dark coloured as the lip. Cattleya Mendelii and C. Mossiæ varieties are also conspicuous by their numbers and fine quality; and the new C. Lawrenceana is present in considerable force. Oncidium sarcodes, yellow and chestnut-brown, harmonises well with its surroundings, as do also various specimens of the feathery Odontoglossum cirrhosum.

Other noteworthy species on view are Cypripedium Swanianum, and C. selligerum, Miltonia Warscewiczii; the curious, rather than handsome, Odontoglossum claviceps, which lasts so long in bloom; massive spikes of O. gloriosum; and the very showy O. polyxanthum; the bright yellow Oncidium Marshallianum; Calanthe veratrifolia and C. Dominiana, white and dark mauve; Lælia elegans, Cattleya citrina; the rare hybrid Cypripedium albo-purpureum, and C. Lawrencianum, a mass with about forty blooms; the new and distinct Cattleya Morganæ: and hanging up above the others, fine forms of Odontoglossum citrosmum, Cœlogyne Massangeana; while conspicuous among the big fine foliaged plants are some fine pieces of Vandas suavis, tricolor formosa, and the Dalkeith variety of V. tricolor.

We should advise visitors to Holloway not to be satisfied with seeing the Orchid Show only; for there are many things in bloom in other houses that are well worth inspection. The Heaths and other New Holland plants are coming into bloom freely; the Amaryllis too are not yet over, while the general stock of decorative plants is surprisingly gay.

CARNATIONS AND PICOTEES.

In whatever way they are grown, the plants are now throwing up their flower stems, and it is necessary to place stakes against them to prevent them being broken off by the wind. I have no plants in pots, but some of Mr. Dodwell's seedlings in the open ground are growing freely and strongly, and I shall look forward with interest for the time of flowering. In all probability the plants, as a rule, are scarcely so forward at this season of the year as is usual, but they soon pick up if the weather becomes suitable. The wind is back again in the east, and if it continues, with a low temperature, development will be retarded. Mr. Dodwell recommends that growers should watch the weather carefully this month (and, especially so, is this incumbent upon intending exhibitors), and there should be no want of promptitude or ingenuity in accommodating the stocks to its vicissitudes. If the weather be cold and dull, a sparing use should be made of the watering pot; if, on the other hand, it be warm and dry, copious waterings may be necessary. One effect of drought is to tinge the leaves with yellow, but to prevent this, care must be taken to water as often as the plants need it, even twice a day.

And, in addition to watching well the efforts of drying weather, green-fly, and indeed every kind of vermin must be kept in check, ruthlessly destroying them as soon as they are discovered. It decidedly improves the appearance of the plants to remove decaying foliage. The surface soil should be occasionally stirred, carefully, of course, when it is at all dry; when heavy rains fall the tendency is to harden the surface soil, while continual waterings brings about much the same result.

It used to be a practice to top dress with soil, but it is not so much followed now as it formerly was. But plants growing in the open ground, especially if the soil be light, will be greatly benefitted by having some mulching placed on the surface; a little well decomposed manure is excellent for the purpose. Cocoa-fibre refuse may be used in the same way, but it requires to be stirred occasionally, as it cakes upon the top, and the water passes from and does not enter it.—*R. D.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—IX.

There is another useful class of Chrysanthemum, the culture of which is very easy, viz., the Pompone. In ordinary seasons most of the varieties of Pompones will bloom freely out of doors, and, in fact, may be frequently seen planted out permanently in the borders, and in the autumn producing an abundance of bloom which comes in very acceptable when flowers begin to get scarce. Some are also grown in pots, and stood along the sides of walks during the summer. When grown thus they make useful plants for decorating windows or conservatories, for which purpose the cuttings should be struck in March, and when rooted should be stopped. When they are seen to break, they should be potted singly into 3-in. pots; 6-in. pots will be found sufficiently large enough in which to bloom them, and they should receive their final potting about the end of June.

Pompones also make useful plants for front rows of groups for exhibition, for which purpose the cuttings should be inserted about the end of January. As soon as they are well rooted they should be stopped, when they will throw out side shoots; they should then be potted into 3-in. pots. When the roots have filled these pots, again stop the shoots, and about ten days after repot into 4½-in. pots. About the end of April or early in May the plants can be stood outdoors; but if the nights are frosty, they should be protected by having a rough framework or some temporary shelter placed around them, and over which a mat should be thrown, or if the grower has any frames that are not required for use, the plants can be kept in them, and the lights taken off in the daytime; but unless the weather is frosty, we prefer to stand our plants in in the open to prevent them from becoming drawn. They should have due attention paid as to stopping the shoots when about 4 ins. long, and should be finally potted about the second week in June into 8½-in. pots.

Plants required for training should be struck in November, and be kept slowly growing during the winter. If they are required to be grown as pyramids, the plants should be stopped when about 6 ins. high; and when they have commenced to break, they should be potted singly into 3-in. pots. A stick should now be placed in the centre of the pot, to which the uppermost shoot should be trained, and the other shoots should be trained out horizontally. When the leading shoot has grown about 9 ins., again stop it, from which again train up the uppermost shoot, and treat the side shoots as above directed, stopping them when about 6 ins. long; and in about ten days after this stopping, repot them into 4½-in. pots. A few small sticks should now be placed around the sides of the pots, to which the side shoots should be drawn down gently. It is better to do this while the shoots are young, as they are then not so liable to become broken in training. The after culture consists in stopping the leading shoots when about 9 ins. high, and, from that stopping, training the uppermost shoot upright, the side shoots being stopped at every 6 ins., and trained out horizontally. Careful attention should be paid to watering the plants, because if they are allowed to get dry, loss of foliage and unsightly plants will be the result. Let the final stopping take place the first week in June, and repot the plants into their blooming pots about the middle of June. A wire hoop, about 1½ or 2 ft. in diameter, should then be placed at the base of the plants, to which a few sticks should be securely fastened crossways, and the whole then fixed securely to the rim of the pot. To this hoop, the lower shoots should be tied, the other shoots being distributed equally over the plants during the summer, keeping the centre shoot tied upright.

Another form in which the plants are exhibited, is as dwarf trained or mushroom shape, for which purpose the plants should be stopped and potted as above directed. When the plants are potted into 4½-in. pots, carefully distribute the shoots evenly over the pots; stop the shoots and repot as above directed, and after the final potting securely fix a wire hoop to the pots as above directed, over which the shoots should be regularly trained during the summer. Standard Pompones require the same cultivation as given on p. 357 for growing standards, except that December will be quite soon enough to commence their propagation. Although there is no occasion to so closely disbud pompones as is done with the large-flowering varieties, yet where the buds appear in clusters a few should be taken off.

A few good Pompones are:—Mdme. Marthe, Golden Mdme. Marthe, the Cedo Nullis, President, Caractus, Mr. Astie, Antonius, Josephine, Mdme. Montels, Mrs. Dix, Sœur Melanie, and that splendid dark variety Black Douglas.—*W. E. Boyce, Archway Road, Highgate, N.*

PEAS NOT VEGETATING.

According to Mr. Gilbert's experience the old adage still holds good, viz., if you want anything done well you must do it yourself; aye, even in the sowing of Peas, in very many instances, if you wish to secure good seed and true to name with a full percentage of germinating power, so as to ensure an even growth and to avoid disappointment, which latter often resolves into a serious business as regards the general routine of gardening operations. No gardener can maintain a satisfactory relationship with his employer, or even with the cook, should he fail to supply those things that are required of him. It avails him little to plead that the weather is too hot or too cold, too wet or too dry, or that his seedsman has supplied him with old seeds. It is considered imperatively his business to combat with all or any of these difficulties. Being an old gardening hand it may be inferred, and properly so, that my experience in all that pertains to a gardener's troubles is of rather an extensive character, such as enables me to most thoroughly sympathise with your correspondent Mr. Gilbert.

Every seedsman, before he sends out any of his seeds, ought to be in a position to guarantee that, at least, seventy-five per cent. of the seeds sold will grow. This is an all-important matter, which, if not attended to, is pregnant with much mischief and disagreeableness, and in the end damaging to those, who, it may be inadvertently, supply seeds, that if they had used the proper means would have known that they had lost their vitality. [The leading seedsmen adopt this course now.—Ed.]

Men of experience are cognisant of the fact that all wrinkled Peas are more impatient of wet and cold than the common hardy round kinds, although good seed will survive ordinary cases in good form, whereas bad seed goes quickly to decay. It has been my practice for very many years to prepare my early crops of Peas by sowing or planting in pots and boxes. Upwards of thirty years ago I have sown Peas in sixty sized pots on the 14th February, and turned them out entire, and gathered from them the third or last week in May; those thus treated were turned out about 2 ft. from under a very high wall, and had sticks placed to them at once, having been grown from 6 in. to 8 in. high, and properly hardened off before doing so. I do not wish it to be understood that I was always thus early in gathering, as, of course, seasons vary, some being more unpropitious than others. In treating Peas in this way, you at once get to know whether the seed is good or bad. I used to place the pots in my first Vinery on the back flue, and the Peas made their appearance in about a week, then the pots were shifted into the second Vinery, and finally into cold frames. I much prefer this plan although it gives a little more trouble, for during the time the Peas are in their transition state, the soil in which it is intended to plant them is also being prepared by being exposed to the action of the weather, &c.

Comparatively speaking, it is astonishing the small quantity of seed that is required to produce a good crop when the seed is to be relied upon. It is a great mistake to plant too thickly, more especially the branching marrow kinds; being convinced of this, before the gathering takes place, I go through my rows and select some of the finest pods, to which I attach a piece of matting to mark them for seed, and I have found that a pint or two saved in this way is worth ten times more as a rule than that of which you have no knowledge, because it enables you to work on sure grounds. You know for a certainty that every seed thus carefully selected will grow and come true to its character. I have one of my own raising that I have kept in this way for nearly twenty years. It is very important that a gentleman's gardener should be supplied with seeds of good quality, for he has, generally speaking, sufficient to contend with without having the annoyance of bad seeds. It is no satisfaction or consolation to be told that Dick Styles and Tom Noakes, who were supplied with the same kinds of seeds, and out of the same bags, got theirs to grow right enough, when in your own case the returns are nil.—*George Fry, Lewisham.*

THE BEST HARDY PRIMULAS.

(Continued from p. 567.)

P. Munroi (syn. involucrata), a modest beauty, not possessed of the brilliancy or even vigour of many species, still it is a very simple plant and pleasing too, and its requirements are equally simple. I have succeeded capitally with it in very ordinary soil beside a quick-set hedge, and here it grew and flowered continuously for weeks. Among smaller things in the drier portions of the bog it is equally well at home, and in still moister positions near the margin of a stream, so that it may be said to be at home in any position. It comes from Northern India, and has creamy white heads of flowers which are produced in profusion for about two months; these are fragrant. It grows 8 ins. or 10 ins. high, and may readily be increased by division and also by seeds.

P. nivea (Snowy Primrose).—There are for this lovely snow-white gem a variety of synonyms; for a long period it was known as P. nivalis, and again as a variety of P. viscosa, *i.e.*, alba; while it is still to be found in lists as P. viscosa nivalis. At the present moment it is not part of my intention to decide which it may be, for call it what we may, its loveliness remains the same. It is a dwarf and distinct plant, of compact habit, growing about 4 ins. high when well-established, and producing lovely compact trusses of pure white flowers; in point of purity it is without a rival and should receive every encouragement. It is of that section of Primulas of which P. marginata and P. viscosa may be cited as instances, which form woody or stout stems, and which require annual attention, either to divide them and plant them down to the leaves, or to earth them up, if circumstances will permit, with very sandy loam, and so encourage fresh roots from the arborescent stems. In cases where the latter can be done, it is better than the former, especially so with plants on the open rockery or border, inasmuch as the best time for dividing them is just after flowering, and this is at the end of May, when we generally expect bright sunny days, which are not favourable to any Primulacea which is just divided. Another plan is to remove the soil from about the neck of the plant and endeavour to peg it down in the soil, or at least even with the surface, and then cover them up; this will also encourage breaks from the joints of the stems and likewise from the centre of the plant. It is an excellent way to form ultimately handsome patches, for one will never boast of having an over-abundance of this charming and fragrant Primrose. It succeeds well in well-drained loamy soil, and about a third of peat added, using plenty of grit or broken brick rubbish, and prefers a somewhat shady position. It is a native of the Alps, and should, in the growing season, have abundance of moisture.

Primula obconica.—In this we have a charmingly interesting species of some importance—in fact, a really valuable addition to the long list of good things which this genus possesses. In general habit and foliage it strongly resembles the Cortusa-leaved Primula, but in all other respects is quite distinct from it. The leaves are obovate-cordate, with crenate margins, forming a tufted and somewhat spreading rosette from which the flower-scapes perpetually issue. It is, by being a perpetual flowerer, quite unique, inasmuch as it never seems to tire, nor does it, after flowering for months in succession, appear to lose either energy or produce smaller flowers. We have no other in these respects to vie with it, and seeing that its flower-spikes are produced so freely (as many as twenty or thirty in an 8-in. pot), its value in a cut state is not of minor importance. The flowers are produced in umbels, each containing from twelve to eighteen flowers, so that the reader may readily find, in casting these totals together, what an assemblage of these charming flowers there are to be had on a single plant. Indeed, of no other species can such a fact be recorded, and it should be in every collection of plants where cut flowers are in great demand. It stands well in a cut state, and need I add another word in its praise. Its cultural requirements are as simple as that of P. sinensis, and by adopting the same routine in respect to soil and the like, P. obconica will outstrip the sinensis section completely. For mixing in vases, epergnes, and such like, its elegant flowers show to good advantage. It has a great future before it and is not likely to be lost sight of easily. To Messrs. Veitch & Sons fell the honour of its introduction from China, where it was discovered in the neighbourhood of Ichuny. Hence it cannot be regarded as a perfectly hardy plant, nor do I advocate it as such. Though it will endure our milder winters very well, the plant is not likely to do itself justice or the description I have here given it; but those who would have Primula obconica in perfection should grow it well, and treat it as liberally as though he were growing P. sinensis vars. for a ten guinea cup, and if the results are not equivalent to what I have here set forth, let it be universally condemned. It comes freely from seeds, and may also be had by division. Since it received the above name, given it by Messrs. Veitch, it has been figured and described by Sir J. D. Hooker in *The Botanical Magazine*, under the name of P. poculiformis. —*E. J.* *(To be continued.)*

SCOTTISH GARDENING.

Seasonable Notes.—Vegetable Marrows are, by some, much valued, but by comparatively few so much as they ought to be—though one of the most easily grown vegetables in warm southern parts; but this cannot be said where the seasons are later, and there is less of sunshine. To have marrows early, where forcing them is not practised, plants should now be of good size, of stiff healthy growth, having been grown with as little coddling as possible. A trench made 1½ ft. deep (in any sheltered position, with free exposure to the sun), and 3 or 4 ft. wide; a quantity of manure leaves, mowings from lawns, or such material as will give a gentle warmth should be put in it, over which must be placed the soil, firmly, covering the manure. The plants are placed about 4 or 6 ft. apart, with free kindly soil next the roots; hand-lights or plant protectors are placed over the plants, and looked closely after till they are into free growth, and with plenty of space to spread, there will soon be an abundance of fruit. After Potatos in frames or other structures, Vegetable Marrows and Ridge Cucumbers do well, they both require the same treatment, and when well established, the protection may be removed for other purposes. A frame-work may be put over the plants in September, and if early frost should set in, such as last year, a covering of mats or other material may be thrown over the plants, which will save them till they are exhausted by cold and wet. In favoured districts we have often grown abundance of Vegetable Marrows on heaps of waste soil; and on warm borders with holes dug into the firm soil, and filled in with good stuff to start the plants into active growth. Mulching with short litter when the season is more advanced, is a practice much in favour by practical men.

Melons are comparatively easy to grow after this season, but to get them safely to the fruiting period they require much attention. When grown in frames they are often allowed to become too thickly crowded, which prevents setting. Much mischief is sometimes done by the absence of fresh air and a close high temperature. The old-school system (for frame culture) is the best in every way, and if the plants do not arrive so quickly at the fruiting period, they bear good crops with greater certainty, and, by the free airing system, the flavour is better. We may add to this that the disease, so troublesome in some parts, is not so likely to put in an appearance.

We have (in Southerly parts) trodden the soil firmly after the Potato crops have been removed from pits and frames, planted strong Melon plants, and had the best crops which we could desire—at the present time and in our present position, such a practice is impracticable. Growing Melons in pots has many advantages, the plants have a strong tendency to set fruit; the fruit, we have always found, with roots in curtailed space is heavy in proportion to their size, with a great depth of flesh, and of good flavour. A practice we followed for many years with mid-season and late Melons was to establish the plants well in medium-sized pots, leave large holes in their bottoms, and place them into larger sized pots three-parts filled with firm soil. This is a system for which we have much favour. Tomatos grown in this manner fruit freely and take up little room. The narrow pits in which we saw such excellent Tomatos growing at Dunkeld, at the back of low houses, could scarcely be surpassed.

Earthing Up is not so much in vogue now as it was in the days of our youth, and, except with Potatos, the practice never had favour at our hands. The absence of this system, so general in market gardens, long since convinces us that "earthing up" such crops as Peas, Beans, and the brassica family of plants, was labour thrown away, if not doing real injury to the crops by throwing off rains when moisture is so much wanted. However, Cabbage, Curled Kale, and some other plants in damp positions, may be earthed up when they are to remain through the winter. Deep drills drawn, such as we are doing at the present time, for Cauliflowers and other plants now being turned out, gives shelter, allows moisture to reach the roots freely, and when growth is far enough advanced, a good hoeing will push the soil nicely round the collars of the plants, and give all the "earthing up" necessary. With Potatos in this district, we observed, that the practice of running the plough through the furrows, throwing the soil well up on each side to the stems of the plants, is a matter of great moment with cultivators of the much-valued tuber in fields; and we have seen many immense fields of splendid Potatos in this county (Stirling). In gardens it may be well to draw some soil over the young tops as they come through the soil, to protect them from late frost. A general hoeing among all growing crops should have timely attention; this should precede earthing up, but it is of primary importance, apart from the destruction of weeds.—*M. T.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

Only a few weeks have elapsed since we were lamenting the long continuance of wet and cold weather, yet a brief period of bright hot sunshine has rendered us eager for rain. It is surprising how rapidly the soil dried after the weather changed; and many vegetable crops, which had been previously checked by cold, seemed in danger of suffering, in an equal degree, from the drought. Happily, as we write, the rain has returned, and vegetation is being most agreeably refreshed. Now will be the time for transplanting seedlings, and young vegetables of any kind that have to be transferred from pots or pans to their permanent quarters, as they will not feel the change much, and the selection of a suitable time for such operations is one of the secrets of success in cultivation. The moisture that encourages the growth of the useful crops will equally stimulate the weeds, and unless these are kept under now, they will prove a fruitful source of trouble throughout the season.

Corners are generally the places where weeds are most likely to be overlooked; and they are too often allowed to seed at will, unchecked and probably unnoticed, regardless of the fact that seeds are scattered very widely by various means, and the most noxious weeds increase the most rapidly. Clear all such storehouses, and if time cannot be spared to destroy the plants, at least prevent their seeding by cutting them down with an old scythe or hook. To destroy weeds effectually by hoeing, a dry bright day should be selected, as, if the weeds are then pulled from the ground, and laid on the surface, a few hours' exposure effectually prevents their recovery.

THE GREENHOUSE.

A few hints have been given upon the treatment of Vines in conservatories or greenhouses, where they are now frequently seen, and where they are also admirably adapted for covering the roof, affording an agreeable shade to the plants beneath at the hottest time of year, and with a little careful treatment they can also be induced to yield a satisfactory crop of useful Grapes. These may not be so fine as exhibition fruit, but they are often more satisfactory than that, in one very important respect, namely, of flavour, for we have had Grapes from cool houses that were fit for a Duchess to eat, though they might not have been considered grand enough in appearance to adorn her grace's dinner table. Vines in such houses are now growing freely, and the shoots must be thinned and stopped according to the strength of the Vine and the crop it is desired to produce. The laterals should be stopped at the second leaf beyond the bunch, and if there are several laterals from one stem, they can be reduced to one if the Vines are weak, or if more are allowed to remain; an abundant foliage is a means of invigorating weakly or partly exhausted Vines, then the bunches should be taken off the other laterals. Syringe freely morning and evening until the flowers open, when it may be lessened or withheld for a day or two, until it is seen that the berries are set. Damp the house freely, and be sure that the border is well supplied with water.—*Scolytus.*

HAREFIELD GROVE.

THE SEAT OF G. WEBSTER, ESQ.

HAREFIELD GROVE is a beautiful residential estate, situated between Rickmansworth and Uxbridge, some 450 acres in extent, and adjoining Moor Park, the seat of Lord Ebury. It is the property and the residence of George Webster, Esq., one of the merchant princes of London, who, in the space of about six years, has converted it, at enormous expense, into perhaps the most remarkable private horticultural establishment to be found in this or any other country. The mansion and gardens are surrounded by park lands and woods of about 150 acres in extent, and the pleasure grounds surrounding the mansion are of a picturesque and pleasant contour, being, though not extensive, yet charmingly diversified—a happy combination of wood, water, and grassy undulations, with choice trees, well-furnished shrubberies, handsome statuary, and just a sufficient number of flower beds to give a finish to the whole. The pleasure grounds also include an extensive croquet and lawn tennis ground, surrounded by trees and shrubs, and adjoining the mansion there is a large, light, and handsome conservatory, kept gay with flowering plants all the year round. But it is not of this part of the wonderful garden at Harefield Grove that we shall, on this occasion, stay to say much; for the present we are more interested in the glass department, which, on a truly gigantic scale, has been completed for the culture of fruits and flowers.

Visiting Mr. John Gough, the gardener in charge, about a month ago, we learnt that at Christmas last 126,420 ft. of glass had then been erected and got into working order; that since then 18,000 ft. had been completed; and that it was still intended to put up 18,000 ft. more. At the time of our visit 106 houses—and not small ones either, as we shall show further on—had been completed, many of the earlier ones having been built by Mr. Clarke, of Stourbridge, and all the later ones by Mr. Webster's own *employés*. To heat this immense lot of glass some 581,451 ft. of 4-in. piping has been fixed, and with no niggardly hand, for the houses are expected to do good work. To heat these miles of piping fourteen boilers have been set, all of which are 7 ft. long. Among them are two Trentham boilers, one Cruciform, and one Gold Medal, but the favourite is a terminal saddle, made by Jones, of Manchester; and to regulate the distribution of heat, over 400 of Messrs. Messenger's, of Loughborough, patent valves have been used. The consumption of fuel, it need scarcely be said, is something enormous, and various sorts have been tried. In the main, carbonised coke from Tamworth, mixed with slack, has been used; but steam coal from Clifton with coke, half-and-half, has been tried, and now anthracite is to have an extensive trial. The number of men employed is forty-five, twelve of whom live in the bothy. Some may have wanted to know ere this what becomes of the enormous amount of produce raised in the establishment. Well, after supplying the wants of the owner, the remainder is sold in the London, Manchester, and other markets, where there is always a demand for first-class goods. Certain portions of the establishment are reserved for the supply of the family, and so we will first notice

THE PRIVATE RANGE

Which consists of some dozen or more plant and fruit houses, for the most part of capacious dimensions. The first is a span-roofed orchard house filled with Peaches and Nectarines, Plums, and Pears, mostly upright cordons, in a very fruitful state; while Gloire de Dijon and Marechal Niel Roses, occupy the rafters overhead. In the autumn the trees are put outside, and the house used for displaying Chrysanthemums. Then follow two stoves, with Clerodendrons, Allamandas, Stephanotis, and Passifloras trained up the rafters; and on the stages below are a great variety of plants of a useful decorative character. Among them we noted Passiflora edulis variegata, a variety with large golden variegated leaves, grown for these only; Asparagus virgatus, a very elegant species with very dark green foliage—a good plant sent out by Mr. B. S. Williams a year or two ago; Tabernæmontana coronaria flore-pleno, extensively grown for cutting; and the erect flowering Gloxinias, which are a great feature for some months. From the stoves we enter the fruiting Pine stove, which is succeeded by two others containing successionals. These are all lean-to's, and contain a clean and thrifty-looking lot of plants. The varieties grown are Queen's, Smooth Cayennes, Charlotte Rothschild, and a few Black Jamaicas. On the back wall Stephanotis floribunda yields a profusion of its ever welcome blossoms; and wherever there is room for a pot on side stages or walls of the Pine pits, there are either Spiræas or Tuberoses.

THE BANANA HOUSE

Comes next. This is a span-roofed structure containing nine noble plants of Musa Cavendishiana, some of them throwing grand bunches of fruits. All are planted out, and we think have no bottom-heat, but are in fine health. Here, also, is a large plant of the Monster of Delight, Monstera deleciosa, fruiting freely. From the Banana house, we enter a compartment devoted to Figs, a sharp pitched lean-to, with the plants trained under the roof and against the back wall. The sorts grown are that well tried favourite, the Brown Turkey, the White Marseilles, a good forcer; and a variety called Figue d'Or. On the bed of the house were Callas, and a host of Lilium candidum coming on for Easter decorations. The next three houses are lean-to Vineries, leading into

THE OCTAGON AZALEA-HOUSE,

Shown in the lower right-hand side of our illustration. In all the Vineries there are figs on the back walls. The first house was planted with Black Hamburghs, twelve months last September, and have made good use of their opportunities for development. The second is a mixed-house of the same age, with the canes carrying a grand set of bunches; and the third compartment contains Muscats and Gros Colmar; the borders are all inside, and consist in each house only at present of about ten loads of loam, mixed with half-a-ton of Thomson's Vine Manure, which we may add here, has been extensively used by Mr. Gough, and with the very best results. The Octagon Azalea-house is a good lofty structure, with a few climbers on the roof, and Camellias planted out at the back. The centre bed and side stages are filled with fine half-specimen plants in variety and promising a rare show of blossoms in due time. From this house we enter a range of Vineries 250 ft. long and 16 ft. wide; divided into three compartments, the first of which is planted with Alicautes; the second with Gros Maroc; and the third mixed. In each case the back wall is planted too, and the borders are inside, while so much of the floor of the houses as is not yet occupied by the borders, is planted with Tomatos, 2 ft. apart each way, and trained as single stems, to stakes. The favoured sorts are King Humbert Improved, Phillip's Perfection, and a selection of Mr. Gough's, from the old red. On the north-side of this range, there is a new, narrow, lean-to-house, one compartment of which has recently been planted with Camellias, and the other with Peaches, such as Bellegarde, Princess of Wales, and Lord Palmerston, to be trained to wire trellises. Leaving "the private range," we proceed to

THE CUT FLOWER HOUSES,

These consists of several long span-roofed structures of various heights, but in the main they are low ones, such as are found most adaptable for this kind of work. Here are immense batches of Tree Carnations, Tropæolums, all sorts of forced things, besides Cyclamens and other subjects which do not require so much heat. A Gardenia-house, 138 ft. long, contains a capital lot of plants, planted out in the central bed about three months; and on the side stages are seedling Cyclamens, Ferns, Amaryllis, and a batch of about 1,000 plants, of the Bermuda Lily, Lilium Harrisii, Tuberoses, &c. This is succeeded by a large span-roofed Eucharis-house, the central bed of which has a glass roof and sides, forming a house complete in itself, in which a large number of very healthy robust plants are grown, in the main to yield flowers about Christmas. The side stages contain thousands of small Gardenias in pots. Another structure of smaller dimensions, but with the central bed similarly glazed, is used for propagating purposes, and needless to say, was crammed with an infinite variety of useful plants. Our guide, Mr. Gough, next showed the way to what is called

THE SMALL KITCHEN GARDEN,

In which alone there is glass enough for three or four good private establishments. The first structure to claim attention in this department, and which is situated immediately in front of Mr. Gough's comfortable cottage, shown in the lower left-hand corner of our illustration, is a long low three-quarter span-roofed pit, with a thick yew-hedge at the back, forming one side. This is filled with Perle des Jardins and other Tea Roses, and well they seem to like the position. Two fine roomy span-roofed structures near by are called the White Houses, because white-flowered plants only are grown in them. In the first division, white Tea Roses occupy the roof, and the beds and borders are to be planted with the old double white Camellia, for which some large healthy specimens have already been obtained. The second division was nearly filled with Lilium candidum, in thirty-two pots, just coming into bloom, and as level in size and equal in quality as one could desire to see. Of this favourite Lily Mr. Gough annually pots up some 15,000, and he does them well, too. The starry-flowered Allium Neapolitanum is also largely grown for cutting, and bunched in the ordinary way, and if they have any great distance to travel the ends of the stems are seared with a hot iron, so that the odour of Onions peculiar to the plant is not brought out, should the boxes get warm. Those who like the pretty little flower but who cannot endure its odour, may be glad of this hint. At right-angles with the White Houses is

THE PEACH RANGE,

In two divisions, a large span-roofed structure 110 ft. long and 22 ft. wide, with the central bed arched over with wire, and covered with the shoots of handsomely-trained trees planted at the sides, with standards down the centre to furnish the top. Both Peaches and Nectarines have set a magnificent crop, and are the pictures of health, denoting good management. Near at hand are two similarly large houses filled with large Palms, specimen Ferns, &c., which it is intended to convert into Rose-houses. Then, in succession, come two span-roofed houses 106 ft. long, planted with Tomatos, the home selection of the old red; a lean-to of the same length planted with Spiræa for cutting; another of similar dimensions, full of French Beans, but which in autumn is planted with Roman Hyacinths—some 30,000 bulbs being used; smaller lean-to's for Roses just grafted and young Ferns; a greenhouse full of decorative Pelargoniums, with Maréchal Niel Roses on the roof, and that fine red Rose, Reine Marie Henriette, planted against the pillars; a large lean-to, with zonal Pelargoniums on the front stage, and the remaining space occupied by tuberoses; Vineries planted with Lady Downe's, Muscats, and Hamburghs respectively, and a large lean-to full of young Palms, with Tropæolum Col. Trevor Clarke, trained to wires under the roof. This is a fine bright scarlet, much liked by Mr. Gough for its wondrously free-blooming qualities. These lead up to

THE ORCHID HOUSES,

Four in number, which are rapidly being filled with sorts that will be valuable for cutting. The first is the Cattleya-house, containing lately imported plants breaking freely. The second will be devoted solely to Cœlogynes; the third to Cypripediums, and the fourth to Odontoglossums. From beauty we again turn to utility, and pass through two large lean-to Vineries, with 20 ft. rafters, the one planted with Hamburghs, and the other Muscats, and showing well for a fine crop. These are followed by two other Vineries, West's St. Peters and Black Hamburghs, perhaps the oldest on the place. At the back of this range are a set of sheds and Mushroom-houses, with a Rose-house on the top of them, reached by a flight of ornamental iron steps. Here, and in another similar structure on the same level, and 100 ft. long, the Tea Roses in pots appear to be at home, scores of thrifty profuse flowering plants of Perle des Jardins, Souvenir d'Elize, Niphetos, Isabella Sprunt, and Madame Falcot, being now in full bloom. Descending the before-mentioned flight of steps, we reach the range on the south side—a couple of Vineries—the one planted with Gros Colmar, the other with Muscats, with canes about three years old which are in remarkably fine order. On the floors are bedding stuff by thousands.

MELONS AND CUCUMBERS.

These are grown at Harefield Grove in enormous quantities. The first house of Melons is a span-roof, 90 ft. long, with a path down the centre, and beds on each side. The Melons are planted on the farthest side of the bed and 15 ins. apart, the plants—High Cross Hybrid—being kept to a single stem and expected to bear about three fruits each; and in front of them are two rows of French Beans. We ought to have alluded to the subject of Beans before, as Mr. Gough has a high reputation in the markets for the

fine quality of the samples of this much esteemed vegetable, which he has been turning out for months past; and Beans are to be seen in many of the houses we have already passed through. Beans are a speciality and they are done well. The sorts most relied upon are Negro Long-pod, and Ne Plus Ultra, the latter being the greatest favourite; and the quantity of seed used in a season amounts to no less than nine bushels! A similar house to the last named is planted entirely with Cucumbers and Beans, the former being the main crop, and consisting wholly of Mr. McIndoe's Verdant Green, just coming into bearing. Mr. Gough stated that it was an extraordinary cropper, but for market purposes the fruit would be all the better if it were a little longer. The next house of the same length as the preceding, but somewhat wider, contains Black Alicante Grapes, planted inside and showing for a splendid crop. Then followed a Tomato-house with the plants trained on a trellis under the glass. They were carrying a fine crop of fruit at Christmas, have yielded some 4,000 cuttings since, and are now in bearing again. Next we come to a Melon-house, this time planted entirely with Mr. Gough's seedling, The Harefield Grove, a white-fleshed variety with a yellow rind, which Mr. B. S. Williams sent out last season, and which has a first-class market reputation. It is a good free setter, and consequently a good and certain cropper, and a free kindly grower. A long lean-to pit which we next entered, is filled with a new Melon received from Scotland with a strong recommendation, and concerning which we shall doubtless hear more anon. Near the cottage before mentioned are a couple of small span-roofs, which have been devoted to the propagation of

Chrysanthemums,

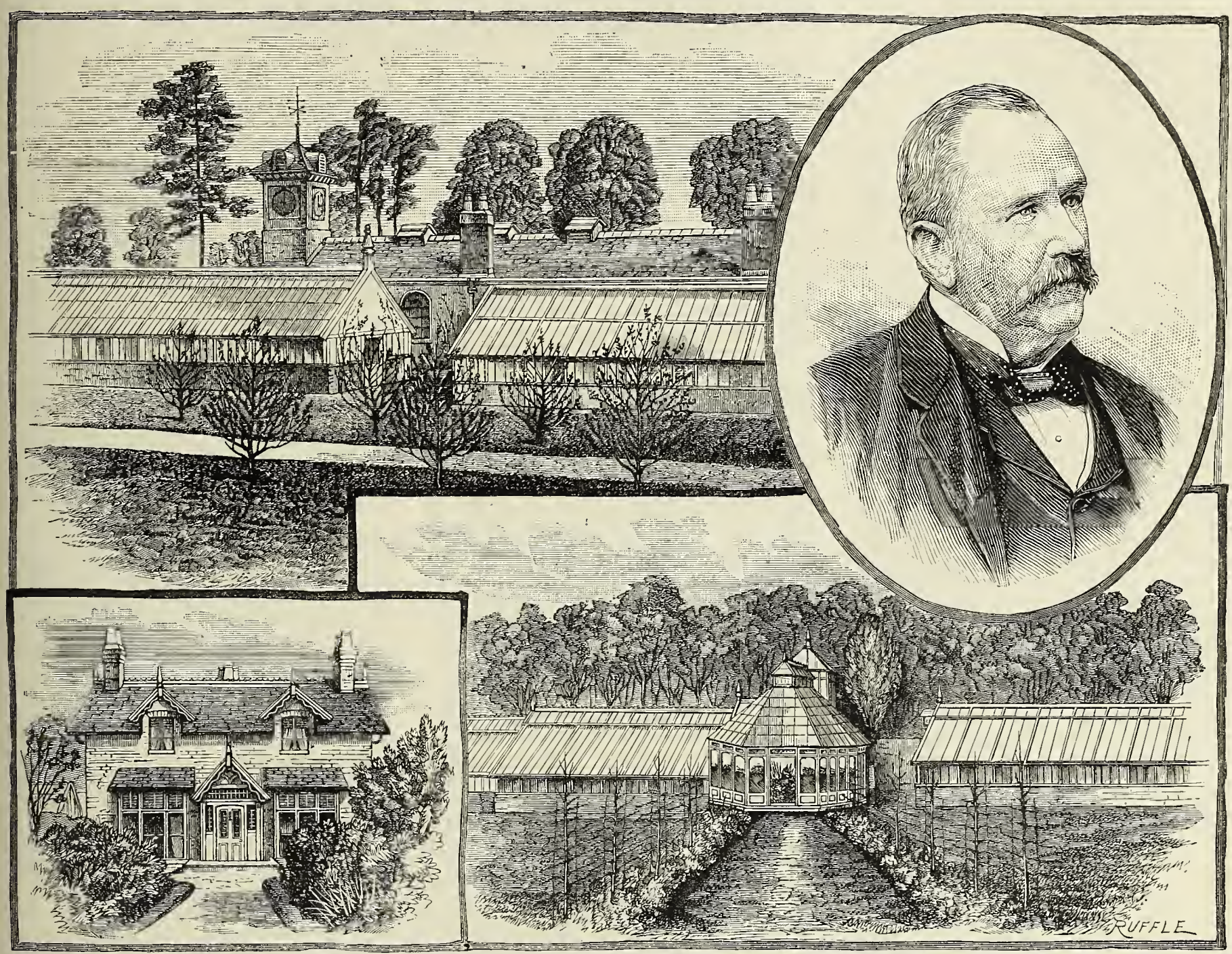
Of which no less than 115,000 plants are to be grown this season, and which, at the time of our visit, had all been potted off from the cutting-boxes, and were distributed among the large number of houses yet to be noticed. Chrysanthemums are here a great speciality, about 30,000 being grown on this year in pots, and the remainder planted out of doors to make their growth, and then be lifted and planted in the autumn in the immense houses used for Tomatos now. For planting-out, Mr. Gough prefers to grow them for a time at first in pots, as they are found to lift with better balls in the autumn than when planted-out without the roots having been submitted to some form of restriction at first. The flowering season is a long one, commencing in autumn with Madame Desgrange, and ending in spring with Ethel, Grandiflorum, Princess Teck, and Meg Merrilees, &c. Some idea of the value set upon the leading varieties may be gained when we state the numbers of each grown, which may be set down as 18,000 of Elaine, 15,000 each of Sœur Melanie, Peter the Great, and Mrs. Rundle, 10,000 each of Julia Lagravere and Fair Maid of Guernsey, 6,000 of Ethel, 2,500 of Princess Teck, and 10,000 mixed varieties. Summer-flowering sorts also meet with much favour, some 4,000 of Madame Desgrange and Mrs. Cullingford being cultivated, and for next season Mr. Gough has 1,500 of the new white Boule de Neige, figured in our number for Jan. 9th last, a sufficient number certainly to test its merits. Dismissing the Chrysanthemums for the nonce, we must proceed on our tour, and first pass through a large span-roofed Peach-house, the standard trees in which have seen their best days, and are undergoing renewal; through a long house to be planted with Melons; a long Peach-case, 4 ft. wide and 11 ft. high, the trees in which have set a tremendous crop; two good houses of strawberries, Sir C. Napier, Sir J. Paxton, and La Grosse Sucree, and next proceed to

The Orchard,

A somewhat recently enclosed part of the grounds, twenty-two acres in extent, and either planted with trees or covered with glass, of which there is enough already up and designed to shelter a very respectable army. The orchard proper promises to be as remarkable a feature as the glass in this truly wonderful garden. The trees planted in quarters and again in rows, with the greatest precision, broad grass walks dividing the different sections, are just getting into the bearing stage, and for neatness of form, health, and vigour—but not the rampant vigour that means all wood and no fruit—are all that any man could desire to possess. They consist of Apples, Pears, Plums, and Damsons (of which there are 8,000), Gooseberries and Currants, and a break of 2,500 plants of the new American Blackberries. To this part of the garden we hope to refer again at some future time. Suffice it for the present to say that the trees all came from Messrs. R. Smith & Co., St. John's Nurseries, Worcester, and are in every way a credit to their renowned establishment. The gigantic ranges of houses forming

The Remarkable Village of Glass,

For we can call it nothing else, forms one side of the orchard, and for extent puts in the shade anything of the kind that we are acquainted with. Proceeding through the houses in consecutive order, we note the first one as a span 250 ft. long, planted with the Harefield Grove Express Cucumber, a black-spined variety highly prized for its free-growing and fruitful qualities.



Harefield Grove and its Proprietor: Views in the Garden.

Next is a similar house as regards length, but wider, and planted with the same variety of Cucumber, just coming into bearing and showing fruits by hundreds. The bed of the house is planted with Ne Plus Ultra Beans. Then we come to two lean-to's, 150 ft. long, for Melons, mainly Harefield Grove, of which we may incidentally add that 1,300 ft. run of glass has already been planted, and 1,800 ft. will be planted for the second crop. Two half-spans, together 332 ft. long, are devoted to the Verdant Green Cucumber, the plants of which have nearly covered the trellis, and are bearing enormous crops of fruits about 12 ins. long, dark green in colour and short in the shoulder. The same houses were so planted last year, and 15,000 fruits were cut out of them. Two other spans of Harefield Grove Melons, just planted, are passed in review order, and then we come to a pit 210 ft. long and 4 ft. wide, planted from end to end with Gladiolus Colvilii alba for cutting. This is on the north side of a large span-roofed structure, 210 ft. long, with a brick wall down the centre, forming a Pear-house on the north side and a Peach-house on the south. On the north side of the wall Peaches and Nectarines were planted last year, and in front are young trees of Beurré Superfin, Pitmaston Duchess, Beurré Rance, Louise Bonne, Doyenné du Comice, and Beurré Clairgeau Pears. The Peach-house, which has been built according to Mr. Gough's ideas of what

An Economical Peach-house

Should be—viz., roomy, light, and well ventilated, and all available space utilised; and judging from present appearances—for the house has only lately been completed—it bids fair to realise his most sanguine expectations. The central bed is covered with a trellis, supported at intervals by uprights of barrel iron on which the roof rests. Against the arched trellis trained trees are planted and against the uprights are upright cordons. The borders are well drained, and made up of a fair proportion of good turf and burnt ballast mixed with the natural soil of the garden, a good stiff loam. The top ventilation is all worked by a simple lever arrangement, and the house is glazed with squares 20 ins. by 14 ins., 20 ins. between the rafters, and no top putty is used. Another fine Peach-house adjoins the last, and is of the same width, but without the wall down the centre, and is planted in a different manner. It has five sets of upright wire trellis-work running lengthways of the house, one down the centre, one on each side, and one in between; and all the trees are fan-shaped except those in the centre, which are what are termed riders. This also promises to yield grand crops of fruits as the trees attain size. To the Peach-houses succeeds a 300 ft. long span-roof, divided on the north side of the span so as to form a Melon-pit on that side, and a three-quarter span Tomato-house on the other. This is planted with six rows of Tomatos running the entire length, and which will be trained to upright stakes. By the side of this house is another one, quite new, planted with eight rows of Tomatos, and yet another one is being built of the same dimensions. Then comes five

Monster Vineries,

Two of which are 103 ft. long, 33 ft. 6 in. wide, and 20 ft. high in the centre, and another is 102 ft. long, and 28 ft. 6 in. wide, large lofty houses, substantially built, yet light with all. These are all new, and were only planted last September, the first being devoted to Gros Maroc, the second to Gros Colmar, and the next two to Black Alicante, the fifth not yet being complete. The Tomatos are planted in the natural soil of the garden, enriched with Thomson's Vine Manure, which has a wonderfully invigorating effect upon them as it has indeed on most other things, for Mr. Gough uses it by tons, and applies it to almost everything grown under glass except hard-wooded plants; and for Chrysanthemums and out-door crops he relies upon the Blood and Bone Manure sold by Mr. H. G. Smyth. But we have said nothing yet about

The Gardener at Harefield,

Mr. John Gough, who has so ably assisted Mr. Webster in the creation of this enormous undertaking, and who so ably rules over the establishment. Well, Mr. Gough, whose portrait we give on page 581, is a man of wid and varied experience, and during the four and a half years he has been at Harefield, he has got through as much work as would last some men a life-time. He was for ten years gardener to J. B. Brown Westhead, Esq., at Lea Castle, near Kidderminster; then became gardener to Lord Hampton, at Westwood Park, Worcester; and subsequently took charge of the Crystal Palace grounds at Sutton Coldfield, which he left to come to Harefield Grove. He comes of a good gardening stock, his father having been gardener to Lord Bateman, before commencing business as a market gardener. Mr. Gough is a man of energy and "go," and it is no matter whether he is directing the vast operations of the establishment under his charge, organising a local flower show, or getting up a concert in aid of the funds of the Gardeners' Royal Benevolent Institution, he puts heart and soul into the work, and thoroughly earns the well-merited success that attends his labours.

FRUITS, FLOWERS & VEGETABLES.

Concerning Gentians.—Gentiana acaulis has been grand; in one bed a little more than a yard square, carefully counted, there are 600 blooms. It is in full sun, the colour is beautiful. Gentiana verna is blooming fairly in some places, and very well in others on old established plants. Gentiana Bavarica, a plant sent home by my son from Switzerland, seems quite established and is in flower. This is not an easy Gentian to grow; it wants much damp. The late very hot sun coming before the leaves are out on which we trusted to shade the flowers has damaged some plants; it is trying after the long severe winter.—*George F. Wilson, Heatherbank, Weybridge, May 10th.*

Garrya eliptica.—Suffer me to put in a word of recommendation on behalf of this handsome evergreen shrub. It was discovered by Douglas in Northern Carolina about the year 1828, and was named by him in compliment to the late Mr. Nicholas Garrya, at that time chairman of the Hudson's Bay Company. It is regarded by some as one of the greatest botanical curiosities introduced into this country by that indefatigable collector. The plant when well grown, will attain to considerable dimensions; the foliage is evergreen, somewhat resembling that of the Holly. It produces in mid-winter (December and January), long massive tails of yellowish catkins, which, hanging from its irregular branches, produce an effect of the most singular and pleasing kind—doing this in the midst of frost and snow, when they are welcomed with great delight. The Garrya undoubtedly does best planted against a wall, it should be sheltered on the north and east, and have a south or west aspect. It is a charming subject with which to enrich bouquets or flowers in glasses, the catkins are both pendulous and elegant, and they can be so employed during a good part of the year. The female of this plant was introduced from Northern California under the auspices of the Horticultural Society of London some years ago, by their no less eminent collector, Hartweg, and it flowered for the first time in Europe in March, 1850. In foliage it is like the male plant, but the flowers are as destitute of beauty as the male is conspicuous for its attractions. The catkins are short, green, and at a little distance are scarcely to be observed. It is, however, stated that in North-West America the plant is loaded with long clusters of ornamental purple berries.—*R. D.*

Soot and the Onion Maggot.—I have felt rather interested in the articles which recently appeared in your columns on this subject, and the more so that I have had some experience in the same matter myself, and which I will now briefly state, though certainly not with the idea that it will count for much of a make-weight, either one way or another. Some thirty years ago I took charge of a tolerably extensive garden, where (amongst many other drawbacks) I found it impossible to secure a crop of Onions sufficient for family use; for try where I would and how I would, it was all the same—the maggot was everywhere. However, with a view to conquering the enemy if possible, I selected a piece of ground at the end of autumn, gave it a fair dressing of manure, and had it deeply and roughly dug, forking it over several times during the winter. Choosing a favourable day in the following March, I had the surface broke level with the back of the spade, and having previously prepared a mixture of fresh slacked lime and soot, in the proportion of three parts lime to one of soot, and screened through a fine wire riddle, I applied a fair dressing to the ground, slightly forking it in, the surface being raked and evenly trodden. Drills were drawn, the seed sown, and the whole finished off by a light rolling, and the result, I am happy to say, was all that could be desired. I may just add, that for the subsequent fourteen years that I lived in the place I never failed in having an abundant crop of Onions by following the simple practice above indicated. It is essential that both lime and soot should be fresh and dry at the time of using; and such being the case, I would be disposed to agree with Mr. Ward, that by a judicious use of *soot* the Onion maggot may be overcome in *any place.—A. McIntosh, Glen Cormack, Bray, Co. Wicklow.*

Anthurium Andreanum.—Amongst stove plants alike of handsome growth and floriferousness, the subject of this note deserves a high rank. Even if this Aroid did not flower, its loose straggling habit of growth and bright green leaves are sufficient to cause one to grow it in preference to some even of the Anthuriums. The only disadvantage its natural style of growth has is that it soon becomes leggy, but then roots are freely produced up the stem; they may be potted down with advantage, or rooted in the way that Dracænas are frequently done, as the safest method, perhaps, and which is worth the extra trouble entailed. When established in, say, 8-in. pots, they appear to be always in flower if grown at the cool end of a stove, and the massive flower-spathes are sure of general admiration.—*E. Dumper, Limerick.*

Agapanthus umbellatus.—Last autumn, having some large specimen plants that had outgrown the pots in which they had been placed a few years ago, I turned them out, divided them, and planted out the pieces under a wall having an east aspect, but adopting the precaution of placing some soil about the roots to induce them to root; and, further, when the leaves fell from the fruit trees I heaped them up over the plants. This was all the protection they had, and not a single piece appears to have been destroyed, but all have come safely through the winter. I take it to be much hardier, therefore, than is generally supposed. In a cold house, where the plants were frozen hard for days together, I had large specimens of A. umbellatus and good specimens of the white and variegated varieties also, and I was somewhat alarmed for the safety of these, but they came through the winter unscathed. I grow large specimens of A. umbellatus, or the blue African Lily, as it is sometimes termed, for the purpose of standing them upon the balustrade at the side of the steps leading up to the front door of my house, and for standing about in the forecourt garden. In the case of large specimens, the fleshy roots have so increased in bulk within the pots that they have heaped themselves up above the rims, and watering on the surface is impossible, so I stand the pots in earthenware pans which are kept full of water. The specimens flower gaudily, and being on the north side of the house and in the shade, the flowers not only last a long time, but they are also of a rich shade of blue. I think it is a mistake to starve the plants, and that is why I divided two of the largest. These will be potted-up in the autumn, and, I hope, make me good blooming specimens in 1887. It is a capital plant for dwellers in villa residences to grow, as it is so easily managed with ordinary care.—*R. D.*

Tiger Flowers.—When I penned my few remarks on the Tigridias, under a feeling of timidity lest by some possible chance I might come under the "fire" of "press criticism," I little thought that I should have such a "big gun" as Mr. Jenkins "down upon" me, and it is with a considerable amount of fear and trembling that I now write a few more lines in support of my statement at p. 555. I have cultivated the Tigridias for some years in pots for the decoration of the greenhouse and conservatory, and have kept them under glass in the same soil and pots the year round. I have also grown them in the open ground, and have seen them so grown by others; but I have not yet seen them grown so successfully in that way as I have grown them in pots. Grown in pots, and stored in greenhouses through the winter, the corms have increased in number and retained their normal size. My allusion to "warm" houses and over dryness was prompted, not by any failure of my own in that respect, but by the remark made to me by a friend and noted florist some years ago, when he learnt that I had taken up their culture in

pots. He said: "You won't succeed with 'em in that way if you don't keep 'em dry enough, and hot enough; I used to grow 'em like that, but they gradually dwindled away, and I've lost 'em all now. I couldn't keep 'em hot enough!" It was plain to me how he had lost them; but any attempt of mine to point out the cause of failure to him would have only given offence, so I held my peace. What I wished to warn your readers against at p. 555, were the extremes of heat and moisture, and Mr. Jenkins, in the latter part of his remarks, admits the necessity for a certain amount of both, although at the commencement he condemns the application of either artificial heat or water. In a general sense it is immaterial whether the corms are stored away in boxes and covered with cocoa-nut fibre, which absorbs and retains moisture, and placed in cellars or sheds from which frost is excluded by natural or artificial means, or whether they are stored away in a greenhouse artificially heated, and from which frost is excluded, and in the pots they have grown in. But as I condemn the use of a cellar for all the plants Mr. Jenkins enumerates—not even excepting the Potatos, which in this case I suppose to be for "seed"—on account of their being "out of sight," and, therefore, "out of mind," and apt to be forgotten sometimes, and also some cellars being too cold and too moist for the safe-keeping of the corms and tubers mentioned; and lastly, but not least, because I am not a believer in the absolute cessation of the vital functions of plants during what is termed their dormant or resting period, and, therefore, think that such things as Potatos (seed), Dahlias and Begonias especially should be stored where their incipient growths can receive some light, and Gladioli, Tigridias, &c., kept under the eye of the cultivator.—*Reader.*

Peas.—Mr. Gilbert asks if your readers will state how their Peas have come up, and as this is an important crop with me, I furnish particulars of them so far. William I. and American Wonder, sown as a first crop, are all that can be desired. Champion of England for second crop are very poor and thin. Dr. McLean follows, and of this I should not think a seed failed; and as this is a favourite with me, I have three sowings of it in succession. Duke of Albany, a new variety, of which I have a 100 ft. row from two of the small sealed packets, are just up and make a nice row.—*E. Dumper.*

Choisya ternata.—Your correspondent "W. G.," in calling attention to this old-fashioned plant, rightly says it wants no coddling. Last spring I planted two plants out at the foot of west walls, where they are now growing, and have stood throughout the winter without the slightest protection. The most severe frost has been 16°. That may give anyone who may feel inclined to give it a trial as an outdoor shrub some idea of its hardiness; and to show how it will do thus treated, I send herewith a flowering shoot, which is a foreright one, and it will speak for itself. The spring has not been the most favourable. I may say, without digressing from the subject, that it is more hardy than Tea Roses, as the latter in the same position lost a good lot of young growth. I do not attribute this to the severity of the winter, but the lack of sun to solidify the growths in the autumn; but as the Choisya was in the same position, it had exactly the same disadvantages to contend with.—*E. Dumper.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

All the plants in the stoves should now be in active growth, and to keep them in good condition more air must be admitted, so that the foliage may be of a good substance, and not of that flimsy character frequently seen where the roasting treatment is adopted; front air may be freely given, so that there may be a free circulation to ensure a purer atmosphere. The early batch of Gloxinias are now going over, and will be removed into a cold pit facing south to thoroughly ripen; the lights will be sparingly ventilated for a few days, but water must not be altogether withheld until the foliage denotes rest. Towards the middle of August these roots will start again, and they will be found most useful for staging in the warmer houses during autumn, when there is a greater charm about them than in what may be termed their natural season.

It is a great pity their flowers carry so badly as to make them useless for cutting purposes, if they have to travel any distance. The Poinsettias have made sufficient growth, and must be shaken out and repotted without further delay, or they will receive a severe check which should be avoided; the cuttings which were put in should become well rooted before being interfered with, or most of them will die off. The pots of Euphorbia Jacquinæflora if grown as previously advised, will now need a good shift, and they may be removed into a warm pit such as where Cucumbers are growing, here they will make a much more satisfactory growth than if kept in the stove.

Remove all bedding stuff from the pits to the ash borders out of doors as soon as it can be hardened-off, allowing only such things as Dahlias, Coleus, Zinnias, and Perillas shelter in case of late frost, of which we are experiencing a full share, having more or less every night. We have already planted-out our Neapolitan Violets, and have also made a new plantation of "The Czar;" these two varieties, though somewhat ancient, we find best suited to our requirements. Be careful that the potting of Balsams, Celosias, and such-like plants is not too long delayed, as they never make good specimens if allowed to become pot-bound. Look to the tying-in of all creepers before they become entangled; particularly attend in this respect to the old Tropæolum tricolorum, now but little grown.

THE FORCING HOUSES.

All in this department still continues on the high-pressure principle. Thinning of the Grapes is continued as long during the day as can be borne, but still the order is, "you must stick to the thinning," or the Grapes will become too crowded; and yet from 4 a.m. until 9 p.m. ought to keep matters straight, but it barely does so. The Muscats are swelling away amazingly; we have given them two or three good soakings of water, liberally using guano, and they evidently appreciate our attention. The foliage, too, is of that dark green leathery sort, so pleasant for growers to look at.

The ventilators must now be freely used—we open the first thing—or a visit from thrip and red spider may be surely expected. Many growers syringe their Vines up to the time colouring commences, but we do not like the plan, as, in the first place, unless the water is very pure the fruit becomes spotted, and nothing will remove the stain, and again, grapes so syringed never carry a good bloom, in my opinion a serious failing. Damp down the walks and inside the borders four or five times a day, closing in good time. Of course, where the Grapes are approaching ripeness, the house should only be damped down about mid-day, and air should be left on always both front and top, taking care that mice and birds do not obtain access.

Peach trees continue to grow apace, and need more attention than we are just now able to bestow, still the watering is not neglected, and we hope to give them due attention shortly. The Strawberry shelves will require frequently renewing, as after the best of the fruit is gathered, the plants are far better removed to a cold pit, from where the fruit may be gathered, and a fresh batch introduced, by this means much red-spider is avoided. The early Melons are netting, and we have renewed the bottom-heat. This is most important just at that time, as without good bottom-heat perfect netting is impossible with most varieties, notably the Victory of Bath section. Where house-room is required for Melons, Cucumbers should be grown in the frames, and we have raised a stock of plants for the purpose.

THE KITCHEN GARDEN.

In this department all is activity, for although frosty nights prevail, the weather being so dry it is not so much felt as if showers were frequent. We are running the Dutch hoe through all the seed-beds, partly to prevent the weeds, but equally as much to prevent the drought taking effect, our soil being of a heavy nature it is speedily felt; so far we have not watered any outdoor crops but we cannot hold out many days longer, so we hope for rain which we much need; we sowed our last batch of Peas and Beans, which consisted of Ne Plus Ultra and Improved Windsor, and also a breadth of Dwarf French Beans, consisting of Improved Red Valentine, a stringless variety, Canadian Wonder, and Pale Dun, the ground for next sowing being under crop will be prepared as soon as possible.

We have not planted out Brussels Sprouts or spring sown Cauliflower, the weather preventing us. If not already done the bed should be made for the Vegetable Marrows, as if kept too long in the pots they do not start so readily; our early batch is fruiting nicely. The Curled and Asparagus Kale if not cut hard will quickly run to flower; if the supply is too great reduce it at once rather than allow it to impoverish the soil; give the square a good dressing of manure and prepare it for summer crops, such as French Beans, Turnips, Spinach, and so on.

BIRMINGHAM ORCHID SHOW,

May 12th and 13th.

The schedule provided for this exhibition, some comments on which will be found in another column, was not an extensive one, but was carefully considered, and the prizes were of sufficient value to induce Orchid growers in the neighbourhood to test the merits of their favourites in competition. The principal class was that for a group of twenty distinct Orchids, open to all growers; the prizes being £15, £10, and £6. There were four other classes for groups of ten and six plants from nurserymen and amateurs, the prizes ranging from £8 to £2. Two classes were devoted to Odontoglossums, two to Cattleyas or Lælias, one to Masdevallias, and one to cut flowers of Orchids; the prizes in these varying from £6 to £1, or a total of £150.

One of the large new houses in the Botanic Gardens was devoted to the groups of Orchids, and a charming effect was the result of Mr. W. B. Latham's careful and tasteful arrangement. The bright flowers of the Orchids were softened by a number of Ferns and foliage plants furnished by Mr. Hans Niemand, Harborne Road Nurseries, who also contributed a beautiful group of miscellaneous plants. Every care was taken to dispose the Orchids to the best advantage, and to effect this it became necessary in some cases to place exhibits in the same classes somewhat widely apart, but this was not done wherever it could be avoided. The display was far better than could have been expected, and the Birmingham Orchid growers have every reason to be proud of their first Orchid show, which it may be hoped will prove one of a successful series. There was only one element wanting to render the occasion all that could be desired, and that was favourable weather, and all concerned in the show had occasion to regret that such change had occurred from the weather of the preceding week.

In the principal class, namely, that for a group of twenty plants, Mr. James Cypher, Cheltenham, took the lead with well-grown specimens of good varieties, the best being the following:—Cattleya Skinneri oculata, with twenty-eight fine flowers; Oncidium concolor, nine spikes; Odontoglossum Roezli, Cattleya Mossiæ grandiflora, Anguloa Clowesi, Cypripedium biflorum, twenty eight flowers; Cypripedium Lawrenceanum, twenty three fine flowers; Dendrobium thyrsiflorum, with forty spikes, a grand specimen; Lælia purpurata, thirteen flowers; and Dendrobium chrysotoxum. A. W. Wills, Esq. (gardener, Mr. James Morgan), was a close second with smaller plants, but very fresh and brightly coloured; Dendrobium Falconeri being represented by a splendid variety, the flowers of great size and finely coloured; and Lælia majalis, not an easily-flowered Orchid, bore three fine blooms. Class two was for ten specimens (amateurs), and the prizes were awarded to the four exhibitors in the order named: C. Winn, Esq. (gardener, Mr. G. Barnes), the Right Hon. Joseph Chamberlain, M.P. (gardener, Mr. E. Cooper), and Joshua Fellowes, Esq., an extra prize going to E. Wright, Esq. (gardener, Mr. Hodges), all having capital plants, the flowers very abundant, and the varieties select. Mr. James Cypher was first in class three for ten plants, showing similar plants to those which gained him the honours in the first class. The Right Hon. J. Chamberlain had the best six plants in class four, Dendrobiums, Lælias, especially Lælia purpurata being very fine; Messrs. Winn and E. Wright were 2nd and 3rd. In class five Mr. Cypher was again the most successful exhibitor, and he took similar prizes in classes seven for Odontoglossums; nine for Cattleyas and Lælias, and cut Orchids. The best amateur's collection of Odontoglossums came from Mr. C. Winn, representing cirrhosum, triumphans, citrosmum, Alexandræ, Cervantesi, prænitens, luteo-purpureum, vexillarium, and tripudians. Mr. J. Fellowes being second with smaller but equally pretty plants in pans and baskets. Mr. C. Winn was first with Cattleyas and Lælias in the amateurs' class, followed by the Right Hon. J. Chamberlain, M.P.

Masdevallias were well shown by two exhibitors—Mr. C. Winn and Mr. Fellowes, the former having chiefly varieties of the Harryana type, but very fine; the latter having a more diversified collection, but included several small-flowered species. The collections of cut flowers were good from Mr. C. Winn and the Right Hon. Joseph Chamberlain, who followed Mr. Cypher in the prize list.

The miscellaneous non-competing exhibits were not numerous, but Mr. R. H. Vertegans had a collection of Alpine plants, and Mr. C. Winn contributed a pretty group of Orchids, for which he received special recognition.

FLORICULTURE.

Gold-laced Polyanthuses.—I was glad to see a notice in The Gardening World for May 1st of the Gold-laced Polyanthus, by "Florist." With much that the writer says I entirely agree, especially as regards his cultural and potting instructions, which are admirable and cannot be improved upon. To them I may add that during the heat of summer the plants should be kept cool, shaded, syringed freely to prevent thrip, and fairly well watered. In winter, if in frames, grow them near the glass and give plenty of air, and enough water to keep the roots well moistened. Do not be afraid of a few degrees of frost, as it will do them no harm. The Polyanthus requires considerably more water than the Auricula, both in summer and winter.

Although, I admit there is a certain degree of sameness in a collection of Gold-laced Polyanthuses, yet there is more room for development in perfecting the flower than "Florist" seems to think, and especially in form, by attaining a greater width of each segment and thereby securing a circular flower. Kingfisher came nearer to this than any of the old varieties that I ever knew. I have a red ground seedling, Model, which has this attribute in a higher degree even than Kingfisher had; and, indeed, it is very much like that old variety, but is not so refined or clearly cut in its lacing. I have raised other seedlings, both black grounds and red grounds, which possessed this improved form in a higher degree than any of the varieties named by "Florist"; notably, a black ground, named Criterion, which I exhibited at South Kensington a few years ago, when I won the 1st prize for six dissimilar varieties of Gold-laced Polyanthuses—three black grounds and three red grounds—all with seedlings of my own raising. Unfortunately, I lost Criterion after its second year of bloom. John Bright has scarcely any pretension to rank as a florists' Polyanthus, its qualities are a strong and robust constitution, very free habit of flowering during a long season, the first to come into bloom and the last to go out, and above all its delicious fragrance. I have raised many much better black grounds than John Bright, but, unfortunately, they are all lost.

"Florist" will be glad to know that Sunrise has not quite become sunset.; I lost my stock, but had lent a plant to a friend to grow for me, and now there are three or four plants of it; it has bloomed, I believe, in fine character this season, and I trust will be again seen on the stage. There is no possibility of improving the Gold-laced Polyanthus except by very careful hybridization. I have a grand border of some hundreds of plants of gold-laced seedlings, raised from seed gathered from a choice collection of kinds, but of promiscuous parentage, and there is scarcely a coarse flower amongst them, but, alas, there is not one sufficiently good to select for special culture; the general effect is, however, very fine and would please "Florist" if he saw them. I have also a very large collection of fancy or border Polyanthuses of the finest quality, raised from choice seed given to me by my friend, Mr. Richard Dean, of Ealing, and with these I have been equally delighted. The word "rivals" is objectionable as applied to flowers. There is no more rivalry between the gold-laced and the fancy Polyanthuses than there is between the Rose and the Carnation, and happy ought the florist to be who has room enough in his garden for many good things, and warmth enough in his heart to be thankful for them all.—*Samuel Barlow, Stakehill House, Castleton, near Manchester.*—[We have received from Mr. Barlow, some blooms of "Model," and also of what he calls miscellaneous seedlings, which are indeed good, but not good enough for the Florists' standard. We have sent them to "Florist."—Ed.]

ORCHID NOTES AND GLEANINGS.

Chysis bractescens.—This Orchid is generally grown in the hottest house, where I used to grow it myself, but two years since one of our plants was later in flowering than the rest, and as I had them in the Cattleya-house whilst in flower, the others were removed to the cool end of the East Indian-house on going out of flower, and the one that was late was left in the Cattleya-house all the season. When the growths of all were completed I removed them into a cooler and at the same time more airy-house, and the improvement was very marked in favour of the plant grown in the Cattleya-house, so that last year I grew them all in the Cattleya-house with the same favourable results. The flowers of this Orchid are particularly solid-looking, always reminding one of a statue in appearance; some of them have the sepals and petals white, whilst others have the tips of both sepals and petals shaded yellow, the lip being yellow, with irregular brown lines running lengthways of the lip. The flowers, which are about 3 ins. in width, are produced in racemes, from two to six flowers on each, and last about a fortnight in good condition. This is a deliciously perfumed Orchid, but at the same time not over powerful, which is the case with some, for one frequently hears the exclamation, "I don't care for that, it is too strong!" Basket culture with peat and moss suits this well.—*E. Dumper.*

Dendrobium Wardianum.—Sometime since I sent a flower of this Orchid which you commented on, asking for the opinion of your readers on the lasting properties of large flowers of this Orchid. Your able correspondent, Mr. Simcoe, advanced reasons from which I must beg to differ. The flowering growth of the variety sent was a stout medium-length one, and the largest flowers on some were barely 4½ ins. across. It was lately purchased on a large block, on which there are more than a dozen pieces. Now this was the only gigantic form, although the others were good ones, and I think it had a fair test to prove its lasting properties, as the ordinary forms alluded to lasted fully a fortnight longer in good condition. I have since top-dressed the block, when I found it was the best rooted of all, and the only reason I can account for its not lasting so long is, that it may have been injured in transit; then why not the flowers on the other growths, which were in the same condition when received, *i.e.*, just plumping up the flower-buds?—*E. Dumper.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*May 11th.*—Though, as a consequence of the opening of the Indian and Colonial Exhibition, the number of visitors to see the display in the conservatory was far in excess of what we have been used to lately, the show itself was not so extensive or so interesting as those which immediately preceded it. The leading exhibitors were Mr. T. S. Ware, Messrs. H. Lane & Son, and Messrs. William Paul & Son, who were awarded silver-gilt banksian medals. Mr. Ware's extensive group was rich in varieties of Primula Sieboldi, Moutan Pæonies, Daffodils, and other spring-flowering plants; while Messrs. William Paul & Son staged the brightest and best flowered collection of Half-specimen Roses that we have seen turned out of Waltham Cross; and the Messrs. Lane's contribution included two fine groups of forced Rhododendrons and Ghent Azaleas. Messrs. Barr & Son received a silver banksian medal for a collection of Daffodils, Irises, Scillas, Tulips, &c.; and bronze banksian medals were awarded to Mr. W. Rumsey, Joyning's nursery, Waltham Cross, for an attractive group of standard and half-specimen Roses in pots, and a variety of cut blooms. To Messrs. Paul & Son, Cheshunt, for a small group of white-flowered Rhododendrons, such as Lady Alice Fitzwilliam, R. Edgeworthii, and R. Fortunei; and a flowering plant of the new H. P. rose, Pride of Reigate, a white striped red rose of great promise; and to H. M. Pollett, Esq., for a group of six plants of remarkably fine Odontoglots, and cut blooms of a splendid large variety of O. citrosmum roseum; the plants included O. sceptrum splendens, Wilckeanum pallens, one of the finest forms of O. Andersonianum, an unnamed variety apparently a hybrid from the same species, O. guttatum roseum, and O. prænitens. Mr. J. Walker, Thame, showed a well flowered mass of Gentiana acaulis; and Messrs. Wills & Segar some superbly bloomed little plants of Erica Cavendishiana. Messrs. James Veitch & Sons showed examples of several very fine flowering shrubs, including Cydonia Maulei, Spartium præcox, Rubus arcticus, Philadelphus monophyllus, &c. Mr. G. F. Wilson showed Potentilla argyrophylla, a species with salver-shaped yellow flowers, received from Saharanpore. Mr. John E. Bonny, 88, Down's Park Road, Hackney, contributed a little gem in Phalænopsis Parishii, a rare species of the diminutive order, with small white flowers and rosy purple lip. Mr. F. Bridger, Penshurst Place, had a good variety of Dendrobium thyrsiflorum; and Mr. Bradshaw, gardener to Baron F. de Rothschild, Waddesdon Manor, a well-flowered Lælia purpurata in a basket. The old Dendrobium speciosum was well represented by a specimen with twelve spikes, from Mr. Howes, gardener to Mrs. F. Bennett, Tulse Hill.

The new plants certificated were Pæony Reine Elizabeth, a very fine Moutan variety with large well-formed pale carmine flowers; and Adonis pyrenaicus, a large yellow-flowered species from Mr. T. S. Ware; and Phœnix hybrida, a useful decorative Palm from Messrs. James Veitch & Sons.

The Fruit Committee had more to do than usual, having before them most interesting collections of fruit from South Australia, Canada, &c. The South Australian Apples were something to remember, being remarkably fine in size, without blemish of any kind, and most beautifully coloured. The samples of Reinette du Canada, Wellington and Lane's Prince Albert we have never seen surpassed; while few, if any, better samples of Worcester Pearmain, Scarlet Nonpareil and Stone's Apple are seldom seen. From the same colony also came dried Apples, Pears and Apricots, Sultana Raisins, Prunes, Black Currants, &c., of very fine quality. The Canadian Commission sent fine examples of King of Tomkins County, Northern Spy, Canada Red, Rosebury Russett, and Seek-no-further, a very pretty sample. For the Veitch Memorial Medal, offered for the best collection of salad plants, there was no competition, only one exhibitor, Mr. G. Bolas, gardener, Wirksworth Hall, Derby, entering the lists, and he, staging about eighteen varieties, took the Medal and £5.

Preston and Fulwood Horticultural.—*May 1st.*—A meeting of this society was held on the above date at the old Legs of Man for the purpose of discussing the best means to be adopted for giving a series of readings, for the considerations of suggestions on the culture of plants and flowers, and for bringing together more frequently all lovers of horticulture. Mr. William Swan, gardener, Howick House, Preston, presided, and there was a good attendance. The chairman spoke in favour of an enlargement of the Preston and Fulwood Horticultural Society by the members forming themselves into an association for their intellectual improvement by listening to papers on horticultural subjects. He had been connected with societies of that description, and had thereby considerably increased his store of knowledge. Mr. Atherton said their treasurer, Mr. J. B. Dixon, wished to say through him that if an association of the kind suggested were formed, it should be united with the parent society. His idea was to let the members of the Preston and Fulwood Horticultural Society be full members of the proposed association without any increased fee. They should strengthen the present society as far as possible by having readings given in connection therewith. Messrs. Payne, Walters, T. Moss, and Waters approved of the suggestion thrown out by Mr. Dixon, but expressed a fear that the cost of the meetings would be too much to be taken out of the funds. Mr. Atherton reminded them that readings had been given on various subjects at the society's expense. The cost would be a mere trifle, and he could assure them that it would be willingly defrayed by their treasurer. Their society required all the sympathy and encouragement it could get, all the strength that could be given to it, and he had no doubt that it would be ere long second to none in Lancashire, if it had not already attained that position. Mr. Ashworth, president of the Cottagers and Amateurs' Society, promised to do all he could to cause interest to be taken in the meetings at which readings were to be given. The Chairman said that as the officers of the present society were willing to accept the responsibilities of their meetings they could not do better than further its interests by every means in their power. Their object was the advancement of horticulture by the improvement of each other, for the better a man understood his business the more successful was he likely to be in his calling, to the advantage of himself and his employer. After a desultory conversation, it was decided that the payment of 2*s.* 6*d.* yearly should constitute membership, the subscriber of that amount to receive tickets of admission to the exhibition; and that 1*s.* per annum should admit to all the meetings at which readings were to be given. It was also resolved that the meetings be held on the first Saturday evening in each month. Mr. Atherton quoted from the financial statement just issued by the treasurer, Mr. Dixon, on the exhibition held in March. It showed that the year commenced with a balance in hand of £4 19*s.*, the admission money came to £48 14*s.*, the subscriptions were £93 5*s.*, and other sundries made the total income £156 18*s.* The disbursements included prize money £64 12*s.*, concerts £17 17*s.*, and other items brought the expenditure to £150 4*s.*, thus leaving in hand a balance of £6 14*s.* Mr. Atherton stated that subscriptions to come in would make their balance £10. A vote of thanks to the Chairman closed the meeting.

QUESTIONS AND ANSWERS.

Black Currant Buds Diseased.—*A. R. W.:* The swelling of the buds is caused by a small mite, and is known as Double-bud. The only remedy is cutting off the affected shoots and burning them. It is unknown in many districts, but has given much trouble in the north of England and south of Scotland for several years past.

Names of Plants.—*Surrey:* Cydonia japonica. *W. S.:* Odontoglossum Pescatorei, an ordinary variety. *Cochin:* We cannot name varieties of Pears from their blossoms. The yellow flower is Doronicum caucasicum. *J. C. D.:* 1, Asarum europæum; 2, Mertensia virginica. *An Original Subscriber:* 1, Scolopendrium vulgare crispum; 2, Athyrium filix-fœmina; 3, Selaginella plumosa; 4, Scolopendrium vulgare corymbiferum; 5, Onychium japonicum; 6, Lastrea lix-mas cristata.

Communications Received.—J. B.—W. S.—J. N.—S. and S.—I. E. M.—T. S.—S. C. B.—General H.—Original Subscriber.

TRADE CATALOGUES RECEIVED.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—New and General Plant Catalogue, for 1886.

LONDON SEED TRADE.

May 13th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, E.C., report sowing demand for Clover Seeds has almost ceased, and as prices are much lower than usual, holders evince no desire to clear out at a loss. A speculative demand has set in for good Canadian Alsike. There is a fair trade for Mustard and Rape Seed at unchanged rates; these articles promise to be very scarce. Rye Grasses and Bird Seeds unchanged.

COVENT GARDEN MARKET.

May 13th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	10 0
Grapes ... per lb.	2 6	6 0	Pears ... per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Strawberries .. per lb.	2 0	6 0
Pine-apples, Eng., lb.	2 6	3 6	Canadian Apples, brl.	12 0	21 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ... per doz.	2 6	5 0	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	3 0	4 0
			Turnips, per bunch	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, 12 bunches	3 0	6 0	Marguerites, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	2 0	6 0
Blue Bells	0 9	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet, 12 sprays	0 4	0 6
Camellias, 12 blooms.	1 6	4 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primroses	0 6	1 0
Cyclamen, 12 blooms.			Roman Hyacinths		
Daffodils, 12 bunches	1 6	6 0	Roses (coloured)	2 0	4 0
Eucharis, per dozen	4 0	6 0	Roses, Tea per dozen	0 9	2 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Stephanotis, 12 sprays	1 6	3 0
Gardenias, 12 blooms.	1 0	4 0	Spiræa, doz. bunches	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Hyacinths (Dutch), Lapageria, red, 12 blms.	1 0	2 0	Tuberoses, per dozen.	1 0	1 6
Lilac, English, 12 bunches	4 0	8 0	Tulips, 12 blooms	2 0	0 6
Lilac (French), bunch	2 0	7 0	Violet, 12 bunches		
Lilies, 12 sprays	0 6	1 0	— Parme	4 0	6 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen	6 0	10 0
Arum Lilies, per doz.	9 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Azalea, per dozen	24 0	42 0	Hyacinths, per doz.		
Bedding Plants, various, per doz.	1 0	2 0	Lilies of the Valley, pots, per dozen	12 0	24 0
Begonias, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cineraria, per dozen	4 0	8 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, doz	9 0	18 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen	9 0	15 0
Ferns, in var., doz.	4 0	18 0	Tulips, per dozen pots		
Ficus elastica, each	1 6	7 0			
Foliage Plants, various, each	2 0	10 6			

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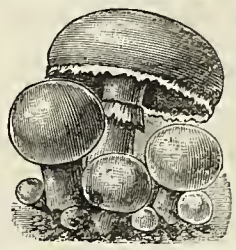

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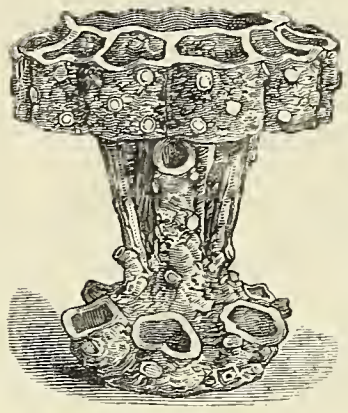

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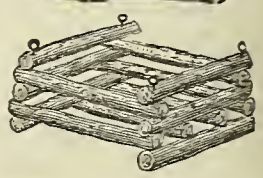

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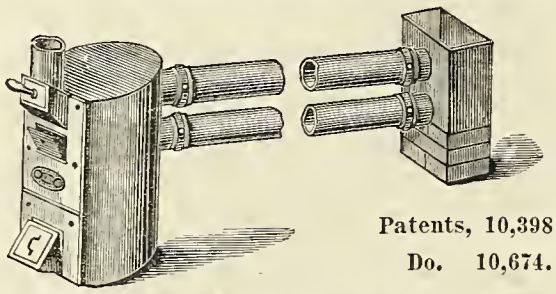

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STRAWBERRIES ALL THE YEAR ROUND.—An Essay on the Cultivation of the Strawberry in the Open Air and under Glass, by WILLIAM HINDS. Price 1s.; by Post, 1s. 1d.—PUBLISHER, 17, Catherine St., Strand, W.C.

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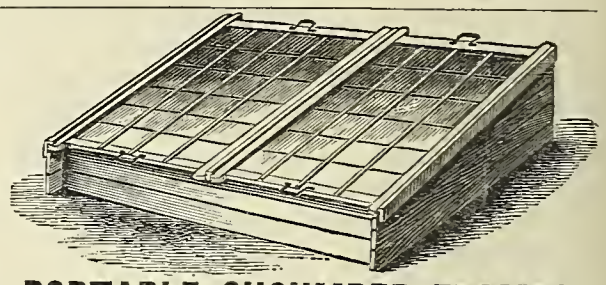

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R. HALLIDAY & Co. desire to draw special attention to their Cucumber Frames, of which they always have a large stock, ready glazed and painted. They are made of the best materials and can be put together and taken apart in a few minutes by any one.

Prices delivered to any station in England.		£	s.	d.
2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
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TESTIMONIAL.

THE GARDENS, BURGHLEY, STAMFORD, September 11th, 1884.

GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.

R. GILBERT, Head Gardener to the Marquis of Exeter.

R. HALLIDAY & Co.,
Hothouse Builders and Engineers,
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GARDEN REQUISITES.

TWO PRIZE MEDALS.
Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4s. 6d. per sack; 5 sacks for 20s.
PEAT, best black fibrous, 3s. 6d. ,, 5 sacks for 15s.
PEAT, extra selected Orchid, 5s. ,,
LOAM, best yellow fibrons .. .. } 1s. per bushel (sacks included).
PREPARED COMPOST, best .. .. }
LEAF-MOULD, best only .. .. }
PEAT-MOULD, ditto .. .. }
SILVER SAND (coarse) 1/3 per bnshel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only .. .. 1s. per lb.
TOBACCO CLOTH, finest imported 8d. per lb., 28 lbs. 18s.
TOBACCO PAPER, ditto (Spécialité) 8d. per lb., 28 lbs. 18s.
MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.
SPHAGNUM MOSS, all selected, 2s. per bushel, 6s. per sack
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s Limited quantities of G special quality, granulated in sacks only, 2s. each.

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THE WEEKLY DISPATCH.

BEST PENNY PAPER.

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 3d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

JOHN P. FULLER,
19 & 20, Wine Office Court, Fleet Street, London, E.C

£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20," three stamps.—H. MYERS & Co., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

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Special Offer. Carriage Free.

ANTHEMIS PALLIDA, the most beautiful hardy Marguerite; splendid for cutting, each, 6*d.*; three for 1*s.* 3*d.*
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PHLOX, Herbaceous, very choice sorts, including some fine new vars., six for 2*s.*; per doz., 3*s.* 6*d.*

DANIELS BROS.,
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NORWICH.

SPECIAL NOTICE.

B. S. WILLIAMS

Takes the opportunity of announcing to his numerous customers that he has just posted to them his

New and General PLANT CATALOGUE for 1886,

should any not have reached their destination, upon receiving an intimation of the same another copy will be forwarded.

VICTORIA AND PARADISE NURSERIES,
UPPER HOLLOWAY, LONDON, N.

S. SHEPPERSON,
FLORIST, PROSPECT HOUSE, BELPER,

BEGS to offer the following special cheap plants:—3 Geraniums, 3 Single Dahlias, 3 Verbenas, and 3 Calceolarias for 1*s.*, free; or, 4 Geraniums, 4 Single Dahlias, 4 Verbenas, 4 new Pyrethrums, 4 Fuchsias, and 25 imported German Ten-week Stocks for 2*s.*, free; or, 4 Geraniums, 4 Fuchsias, 4 Single Dahlias, 4 Calceolarias, 4 Verbenas, 4 Spotted Mimulus, 4 Lobelias, and 25 imported Ten-week Stocks for 2*s.* 6*d.*, free.

All distinct well-rooted hardy plants. All orders sent same day as received.

S. SHEPPERSON, Prospect House, Belper.

ALPINE & HERBACEOUS PLANTS.

A SPECIALITY.

50,000 of the most desirable sorts established in pots; many other varieties growing in the open ground.
To ensure flowers at all seasons, plant at once and do not delay.

SPECIAL LIST OF VARIETIES ON APPLICATION.

4/-, 6/- and 9/- *per dozen Cheaper if taken by the 100 or 1,000.*
R. H. VERTEGANS, Chad Valley Nurseries, Edgbaston, Birmingham.

SEEDS.

All in want of good genuine Seeds should give me a small trial order; they are sure to be pleased; everything of *first* quality only. Fourteen two-penny packets of Flower Seeds, post free, for 2*s.* All different, and carefully selected. Send for Catalogue, post free.

GLADIOLUS BRENCHLEYENSIS, 6*d.* and 9*d.* doz., 3*s.* 6*d.* and 5*s.* 100; Gladiolus Gandavensis, mixed hybrids. 1*s.* 6*d.* doz.; ditto, splendid mixed, 2*s.* doz. Hyacinthus candicans, 1*s.* 6*d.*, 2*s.* 6*d.*, and 3*s.* doz.; Single Dahlias, fine ground roots, mixed, 4*d.* each, 3*s.* 6*d.* doz.; Anemones, single, mixed, 2*s.* 6*d.* 100. All orders over 1*s.* carriage free. Cash with order. *Seed Catalogue gratis.*

J. HISCOCK,
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and have a large collection, now ready for sending out, including all leading
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TEA-SCENTED (16*s.* per dozen).
CLIMBING VARIETIES, extra strong (16*s.* per dozen).

NEW ROSES.

HER MAJESTY, and all latest introductions.
SINGLE ROSES:—FAIRY OR MINIATURE ROSES.
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All strong plants, suitable for pot culture or planting out. Descriptive priced list post free.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

HULL, EAST RIDING and NORTH LINCOLNSHIRE HORTICULTURAL SOCIETY.
A GRAND HORTICULTURAL EXHIBITION will be held in the Hull Botanic Gardens on WEDNESDAY, THURSDAY and FRIDAY, July 14, 15 and 16, 1886.
Upwards of Two Hundred Guineas in Money Prizes, besides Gold and Silver Medals.
Schedules and particulars of PHILLIP MACMAHON, Curator, Hull Botanic Gardens.
The following amongst other valuable prizes, will be awarded: Group of 10 Stove and Greenhouse Plants in bloom (Orchids excluded), and 6 Ornamental, Fine Foliage or Variegated Plants, distinct varieties. 1st Prize, £15 and the Society's Gold Medal; 2nd do., £10; 3rd., £5.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY of MANCHESTER.
The GRAND NATIONAL HORTICULTURAL EXHIBITION of 1886 will open at the Gardens, Old Trafford, on FRIDAY, June 11, at 2 P.M. Entries close on June 4. Schedules may be had from the undersigned.
BRUCE FINDLAY.
Royal Botanic Gardens, Manchester.

SHEPPERTON AND THAMES' VALLEY HORTICULTURAL SOCIETY'S Exhibition of Roses and other Flowers, Foliage Plants, Orchids, Fruits and Vegetables. Special classes open to all England. The Third Annual Show of this Society will be held on Thursday, 1st of July, 1886, in the Grounds of Mrs. Lindsay, The Manor House, Shepperton.
Schedules of Prizes, Entrance forms, &c., may be obtained of E. RUTTER, ESQ., Hon Sec. and Treasurer, Shepperton-on-Thames.

ROYAL AQUARIUM, WESTMINSTER.—The Strawberry Fête announced for July 9th and 10th, and Show of Table Decorations, fixed for August 20th and 21st, are unavoidably withdrawn for this season.
R. DEAN, Ealing, W.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, MAY 25th.
SHOW OF POT ROSES, AZALEAS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

ROYAL HORTICULTURAL SOCIETY, GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29th to JULY 5th, 1886
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to ADAMS & FRANCIS, Advertising Agents, 59, Fleet Street, London, E.C.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 22, 1886.

A PROSPECT.—The fears recently entertained with respect to the season, that it would prove as dry as that of last year, have been rudely dispelled by the heavy rains which have fallen during the past fortnight, and we can now feel assured that whatever may be the state of things later on, a repetition of the weather of last year is impossible. Having had a comparatively dry April, and the early part of May the same, rain had become unusually needful; and although just now there may be fears that we shall have too much of it, yet there can be little harm done if a drippy time prevails till the end of the month. Whatsoever of rank growth is promoted by May rains is soon corrected by June sunshine; but should June prove cold and drippy also, then does the summer outlook become gloomy. However, we have no grave fears on that head, for the season is yet very young, and youth is as much the season of tears as of smiles.

Then here, in the south of England, at least, we rarely get too much moisture during the summer, and, on the other hand, the land gets dry very rapidly. How many a gardener or farmer has had cause to wish that some of that too abundant of winter rain could be saved over to moisten the parched soil in July or August, and revive crops that otherwise seem perishing? If such grateful intermittent showers may not be had at our bidding, at least we may well be grateful that the weather is starting upon its annual summer round with a good foundation of moisture laid in. Fortunate indeed are those who have their big tanks and reservoirs in which the surplusage of to-day can accumulate for the service of the coming summer, for only in such fashion can the intellect of man convert the limpid element of nature to his use at seasons when its presence is so essential and yet so wanting.

There can be no doubt but that we are experiencing one of the latest seasons on record, and the rains which have just fallen should practically be estecmed as of the old traditional type of April showers. The comparatively abundant bloom on the Apple trees, the noble spikes of flower on the Chestnuts, and the bold racemes of bloom on the Lilacs tell us that May is here; but, generally, all vegetation is late, and especially that form of vegetation which is annually dependent upon the aid of man for its production. This was not due to the drought which previously prevailed, but to the very low average temperature which has existed throughout the spring; and although not a bad time for working the soil and getting in seeds, &c., yet it has been anything but promotive of quick growth. On the other hand, there can be no doubt whatever of the power of nature to make good its previous omissions, and some really warm sunshine after the recent rains will promote growth with unusual rapidity, and, indeed, we anticipate such results, and look forward to our entering upon leafy June very little later in the march of growth than usual.

With the season's prospects outside of gardens we have little to do, but whilst there is undoubtedly a revival of trade proceeding, and the prospects of the farmer are less depressing than they have been for several years, it is not possible to be otherwise than thankful for even the smallest mercies, and to rejoice that outside our own immediate horticultural circle things are improving. What prosperity there is in other directions will react in the promotion of prosperity to gardening; hence we uphold a sanguine view of the season's prospects in relation to horticulture. To maintain a hopeful and confident spirit is to half win in the battle of life. Coming back, however, to our immediate concerns, we find the earlier predictions as to the fruit crops being borne out day by day. So far, little harm seems to have been done, and there is just now every reason to hope that 1886 will stand out in garden history as one of the best fruit years of the present generation. Only by some sudden access of cold or of storm does it seem possible that this forecast can be destroyed. Certainly we can never hold ourselves to be safe till we are out of the month of May.

Some few years since a very sharp white frost, on the morning of the 28th, almost destroyed the first crop of Peas by killing the bloom. It was an unusual phenomenom, and one we hope may never be repeated; but the frost, which did so much harm to the Peas and Potatos, sadly injured other things as well. Whilst we may well trust that no such visitation is again in

store, we must also not forget that such late disastrous visitations are possible. However, to have done with the gloomy side of nature, let us look rather at the fact that now at, least, the prospect in garden and field vegetable crops is good, and full of promise. Already there is ample work being provided, and the rains make the weeds grow apace. Seeds, too, where they have done well, have furnished plenty of plants, and there is anxiety to get these out whilst the soil is moist. Early planting of these things means an abundant crop for next winter. Rarely have we had a season when labour was more in request and more needed. With ample employment comes back national prosperity, and we have sincere hopes that the present season will materially conduce to that end.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday*: Royal Horticultural Society; Meeting of Fruit and Floral Committees—Show of Pot Roses, Azaleas, &c.

The Exhibitions at the Royal Aquarium.—Mr. R. Dean writes:—I have just received an intimation from the manager of the Royal Aquarium Company that the exhibitions fixed for July 9th and 10th, and August 20th and 21st, are unavoidably withdrawn for this season owing to the number of exhibitions arranged to take place during the summer. I shall be obliged if you will make this announcement.

National Tulip Society.—The annual exhibition of this society is fixed for Saturday June 5th as usual in the Botanical Gardens at Manchester. So far it is a late season with the Tulip bloom, and unless a great change takes place in the weather, not a few of the northern flowers will not be in. Gardeners everywhere, and among them the Tulip growers, are anxiously looking for a change that shall bring a higher temperature, bright sunny skies, and soft southerly winds.

Mr. T. S. Ware, of Tottenham, intends, we understand, to make a fine display of Tree Pæonies and other choice plants in the conservatory at South Kensington, in conjunction with the show of pot Roses, &c., on Tuesday next.

Herbaceous Calceolarias. — From Messrs. Kelway & Son, Langport, we have received a box of blooms of herbaceous Calceolarias, of which they have now about 5,000 plants in flower. The flowers before us have all the characteristics of a good strain—viz., size, shape, rich clear colours, and plenty of variety.

Wall Fruit Culture.—Mr. Robert Smith, gardener, Kenward, Yalding, Kent, who is known as an experienced and successful cultivator of Peaches, Nectarines, and Pears on open walls, has embodied the results of his many years' experience in a 6*d. brochure*, which is published by Simpkin, Marshall & Co., and a perusal of which, we hope and believe with the author, will lead to more high-class fruits being grown on walls than is the case at present.

Mr. Henry Mayne, who has been gardener for the last five and a-half years at Stoke House, Stoke Fleming, near Dartmouth, has left that place to take charge of the gardens at Newton College, Newton Abbot, South Devon.

A New Adenocarpus.—A few days ago Mr. W. E. Gumbleton, brought under our notice a very fine new shrub, which is now flowering in his garden at Belgrove, Queenstown, and which deserves the attention of all lovers of good hardy plants. Adenocarpus decorticus, for such is the name it at present bears, was introduced some years ago by Messrs. Thibaut and Keteleer of Paris, from the Sierra Nevada of Spain, but until quite recently its propagation has been a matter of some difficulty; this, however, has now been overcome, and the plant is being offered at a cheap rate. In its native country it is said to form the scrub under Pinus Pinsapo, and differs only as a genus from the common English Broom in having pods covered with glands. Its leguminous blossoms are of a very bright shade of yellow, produced profusely in racemes, and with Mr. Gumbleton the plant has proved to be perfectly hardy.

The Potato Crop in Jersey promises to be a good one, and several London salesman have already been among the growers securing ware in large quantities.

A Handy Water-pot.—At the last meeting of the Committees at South Kensington, Mr. J. Haws, 16, Mayola Road, Clapton, exhibited samples of a water-pot which he has patented, and of which, for convenient and handy use, those who have tried them for a time speak highly. The main feature of the patent is the application of the power required in using them near the centre of gravity and as close to the body as possible; and other advantages claimed are the canister-like shape of the cans, which prevents slopping; the introduction of a carrying-handle connected with and supporting the spout, which allows of the vessel being carried with the hands in a natural position: and the curved shape and position of the tipping-handle, which allows of the can being used with ease with one hand. The principle upon which they are constructed bids fair to become universally adopted.

Mr. J. Burn, gardener at The Abbey Park, Leicester, in consideration of valuable services rendered during the winter months to the Committee of the Mayor's Subscription Concerts, has recently been presented by the Mayor of Leicester and his friends, with a handsome silver tea and coffee service.

M. Ambroise Verschaffelt, of Ghent, died on the 16th inst., aged 61 years. M. Verschaffelt was one of the most distinguished and successful of Belgian nurserymen, and the founder of the large business in the Rue du Chaume, Ghent, now carried on by the Compagnie Continental d'Horticulture, of which M. J. Linden is Director.

The Braintree and Bocking Horticultural Society of which Sydney Courtauld, Esq. is treasurer, and Mr. H. Gibbs secretary, fixes July 8th for their Exhibition of Plants, Flowers, and Fruit to be held at Stisted Hall, the residence of O. S. Onley, Esq. The Show is always a good one, and the 3 guinea Silver Cup given by Mr. Courtauld, for the most tastefully arranged group of plants in a space of 6 ft. by 4 ft. should bring something different to the flat and dense mixtures we usually see entered under this heading. A Silver Cup, value 3 guineas, is also offered for the best six stove and greenhouse plants, besides other good money prizes.

Mr. W. P. Thomson, who for several years past has ably assisted Mr. Barron in the capacity of foreman in the Royal Horticultural Society's Gardens at Chiswick, was on Tuesday last presented by his fellow *employés* with a handsome time-piece, on the occasion of his marriage. The respect entertained for Mr. Thomson, was also, we understand, recorded in an address presented with the clock, and signed by Mr. John Barry and Mr. S. Summers, foreman of the fruit department, on behalf of the men.

Agave Americana.—At the last meeting of the Royal Botanic Society of Jersey, there was submitted for examination a specimen of the Agave Americana, whose offsets, starting from the parent plant, and foiled in their endeavours to reach the surface by coming in contact with the sides of the pot, had performed a series of spiral coils, in one instance attaining a length of 6 ft. before appearing above ground.

The Veitch Memorial Medal.—We are informed by Mr. Barron that the Veitch Memorial Medal offered for salads at South Kensington last week was not awarded as stated by us in our report of the meeting, and hasten to correct the error with all due apologies.

Cottagers' Allotment Gardens Bill.—The text of a Bill ordered to be printed by the House of Commons to encourage and facilitate the provision of allotment gardens for cottagers has just been published. The Bill consists of seventeen clauses, of which the most important is the seventh, containing the following regulations as to the acquisition of land by county authority:—(1) Subject to the provisions of this Act, the county authority shall have the like powers of acquiring lands for the purposes of this Act as local authorities under the Public Health Act, 1875, have of acquiring lands for the purposes of that Act; and sections 176 to 178, 297 and 298 of that Act shall apply to the acquisition of lands by the county authority, and to the making and confirmation of provisional orders under this Act, with the substitution of 'county authority' for 'local authority.' (2) In the construction of the Land Clauses Consolidation Acts for the purposes of this Act, the expression 'the special Act' includes this Act, and any Order confirmed by Parliament authorising the purchase of lands otherwise than by agreement for purposes of this Act. (3) In making any order for the acquisition of lands otherwise than by agreement for the purposes of this Act, the Local Government Board shall not authorise the taking of an unfair quantity of land from any one person, having regard to the quantity of land owned by different persons in the parish respectively, and to all the circumstances of the case." The Bill is backed with the names of Mr. Chaplin, Sir W. Hart-Dyke, Mr. Harcourt, Viscount Curzon, and Mr. Charles Hall.

SALPIGLOSSIS.

We have many interesting and beautiful plants from Chili, and amongst them the subjects of this note and the illustrations opposite have secured a good share of the favour of horticulturists. Salpiglossis sinuata, which is described in the books as a biennial, but is usually treated under cultivation as an annual, has been grown in gardens for something like sixty years, and during that time a large number of varieties has been raised. In some old works on gardening, these are named like we now name varieties of other popular plants, according to some distinction of colour or marking, but with the Salpiglossis this has now been discontinued, and from a packet of carefully saved seed, as many varieties will be obtained as can be wished, the flowers coming most beautifully marked.

The ground colour is usually yellow or reddish brown, with numerous veins of crimson, violet, purple, and other tints, which render them remarkably handsome. They are well adapted for culture in pots, and seeds sown now in mild bottom heat will produce plants that will flower abundantly before the summer is past; seeds can also be sown out of doors in good rich soil, but the plants must be supplied with water in dry weather, as they soon lose their beauty if allowed to become excessively dry; they are, however, rather more satisfactory in pots, and for that method they may be strongly recommended.—*E.*

PROPOSED BOILER CONTEST.

The Royal Horticultural Society has decided to hold a Boiler Contest in connection with the great Provincial Show at Liverpool, and the following are the conditions under which the competition will be conducted:—1. Competitions will be in three classes, viz.:—Class 1, 2,000 ft.; 2, 1,000 ft.; 3, 500 ft. 2. Each competitor to supply and fix his own piping and boiler, with all necessary fittings complete, at his own expense. 3. The Royal Horticultural Society will supply the fuel and thermometers required for the contest. 4. All the hot-water piping to be 4-in. (inside size); the chimnies not to exceed 20 ft. in height, above the ground level. 5. The height of flow-pipe above top of boiler not to exceed 24 ins. (overall) at boiler, nor to rise more than 6 ins. in 100 ft. 6. Each boiler to have not more than one flow and two return connections. 7. The piping to be fixed as follows:—In the 500 ft., three flows and three returns, three deep; 1,000 ft., five flows and five returns, two deep; 2,000 ft., ten flows and ten returns, two deep; with three, five, or ten syphons or boxes respectively at extreme end. 8. The total amount of piping in each case not to be less than specified. 9. The competition in each class will begin simultaneously about mid-day, and last for twenty-four hours—that for the 2,000 ft. on the first day of show, that for the 1,000 ft. on the second day of show, and that for the 500 ft. on the third day of show. 10. In the case of boilers set in brick-work, they must be fixed and the brick-work dried by firing, and thoroughly cooled down again by the time of competition beginning. 11. Each competitor must be prepared to fix the thermometer on the part of the *plain* piping where directed, on the morning of the competition. 12. Every point for and against each boiler can be pointed out, and will be carefully considered by the judges, and may be embodied in the report of the contest, so that competitors should carefully avoid anything that might tell against them. 13. Intending competitors must send in, at time of entry, full particulars as to heating power, &c., of their boilers, with price at which they are prepared to supply the public, which will be published. 14. One or more Medals will be given in each class, if the judges consider the competition worthy of such an acknowledgment.

WINDOW GARDENING.

At a recent meeting of the Clonmel Industries Association, Mr. W. J. Murphy read a paper on window and town gardening as an industrial pastime, from which we take the following extracts :—Gardening is said to be the purest of human pleasures—the one solitary amusement of which its votary never tires—which may be pursued from earliest childhood to tottering old age, without once causing its devotee to look back with regret ; but, on the contrary, the real zest and enjoyment increases as our knowledge expands, and our success in managing our favourite plants is more fully realised. As these observations are principally intended for those resident in towns, and who, in many instances, either from circumstances or choice, are confined to what they may successfully grow within the limits of a window, I propose considering the subject under the following heads :—1. Windows and window arrangements of suitable plants ; 2. The most suitable plants and their general treatment ; 3. In-door or Room Plants.

1. Windows and their Arrangements for Plants.

People who have never been out of a local town like Clonmel can have no conception of the perfection attained in the culture of window plants in Paris, London, Dublin, and even in smoky towns in Lancashire. Take an illustration from each. I once stopped in the Rue de Rivoli, Paris, to watch a lady move out a glass window or "Wardian" case from the drawing room to the balcony. It was on rails ; the window was accurately poised on pulleys ; a pressure of the finger sent it up, and a similar pressure sent out the glass case from inside. It was the autumn, and though the days were very sultry, smart frosts frequently supervene at night ; hence the advantage of such an arrangement. The case contained principally Ferns—in the more shaded inside corners were Killarney Ferns, and a fine specimen of Todea superba. In this case, centrally situated, was a miniature fountain, throwing its spray to the top, and catching it below in a small basin, where some gold fish disported ; the same water being used over and over again, being self-acting by its own pressure. The case was partially shaded except in front. The balcony was a blaze of brilliancy, creepers running up on both sides, such as Vitis purpurea and Ampelopsis Veitchi ; while Clematis festooned overhead, and drooped over the ornamental front of the balcony. Indiarubber plants, sweet Verbenas, Fuchsias, Begonias (foliage and flowering), with Coleus and the more hardy Palms alternated. So much for a window garden in one of the finest streets of the most brilliant city in the world. Yet, a gentleman told me the whole window arrangements (florally) did not cost a £5 note. This is one of the lessons I would emphasise—bright and gorgeous effects are often owing more to taste than lavish expenditure, and this is characteristic of the French.

I was subsequently shown an elaborate window arrangement in Oxford Street, London, in which, a gentleman for a few hours displayed, some rare Orchids —nothing imposing, except to the initiated—yet one Cattleya, I was told, cost 200 guineas. I mention this by way of contrast, and as characteristic of wealthy London. I am not sure if a window box noticed in Merion Square, in Dublin, the cost of which must have been merely nominal, was not as effective and telling, though it contained no flowering plant, its brilliancy being dependent on foliage. Sunk in the box were fine specimens of Coleus, of the richest tints, capable of being lifted readily and taken inside if storms threatened to shatter the soft foliage. Alternately with those were small plants of Berberis, Mahonia, Choisya ternata, variegated Aucubas, and variegated Euonymous, while at each end like feathery sentinels, waved two handsome specimens of Acacia lophantha. The box and window stool were draped with variegated Ivy, and running up from a lower story and skirting the window sides was a sweet water Vine with brilliant foliage on the one side, and the Passion Flower—Passiflora cœrulea—on the other. This was not far from a brilliant balcony of flowers tended by "Speranza," whose poetry many Irishmen and women are proud of. I have thus given three illustrations taken from three of the finest cities in the world, in some respects typical, and showing that beautiful window effects are not dependent on great wealth, nor on flowering plants alone, but that a more lasting result can be attained by combinations of foliage and flowers.

2. The Most Suitable Window and Room-plants and their General Treatment.

I have given illustrations of typical window and balcony gardens from Paris, London, and Dublin ; I now propose to mention what our local and artisan friends can have nearer home. The person who would succeed in growing to perfection any plant whatever in red "scrabby" pots on a window-stool in the open air would deserve a prize. One day's hot sun will roast the roots, if not watered—while a heavy shower, will as a rule, make them water-logged. A box is better, either with soil to put the plants in, or without soil, to drop the pots into. In either case holes should be bored through, to allow superfluous water to pass away. Various contrivances have I seen to take the water drainings away. An ingenious person can always manage that. One great advantage having the plants outside the windows of a room is that light and air is not impeded, and a further advantage is the evaporation from the box or plants, which might be injurious in a bedroom, passes away. As I have already stated, windows intended for plants should either be mounted on pulleys, to move readily up and down, or at least be capable of opening inwards. Windows only capable of opening outwards cannot be readily utilized when plants are being tended. Too constant watering is avoided by planting the edges of boxes or large pots with Sedums or hardy Saxifrages lining, or covering with moss.

What is best to have in your boxes of soil is the next question ? I am not sure if I were limited to one annual alone, I would not *now* purchase a few pence worth of Mignonette ; keep the surface moist until it commences to grow, and have something to scent our rooms and the air all round, until cut off by frost next December. A greater variety would be produced by having Asters or Stocks, or some other handsome annual growing through the Mignonette ; or the edging of blue Lobelia, with Sweet Peas, Canary Creepers or Nastur-

Salpiglossis sinuata.

tiums, and having Pelargoniums of different sorts behind. This is the time to prepare for these arrangements. When your annuals begin to decline, at once remove them, say next September or October, and plant bulbs of various kinds—Crocuses, Snowdrops, Daffodils, Hyacinths, &c., and you will have a simple succession at trifling cost the whole year round. This is an illustration of how one can be agreeably amused who may have but a window-stool to grow plants on. An indispensable requisite for this purpose beside the box is some good loamy soil, not always easy to be had in towns. So much for plants outside windows, suitable varieties for which could be counted by the hundred.

3. In-door or Room Plants.

I will now refer to indoor or room plants. These are most varied. Personally, I am aware without any forcing arrangements, plants of various kinds can be had in bloom the whole year round, from Chrysanthemums and late Fuchsias during October and November; early Hyacinths and Lily of the Valley at Christmas; Narcissi or Daffodils, Dielytra, and the beautiful Nile Lily—best of all room plants—during the spring months; Pelargoniums, Tea and Perpetual Roses, with Fuchsias and the delightful Japanese and American Lilies—capital room and window plants—during summer; while for variety, many of the foliage plants named, with Yuccas, Myrtles, Aloes, Cyclamen, Aspidistra, Choisya, Grevillea robusta, and several of the hardier Palms, as Phœnix sylvestris and P. reclinata; Chamærops excelsa and C. Fortunii, with proper treatment and attention to their wants, last healthy for years. In fact any plant with a fleshy or coriaceous foliage, will stand well the dry atmosphere. Generally, in conclusion, I may say that small pots are to be preferred; some one member should take charge of the plants; sponging or syringing of the foliage is most desirable; and, lastly, water should not remain in saucers with the one exception of the Musk plant. Although I have but touched on the fringe of the subject, I shall conclude as I begun, by saying that gardening and the love of plants and flowers, whether the space extends to several acres or is limited to the windows of a room, with which I have been dealing, is the purest and most self-satisfying of pleasurable occupations. Give a man, and still more a woman, this taste, and the means of gratifying it, and you have given them a pleasing and healthy occupation for life; something to think of during the hours of labour, and to which they may judiciously return when their mental or bodily toil has ceased, as to a refreshing variety—an oasis always welcome on the tiresome road of life.

ON MAKING A BOG GARDEN.*

Given—you have a piece of quashy, water-charged bog land, on which you dare not tread for fear of going in over your shoe-tops, worthless except to produce a few Rushes, and, maybe, an Alder or Willow stub—Can it be made into an attractive garden? Yes—but it takes two or three years to do it, to get rid of its old in-dwellers and fully establish the new-comers, and to find out what will and what will not do, for I do not think we know very much about the likings of moisture-loving hardy plants.

The Site.

My experiment was tried at High Beech, and this is how the bog garden was made. The site was one of those depressions which are found on the Bagshot Sand hill-tops, upon the Wimbledon, Epping Forest, and Hampstead Heathlands. Between two ridges of raised ground, and on the falling slope, occur spewy springs issuing from the higher ground above, and soaking down the hollow, widening and gathering moisture till the water issues in a small rill at the bottom of the decline. Droseras, Ivy-leaved Campanula, and other native bog plants are found with the sphagnum and Rushes in the wet springy ground.

The successful growth of Sarracenias and Dionæa first led to carrying out the idea more fully. There are many hardy plants, which from the want of continuous moisture of such a site, and which they enjoy in their native haunts, do not succeed year after year in the ordinary herbaceous or garden border; a hot summer comes and they are not—to instance some Calthas, the double sorts of the glorious Marsh Marigolds now brightening our Lea Marshes, Sarracenias, Primroses from Himalayan bogs, Spiræas, and others. The idea was to show these plants in their natural way, and so to see them in their full beauty.

How Best to Use the Site—Requirements.

The chief thing to do was to husband and use thoroughly the water running into and accumulating in the bog. A temporary deep drain was made right up the centre, and the work was done in a dry early autumn, allowing the men to move on the surface. This, husbanding the water, was done by forming beds following the circular shape of the depression, and so made that the upper set received all the issuing spewy springs that could be found issuing from the surrounding banks on to the surface of the bog. A 2½ ft. wide bank of clay was then put in and trodden firmly on the lower side of the beds, defining the beds and keeping the moisture in them until allowed to escape.

A second series of beds was a foot lower. A third a few inches below this, and one bed of this series had all the peat removed until the clay which (except here and there where water oozed up through clayey sand) formed the bottom of the bog, was reached, thus making a small pond to receive the overflowings from the upper beds. A fourth series of beds received the overflow from the pond and upper beds, as well as one or two independent springs from the sides, and eventually the water ran off into the brook or ditch in a small clay-lined channel built across the so to speak miniature valley.

The small difficulties I had to overcome were in making the clay walls to the beds. Towards the sides of the hollow a firm bottom was found, but when the bottom was springy the water simply oozed up through the clay and does so more or less still, but the dams or walls do their work—that is, they keep the moisture in the several levels well. They act also as paths to let you walk in comfort about the space (which, by-the-bye, is 60 ft. square), the chief thing to make a bog garden useable and enjoyable in all weathers and seasons. But the paths at first did not answer, for you found yourself up to the knees in miry clay. A surface crust of gravel and cement concrete was tried, but the water spouged up through it, the clay swallowed it; so something had to be done to keep the clay down and get a safe path.

The foreman suggested, and a wood clearing close by furnished, the remedy. For the spewey places some small Beech trunks were split in two, laid round side downwards along the paths, and short split branches (smaller) were laid across them, making corduroy paths 2½ ft. wide. A little gravel between the logs keep them in place; they are a perfect, comfortable, and lasting path, and keep the clay down and in place. I forgot to say that from each series of beds water above a certain level flows in small drain pipes into the next level, enabling the height of the water in each bed to be regulated.

In the middle of one or two of the largest central beds an upright post is driven, the top just on the surface, to receive the one end of three split trees, and so allow every plant in the bed to be reached. So far we have gained control of the water, enlarged and retained the full boggy space, and have means of moving comfortably about the moist area.

Preparing the Beds for Planting.

Owing to enlarging the area there was not sufficient peaty material, foreign peat and leaves had to be furnished to make 1½ ft. of good soil in each bed. Small rills drawn with a hoe to the mouth of the overflow pipe allow the bog to be controlled, a stroke of the hoe retains moisture, or allows the surface and crowns of the plants to be kept dry or raised out of the water. The beds are sub-divided by small peat banks, on which plants liking their toes or root-extremities in water, but their crowns to live in drier regions, are fixed.

The chief enemies have been the principle of the "fittest surviving," in the shape of the rushes and water-loving grasses striving to resume possession; an occasional and timely weeding conquers this. The Liverwort tries to surface the whole, to the detriment of the smaller plants, such as Soldanellas, Violas. It wants a careful, and now and again, scratching away. The birds, tempted by the loose peat surface after hoeing or weeding, come and scratch for food, and some smaller winter-resting plants, such as Dionæas, Droseras, Pinguicula, are apt not to be forthcoming when looked for next spring. Just a word as to full exposure to sunlight. The space is open, except for a slight shade in the shape of a row or two of 6-ft. Hollies to the south, but my experience is that with moisture at the roots, few plants object to this. In this the garden differs from Mr. Wilson's interesting experiments at Wisley, where many of the plants are under, or shaded by, overhanging trees. In other ways our experiments differ; besides, it is not everyone who can devote a wood to gardening.

The Plants.

Of the plants first put in there were many died. The water supply of the several parts was unknown; some were drowned, some were too dry. The best survivors of the first plantations are Calthas, double forms, the monstrous, the Palustris plena, and the later dwarf and double form. Of the Sarracenias, purpurea flowers and seeds freely about. S. Drummondi is the next hardiest. S. flava, S. rubra, and psittacina seem to live, but get weaker after each winter. I am sorry that some interesting hybrids sent me by Mr. H. Veitch and Mr. Wrigley have not survived. The white Pilewort is a splendid plant in the bog. Lobelia siphilitica and the American Osmundas flourish well together. On an extreme jutting out into the small pond Saxifraga cordata flowers gloriously; the golden Lysimachia has to be restrained, or would cover the surface. The striped Viola and V. pedata, Ranunculuses, including the beautiful little one, Parnissifolius, thrive. Dondia Epicactis, Valeriana phu aurea, the Trollius, and more especially the varieties of American Cowslip, Dodecatheon Jeffreyanum, and others are quite at their best.

Of the taller-growing plants, the Thalictrums, Achillea ptarmica fl. pl., the American Liatris, Lysimachia clethroides, Lychnis of sorts, Gentiana pneumonanthe and macrophylla thrive freely. Pyrola rotundifolia, the Maudrake with its curious two-legged roots, Pyrola rotundifolia, Trientalis europæa. On the slighly raised banks the Arctic Bramble and the R. Chamæmorus have established themselves, and fight were they join for supremacy with the American Cranberry from the Wisbey Wood. Droseras, Diouæa, and Pinguicula have been disturbed this winter by the birds. Orchis foliosa seems to rejoice in a water-teeming bed, and is there quite hardy. No doubt other Orchis would succeed.

Primulas have a bed to themselves, forty or fifty of the Alpine and Himalayan kinds were planted, but probably from the want of limestone or from not having been planted on shaly slopes charged with water, only the following have survived and thriven. P. japonica and denticulata are becoming the self-sowing weeds of the garden. P. rosea and its large-flowered variety, P. Wulfeana and the varieties of minima, P. viscosa nivalis, glutinosa needs shade; P. villosa and Stuartii; Munroi needs the moistest place. A large bed is given up to Spiræas, such as Aruncus, palmata, and japonica, they are mixed with the American Lilies of the pardalinum type, which attains 6 ft. to 8 ft. Mr. Bull's Astilboides and the white form of palmata thrive apace.

The Zebra and corkscrew rushes need to be kept in bounds. Of Irises, I took council with Professor Foster; the stronger varieties of Iris Kæmpferi are at home in the wet bog, but occasionally a sort disappears in winter. They seem quite at home in the clay banks of the rill.

I should occupy too much time if I gave all the failures; the result of the experiment has appeared to be a success. If my remarks lead some others to make a trial in this direction I shall be glad. So many have more experience than I have had. Will they tell us something about it?

* A paper read by Mr. George Paul, of Cheshunt, at the meeting of the Horticultural Club, held on Tuesday, May 11th.

Birds' Nests.—One often hears of robins building in unlikely places. Last spring a robin built on the top of a pot of Adiantum cuneatum, which was hidden by the fronds, and in this position hatched and brought up its young. I was careful not to deluge the plant, so as not to chill the eggs. This season another—or, perhaps, the same—robin built, and has now four young birds nearly fit to fly, on the top of a Pelargonium-pot. The mother bird has been rather destructive to young Lettuce-plants grown on a border close by; I was not aware before they were fond of salad, but seeing is believing; whilst another found a snug little corner in which to build her home in the pony's boots, but as soon as it became known, I suppose too many visits were paid to the nest, and she forsook it.—*E. Dumper.*

Heavy Rainfall in Shropshire.—In forty-eight hours the rainfall here was—May 13th, 1.98; May 14th, 2.91; total, 4.89. This is the heaviest fall of rain we have had for the last seven years.—*Onslow.*

INTERESTING PRESENTATION AT PRESTON.

On Saturday evening a meeting was held at the "Old Legs of Man" Hotel, Preston, for the purpose of presenting a testimonial to John Atherton, Esq., hon. secretary of the Preston and Fulwood Floral and Horticultural Society, in recognition of his valuable services for a number of years. There was a good attendance. Mr. John Newton presided, and he was supported by E. Garlick, Esq., J.P., J. B. Dixon, Esq. (treasurer), W. Willan, Esq., Messrs. J. Starkie, R. Paine (Fulwood), T. Moss, W. Swan (Howick House), W. P. Roberts (Cuerden Hall), R. Frisby (Worden Hall), J. Robinson (Penwortham Priory), J. Leets (Fulwood), J. Royle, J. Healey, H. Terry (Ashton Park), H. Winwood, and Waters (Farington House).

Mr. Garlick, after stating the objects of the meeting, said that it was not his intention to explain anything about flowers or their culture, or make a dissertation upon the beauties of nature's choicest products. He had simply to inform them why it had been decided to make the presentation. Mr. Atherton had been, he believed, connected with horticulture for more than twenty years, and during that period had exhibited many valuable plants and flowers. He had done all he could for the benefit of the community by which he was surrounded. He was the originator of the Fulwood Floral Society in 1879, and for five consecutive years performed the onerous duties of secretary; in fact, he was the mainspring of the society and kept it going. After that the Fulwood and Preston Societies became one, under the title by which it was now known. For a year or so the secretaryship was held by another; but on account of failure Mr. Atherton was again got into harness, and since 1884 he had had the management of the joint society. They all knew the result, as exemplified in the exhibitions of 1885 and March, 1886 being the most successful ever held. Thus he had done active work for seven years, but with the exception of receiving their hearty thanks, he had not got anything in recognition of his valuable services. At last, however, it had been decided to give practical expression to their feelings on his behalf. He had borne all the expenses of his office, and now it was only right that he should be the recipient of the present before him. The speaker might say that Mr. Atherton had performed his duties with such ability and success that others had looked to him for advice relative to the management of floral displays, and especially those in the spring. The shows held in their public hall had been beautiful beyond measure, and there was no doubt that great good had resulted from them in the dissemination of useful information relative to the culture of flowers. Mr. Atherton could not have carried out his duties to such perfection if it had not been for the valuable assistance afforded to him by his wife by her counsel and advice; hence the committee had decided that she also should, in a certain degree, be rewarded for her efforts. He hoped that Mr. and Mrs. Atherton might live long to hear the never-ceasing tick of the timepiece, and to take tea and coffee from the service which he had pleasure in giving to them on behalf of the members of the society with which they had so long been connected.

The present to Mr. Atherton took the form of a massive drawing room clock, of beautiful design, under a glass shade, on which was inscribed "Presented to John Atherton, Esq., Fern Bank, Codley, by the members of the Preston and Fulwood Floral and Horticultural Society, in recognition of his long and valued services as hon. secretary, May 15th, 1886." The gift to Mrs. Atherton consisted of a valuable hand-painted china tea and breakfast service composed of sixty-four pieces, on each of which was illustrated a different subject.

Mr. Atherton in acknowledging the gifts, expressed his inability to find suitable language to explain his deep sense of gratitude to them. Mr. Garlick had referred to his services. He certainly had been intimately connected with horticulture for twenty-two years, and with reference to the society, he and Mr. Paine, with two or three others, were instrumental in forming the Fulwood Floral Society in 1879. At that time they had no idea it would ever attain the important position which it had done, for without fear of contradiction he dare now claim it to be second if not the first society in Lancashire as a spring show. What he had done had been to benefit the society as far as he could; his intention had been to get it as strong as possible. In this, thanks to the mutual assistance of each member, they had been successful; when he looked at the dial of the clock it would remind him of many happy hours he had spent in horticulture, and would tell him what he had to do in the future. The present they had made to his wife he assured them would be greatly treasured. On behalf of himself and his wife he returned to them his heartfelt thanks for the valuable presents.

SCOTTISH GARDENING.

Seasonable Notes.—Planting out crops of all kinds will soon claim a considerable amount of attention and time. Opinions vary much as to which is the best condition of soil to plant in, many preferring to do the work while the ground is drenched with rain. We prefer to plant when the land is neither wet nor dry, and with a flat trowel instead of a dibber, especially if the soil is wet and of a tenacious character. If the ground is very dry, a good watering may be given while planting is going on, and a little dry soil drawn over the moisture prevents evaporation and saves labour. Curled Kale, Brussels Sprouts, Cabbage, Cauliflower, and Lettuce, will be put in, and the latter should be sown every ten or twelve days. I have seen none do better in the cold districts than Bath Cos, Hick's Hardy White, and All the Year Round. Rich deep soil makes a great difference to the quality of Lettuce compared with dry poor land. A good breadth of French Beans may now be sown; Ne Plus Ultra holds its own against all others; Sion House, Osborn's, and Negro, are good kinds, the latter being a favourite in many parts because of its hardiness. Turnips, Spinach, and Radishes may be sown among bushes or between rows of other crops. Peas for main late crops should now be sown; Veitch's Perfection, Wonderful, and Waterloo are sure bearers. Blue Peter is a very useful dwarf kind for sowing in spare corners where taller kinds would be out of place; deep rich land and careful mulching is necessary to grow good Peas. Much of the mildew often seen is from dry shallow and poor soils in which the collars of the plants get encrusted. Topping Peas is conducive to free cropping. If watering should become necessary, mulching should follow.

Late kinds of Peas sown in May on deep well-manured land will keep on bearing far into October, providing frost does not attack them. Two years, come autumn, we had Peas in abundance to the end of October, but last season a very severe night's frost at the end of September put an end to a promising lot, and thus closed the pea season. The fine rain which has fallen of late has done wonders for vegetation in general, and much in the way of planting and thinning has been facilitated. Pricking out young plants for autumn and winter is much in their favour, by strengthening them, keeping them sturdy and able to resist to a greater extent severe weather. Celery trenches will now be made, or are in course of formation. Some prefer single ridges, and others wide enough to contain from two to four rows; we have before now placed six rows in a ridge, but think three or four rows suit well, as earthing can be easily done when not too wide. We have sent to-day, (May 18th) to the family good solid Celery, not large, from ridges in which were four rows, and had only the protection of snow. Celery should be well treated from seed-sowing, as neglect at first means failure in the end. The seedlings should be pricked out before they become matted, and shaded from hot sunshine till they are in active growth. Where rain-water storage is abundant there is much gained.

Bedding-out will now be in full force, and where plants are well prepared, strong, and hardy, much difficulty will be reduced. All hardy kinds may be dealt with first, and the desire, from frequent disappointment, to plant hardy plants which will be ornamental late in the season is greatly on the increase. In sunless and the colder districts a goodly display of foliage should be made. Among some of the best of the Pelargoniums one cannot secure a good bloom, and such must, in some measure, be compensated with extra quantities of kinds with striking foliage. There are many among the yellows and bronzes which do extra well in the north, and Flower of Spring is much valued in that class, so is Bijou and Old Favourite. Last season we found John Gibbons, Henry Jacoby, Mrs. Turner, Rev. H. Atkinson, and Little David (used for small beds) were all that we could desire. The ground was made very firm, it being extra rich, and when the plants were well closed up the thinning of leaves was frequently done. The planting of Pelargoniums in pots, as practised by some, has its advantages where soil is strong and seasons not conducive to free flowering. Pansies are now in bloom, and on rich deep land, with plenty of room for the growth of the plants, one might easily calculate on six months' bloom. A dash of peat in the soil, we noticed last season, had a capital effect on continuous bloom. Now is a good time to sow any of the annuals which are valued for covering spaces. Nemophilas especially do well when sown now and well tended afterwards. Sweet Peas and Mignonette for scented flowers may again be sown. The herbaceous border now demands attention by staking and regulating growth.—*M. T.*

THE AMATEURS' GARDEN.

THE FLOWER GARDEN

Though the "bedding out" system has been so much condemned by some critics, it still finds favour with a large number of amateurs, especially around cities, and the quantities of Pelargoniums, Lobelias, Calceolarias, and similar plants grown in nurseries to meet the annual demand in spring would be astonishing to many persons. The massing of brightly coloured plants may not be strictly in accordance with modern artistic taste, and the combination of discordant tints is undoubtedly objectionable; but by the exercise of a little judgment in arrangement, plants of the ordinary bedding-out character can be employed with excellent effect.

The principal point is to avoid having too much of this style, and it is very difficult to prevent a large number of beds associated together in geometrical designs—as is usual in old gardens—having a rather glaring appearance. The bright scarlet zonal Pelargoniums are most telling, but they have been used too freely at times, and the pink-flowered zonals have come into favour on account of their softer pleasing tints. Calceolarias require to be employed with considerable care, and, perhaps, they never look better than when a bed is devoted to them, with some neutral colour for the margins, as it is difficult to mix them with other brightly-coloured plants satisfactorily. Lobelias are used exclusively as margins, or as outer bands, with a neutral tint between them and the others. Cerastium tomentosum and Echeveria secunda glauca furnish good neutral plants for margins, and for separating bright colours in the outer bands; Centurea ragusina and Cineraria maritima being similarly employed for the central portion of the beds. Either of the two latter planted in alternate oblique lines with Verbena venosa have an excellent effect.

The purple, scarlet, and white Verbenas, make capital beds, if strong plants are placed out in good soil, pegged down and well attended to subsequently. The Iresines Lindeni and Herbsti and Coleus Verschaffelti, furnish the best dark-leaved plants, and serve admirably to increase the variety of beds, especially when in contrast with the white-leaved plants. The red and crimson and yellow dwarf Alternantheras, the light green Mentha pulegium gibraltarica, the dark green Herniaria glabra, the silvery Lencophyton Browni, Sedum glaucum, Sedum acre elegans, and Mesembryanthemum cordifolium variegatum are chiefly used for carpet-beds, and are planted in more intricate designs than the former.

The third and fourth weeks in May are generally the busy months for bedding out in the South of England, when the weather is favourable; but in the north it has to be delayed a week or two later, and in any case it is better to lose a short time at the commencement of the season than to risk the plants being injured by frosts or winds. Harden the plants as much as possible, prior to placing them out, if in frames have the lights off constantly, except when there is danger of frost, or they can be placed outside in a sheltered position where they can be protected with mats or tiffany if necessary. Pelargoniums, Calceolarias, Echeverias, and Pyrethrums, can be planted out first, but the former must be well-hardened, as they will be liable to suffer from slight frosts, which often occur at this time of year.

The soil in the beds will be thoroughly moistened after all the rain we have had in the past week, but care must be exercised that the soil in the pots is also sufficiently moist, or the roots will be damaged when turning them out. Endeavour to secure as good a ball of roots as possible, and plant them sufficiently deep to allow room for extension, for much of success in bedding depends upon attention to the planting. Firm

the soil well about them to prevent the wind disturbing them, and if the wind should be very powerful a little protection will be beneficial for a day or two. The great object is to get the plants established in the soil quickly without any check, as the beds will then become effective in good time. The carpet-bedding plants must be kept under cover for a week or two yet.—*Scolytus.*

CONCERNING SINGLE ROSES.

Is it? need it be matter for surprise that single Roses appear destined to come to the fore? This is the day of single flowers—single Dahlias, single Chrysanthemums, and others. Even the *Rosarian's Year Book*, that literary preserve that we have come to look upon as sacred to the exhibition varieties alone, has an article by Mr. T. W. Girdlestone on single Roses as decorative plants. In addition to doing justice to a valuable class of flowers, it is also the one redeeming feature in an otherwise dreary annual, Mr. Girdlestone makes these points in behalf of the Single Roses, they are regarded as of no value for cut-flower purposes or for exhibition, and, therefore, their whole service is confined to the garden. It is true they do not flower in the autumn, neither, for the matter of that, do about half of the so-called hybrid perpetuals over which the singles have the advantage, that they are as gay in the autumn with heps as they were in the summer with flowers, some bearing fruits large and deep coloured, some small and brilliant, some in bunches as big as Rowans. Then, again, how good natured they are, making themselves at home in various soils and situations, and with a small amount of attention that many Roses would die rather than put up with, and at the same time scorning the notion of mildew and green fly and such-like fashionable complaints. After this, we must all agree that there is something to be said in favour of the single Roses.

I propose to name a few single Roses, giving their catalogue rather than their botanical designations, as they will be more readily recognised by the former. There is Alba simplex, with large single white flowers and evergreen shining foliage; the flowers are particularly attractive when fully expanded; Berberidifolia Hardii, the bold single yellow flowers spotted with lemon; Camellia japonica, very large, pure white, with large yellow stamens, a charming variety; the Copper Austrian Brier, nankeen yellow, very distinct; Macartney simplex, white single, fine open flowers; Polyantha, a new species from Japan, flowers small, white, produced in clusters very freely, and much admired; Rugosa, an attractive species introduced from Japan, which deserves a place in every garden; it forms a bush about 3 ft. in height, the foliage is evergreen and of a bright colour; it flowers through the summer, producing a profusion of single crimson-carmine flowers, which are succeeded in the autumn by bunches of large berries of a rich coral-red colour, which remain upon the plant during the winter; it is said that the fruit is eaten in Japan, and when ripe has the flavour of a Medlar; Rugosa alba is a pure white variety of the above; the yellow Austrian Brier is known by its pure golden yellow flowers. Of more recent introduction are Paul's Single Crimson, with charming bright-eyed single blossoms, colour rich vivid crimson, with clear yellow stamens that last long in a cut state; this is a seedling from H.P. Duke of Edinburgh, and Paul's Single White Perpetual, pure white with yellow stamens, very distinct and attractive.

I have not said anything about the common Briar of the hedgerows, Rosa canina, and yet how charming it will presently be in the fields and by the roadsides, the flowers of varying shades of pink followed by its coral seed-pods in autumn. Mr. Girdlestone says of this Rose that it "may truly be called the slave of the Rose family, and, like Cinderella, is only thought of in work-a-day garb, and is unquestionably sat upon. It is designated by the contemptuous name of dog, and then dragged out from the hedgerows to be the standard-bearer of Queen Rosa's army; it is cut to pieces to support the mounted infantry, that they may achieve glorious victories and be decorated with medals on the tented field; uniform drills are the rule for its very seedlings till they are drafted into the line for active service with the colours; moreover, it undoubtedly helped to originate many garden varieties, while some of its own variations are very pretty, and yet hardly anyone seems to think it deserving of a place even in the wildest of wild gardens."

Is there not something to be said in favour of single Roses? Let anyone make a garden of single varieties, planting among them a few of the later-flowering Clematis, and as spring-bloomers, plants of such things as Berberis stenophylla, Deutzia gracilis, &c. Such a garden would be a delightful change from the merely formal arrangements usual in the present day; it would be both novel and unusual, and also highly attractive. —*R. D.*

THE FRAGRANT LILAC.

Suburban gardens are rendered very beautiful and fragrant at this time of year by the Lilacs, which are probably more numerous in the neighbourhood of London than any shrub or small tree, except the Aucuba and Laburnum. The flowers are slightly later than usual, but that is only what might be expected in such a season, and they are extremely welcome whenever they come. Syringa vulgaris and its varieties are the most common, and they are easily distinguished by the broad, bright green, heart-shaped leaves and compact trusses of flowers, of a lavender or bluish tint, or pure white as in the variety alba, which is earlier than the other forms.

Seedlings have been raised of S. vulgaris, and consequently there are now numerous gradations of character, the flowers varying in size and depth of colour considerably; also, in habit, some like Charles X., being dwarf compact growers suited for culture in pots or grafted on stems of different heights to form standards that are very useful in the conservatory. S. persica has narrow leaves, darker green, and the flowers have more of a rosy tint than the others, such as is usually termed lilac colour in ordinary language. In contrast with the others planted in shrubberies, it has a good effect, and is recognised at a glance.

A beautiful hybrid between these species, the Rouen Lilac or S. rothomagensis, is far too seldom seen in gardens, and is almost confined to collections, or where shrubs are specially prized. It is quite intermediate between S. vulgaris and S. persica, the leaves much broader than those of the latter, but less heart-shaped than those of the other species, being more tapering and lanceolate. The flowers are large, in fine trusses, of a bright rosy or reddish lilac hue; very pretty and distinct. The plant is a free grower, and, like many hybrids, extremely floriferous. The white-flowered Himalayan Lilac S. Emodi, with its curiously warted stems, and the bluish S. Josikæa are still more seldom seen than the preceding; but from the last named some good varieties ought to be obtained.—*B.*

THE FLOODS IN WORCESTERSHIRE.

The seventy hours continuous rain with which we were favoured last week, has caused the highest flood ever known on the Severn, rising higher than the memorable one of 1795 by 2 in., which was reached early on the Saturday morning; the country near the course of the river is one vast lake with the trees dotted through it, hedgerows, in most cases, being completely hidden, and thousands of acres of land submerged. The damage to crops must be immense, more especially to late planted corn, and also to the roots, whilst the grass crops, which were very forward for the season, will be rendered quite useless, on account of the sediment which will be left on the blades, unless good strong showers should follow as the waters recede, and so wash the crop before it becomes baked, as it soon will be if warm sunny weather sets in.

Great damage is also done to the market gardens which happen to be near the rivers Severn and Avon, and the seed beds of such things as Carrots, Onions, and the like, must be greatly damaged if not altogether destroyed; of course, it is quite an impossibility to assess the damage, which must, however, reach to thousands of pounds. The Church in the village of Severn Stoke was flooded to the depth of between 4 ft. and 5 ft., and the garden at the Rectory inundated, the fires connected with the glass structures extinguished, with no possible chance of relief; the occupants, I fear, must suffer considerably, more especially the forced vineries. With such rapidity did the water rise, that, before the occupants of many of the houses could remove their furniture up stairs for safety, they were compelled to retire and be extricated from their uncomfortable position by the aid of boats, and in many instances compelled to seek the hospitality of neighbours since Friday last; some of our workmen had to go so far as to borrow clothes for sabbath wear.

The rain was particularly welcome to us; at the same time, it is distressing to witness the loss and inconvenience it has caused. Many of the tenant-farmers are unable to transact any business, their dairies being flooded, and so are compelled to rely upon the charity of their more favoured neighbours, who are attending to their cattle for them. In one instance a good-sized manure-heap was lifted by the flood from where it was stacked, carried a considerable distance, finally stopping and completely blocking up the road leading to a farm-house. Such are a few of the facts connected with this noted flood, and which I venture to send you, hoping they may interest some of the readers of The Gardening World.—*Walter Child, Croome Court, May 18th.*

RED LEAD AND "CLUBBING."

As the time will soon be here to plant the various Broccolis, Kales, &c., which in very many gardens are frequently rendered worthless from "clubbing," I wish to draw attention to red lead as a remedy against this disease. For ourselves, I can say that we are very little troubled with it; having a large space of ground to deal with we take care to change our various crops from one piece of ground to another, especially the Brassicas, and I believe it to be owing to this that we enjoy an almost total immunity from it. Had care always been taken, when removing the young plants from the seed-beds, to open the small gall's or worts on the stems of the young plants and destroy the small grubs found therein, our gardens would not have been infested to the extent that many of them are. In many small confined places, a healthy crop of winter stuff is rarely secured during dry seasons; in wet ones, the plants seem better able to withstand the ravages of the insect which, in its perfect form, lies just beneath the surface of the ground, and is restricted in its movements by the abounding moisture of wet seasons. The swelling known as "club," is produced by the maggot feeding on the woody part of the stem, till it arrives at a fresh stage in its development, when it gnaws its way through, and by this time the alburnum is so much destroyed that the sap is prevented from rising to the leaves in sufficient force to counterbalance the transpiration from them in dry hot weather.

I have seen various remedies tried, some entailing a considerable amount of labour, but none with the same apparent success as the red lead, to which my attention was first called in 1883, when I was shown a plot of Broccolis, the centre portion of which, about one-third of the whole, had been provided with red lead at planting time. Those so treated were healthy, the other two-thirds were miserable failures. I was somewhat sceptical at the time, but further observations made last year have convinced me as to the real value of the remedy; it being a very inexpensive one, I hope to hear of its being extensively tried this season. I may add, that care should be taken to remove all grubs which may be found on the plants when transplanting, and a little clay or stiff soil will be a material help in mixing the red lead, which is very dry in powder, and can be bought at, from 3*d.* to 4*d.* per pound, and one pound will be enough for small places.—*W. B. G.*

HYBRID CYPRIPEDIUMS.

Of all the Sedenian hybrid Cypripediums raised in Messrs. Veitch's nursery, none are more striking in colour—so novel is the combination of tints—than C. ænanthum superbum, which is now being put into commerce. It was raised by crossing C. Harrisianum with C. insigne Maulei, and the large flowers, which have a shining varnished surface, are well described by the raisers as follows:—The dorsal sepal is deep claret-red, with broad lines of blackish purple spots that are confluent. It has a very broad white margin, and where the spots enter it, they are of a beautiful mauve-purple. The lower sepal is greenish, with lines of blackish spots on the basal half. The petals are veinous red, with deeper veins, except at the base and apex, where it is pale green. On the inferior side of the basal half are from ten to twelve blackish warts. The lip is deep veinous red, shaded with brown; the staminode buff-yellow, tinged with red." It flowered for the first time in 1876, and was Certificated by the Floral Committee in September, 1879.

NOTES ON THE FUCHSIA.

On the introduction of Fuchsia fulgens hybridists became alive to the importance of devoting their attention to the raising of new and distinct varieties, having abundance of materials at their command, and soon were they rewarded for their labours and the whole family was enriched by new and distinct colours. The new varieties also showed a marked improvement, both in the form of the flower, as also in the habit of the plant. I was present at one of the meetings of the Royal Horticultural Society, when Mr. Dominy exhibited his fine seedling winter-flowering variety; this was a great many years since. It was named "Dominiana" and was very much admired by all present, and even now, if properly handled, this, as well as serratifolia and fulgens, make grand specimen plants in a large conservatory, much more noble and effective than many other plants for which they have been by many discarded.

Fuchsia, Venus Victrix, sent out between forty and fifty years ago, was a decided change in variety, and was eagerly bought at a high price. Some say this came by a freak of nature, but I see no reason why it should not have been obtained in the ordinary and natural way. It must be borne in mind that anterior to the date of its introduction, we had species from Chili, Mexico, Peru, Port Famine, &c., and these had been brought into contact by hybridisation, and many varieties were raised of a distinct habit and colour of their flowers. Very many of the kinds so raised I cultivated in my early days, and have watched with considerable interest the progress made in the production of so many beautiful varieties that we now possess through the combined labours of many who have long since passed away.

Perhaps many will coincide with me, when I state as my opinion, that the greatest achievement was that of the late Mr. Story, of Newton Abbot, the successful raiser of several with white corollas, both double and single. I think there was a batch of six sent out by Messrs. E. G. Henderson & Son, of the Wellington Nursery, St. John's Wood, for which I understood at the time they gave a hundred pounds, and if my memory serves me, the fortunate raiser only lived to witness the announcement of the distribution of his great novelties that were then without rivals. Subsequent to this many have devoted much time and attention to the raising of new kinds, some of whom have been very successful, and we now have Fuchsias with almost every distinctive feature and character in colour and habit of growth. In treating upon the cultivation of the Fuchsia, it is not my intention to give instruction with regard to their propagation, although the increasing, if desired, of this lovely and popular tribe, both by seed and cuttings is by no means difficult, where ordinary convenience is at hand and the requisite attention is given.

Young plants can be readily obtained from any of the leading growers, some of whom devote considerable attention to their cultivation for market and general distribution, from these may be obtained healthy young plants at all seasons, for, as a rule, it is their practice to keep a stock in hand to supply plants, if required, both for early and late-flowering. All the varieties in commerce are fully described, so that there can be no difficulty in making a good selection, and should any respectable dealer recommend any particular variety of which you have no knowledge, you may rely upon his honest and experienced judgment. The plants so purchased should be dwarf and robust, the pots in which they are growing should be filled with fine healthy roots, and in a free-growing condition ready for shifting into pots one or two sizes larger than they have been growing in, using plenty of drainage. Fuchsias never do well if subject to a high temperature and a dry atmosphere; they succeed best when grown in an intermediate house during the early season, and when they are in a young growing state, consequently a warm part of the greenhouse should be selected, and which should be kept rather close, admitting air according to the state of the weather, avoiding draughts or cold currents; but plenty of light and air are essential to ensure a healthy and vigorous growth, and as the season advances the plants should be carefully shaded during the hottest part of the day. I like for that purpose something that can be put on, and when not required taken off again, having an objection to permanent shading, as I consider the more the plants are exposed to the light in the earlier and latter parts of the day, so much the more does it conduce to the health of the plants in every way, and to ensure a healthy action the plants must be kept in a free-growing state, checks of any description must be avoided, and air abundantly but judiciously supplied. As the pots become filled with roots, the plants should be constantly shifted into larger ones, more especially if large plants be the object, using at all times plenty of drainage, for it is much better to be compelled to water twice a day rather than the plants should become water-logged. It is best to keep the balls of earth in that happy medium state, neither too wet or too dry. In hot weather it is of immense benefit to keep the floor of the house, or the material on which the plants are arranged, constantly moist by syringing or otherwise. It is not good practice to use the syringe overhead too frequently, but the vapours arising from sub-waterings are invigorating in effect, more particularly during hot dry weather.

Cypripedium œnanthum superbum.

Soil in which to grow the Fuchsia is a matter, of course, of paramount importance, no plant or animal can maintain a healthy action, unless supplied with food congenial to its natural requirements. The compost that I have found to be the best suited, is that from a good sheep or meadow pasture, taking the top spit about 6 ins. deep, laying it in ridges until the turf has become decomposed, and the action of the summer and winter seasons have had their sweetening and purifying effects. To this should be added a third of good clean leaf-mould, very old cow-manure, and sharp silver sand, with which may be mixed a small portion of peat, but not of a wet boggy nature. I much prefer to mix the compost at the time it is required for use, breaking and chopping it with the spade as the mixing goes on, never using the sieve, as the finer portion can always be used for small plants; in the larger shifts the plants do infinitely better if the soil is used in a somewhat rough condition.

If plants of good form and contour be the object, great attention must be paid to pinching back exuberant growth that dense bushy plants may be obtained without the aid of being supported by too many sticks, which are at all times a disfigurement, but in this respect much depends on the habit and the varieties grown. I have grown very many (seedlings included) that have been judiciously stopped from 1 ft. to 3 ft. high and upwards, with only a central support, and these have been perfect pyramidal bushes. Fuchsias grow well in a temperature ranging from 50° to 75°, this latter degree aided entirely by sun heat, giving plenty of ventilation with a genial external atmosphere. Autumn struck cuttings can be kept

growing during the winter in a temperature from 50° to 60°, and make good plants the following season; the spring struck plants following on in succession. When at rest in the dormant season, large plants may be stored away out of the reach of frost and damp, looking over them occasionally to see that the plants do not suffer injury by becoming too dry at the root.

I may observe, in conclusion, that a prolonged growth and flowering may be obtained by the application of food stimulants. The old plan used to be to collect the excrement of sheep, also that of cows, and apply it in a liquid form once or twice a week, and in many instances the surface (especially when plants are or have been grown in large pots), has been covered with the solid material, so that in the application of water the soluble portion may be carried to the roots, the surface of the pot covered with moss thus preventing excessive evaporation and an unsightly appearance, but a knowledge of chemistry has of late years enabled us to use nearly all our manures in a more concentrated form, and more conveniently to be at all times obtained, and simple and easy in the application. These concentrated manures being articles of great commercial interest, can readily be obtained of all nurserymen and florists, many of whom use them very extensively and whose advice as to the kind suitable for various plants can be relied on and followed with success. After the plants have had their last shift and the roots have exhausted the soil of its convertible constituents, then is the time for the application of new life-producing and re-invigorating agents, either in the form of liquid manure, or by means of top-dressings.

I have for many years past planted annually, beds of the newest varieties, which are very effective under judicious and liberal treatment, flowering freely until the frost sets in. A bed planted with light and dark-coloured flowers, and with both double and single varieties form a very pleasing and interesting group, especially in some partially shaded nook on the lawn, with an edging of some of the golden-leaved varieties; the old Microphylla makes an exceedingly neat, compact, hedge-like edging. The beds require to be copiously supplied with water during the summer months, and to be covered with leaf-mould or cocoa-nut fibre to keep the roots cool and prevent excessive evaporation.

Some years ago I sowed some seed that was gathered from Lady Heytesbury—a well-known light variety—and planted in a bed as described, they proved that the flowers had been most assuredly fertilized by the busy bee or some other insect, for from the seed so obtained, I had quite a collection of beautiful varieties both double and single, also light and dark-coloured blooms, a proof that nature has agents that carry on the work of hybridization in the absence of the professional hybridist and, in this instance, with equally happy results.

The properties of the Fuchsia have been ere this discussed, but I do not see that any positive rule can be made to apply as in the case of those subjects that may be with more propriety designated Florist Flowers. The Fuchsia really possesses many distinctive and pleasing characteristics in a great variety of forms, we have Fuchsias with long tubes and sepals, we have double and single corollas with sepals quite recurved, and others graduating to almost an incurved sepal, as often is the case, as for example in Lucy Finnis. The one great aim of the raisers of new varieties should be to improve each section; I should like to see such varieties as Aurora superba and Mrs. Rundle more fully developed; large double corollas and well-reflexed sepals would form objects at once grand and imposing in the extreme sense of those appellations. Fuchsias with white tubes and sepals, and with double purple-violet or mauve corollas would be hailed with intense delight by all lovers of these popular flowers.

An old friend of mine said forty years ago that "he should not be at all surprised to see Fuchsias in a few years three times the size we now have them." Should he be still living after the lapse of so many years, it must be a great satisfaction to know that what he then anticipated is now a positive fact, consequently, although I may not live to see the Fuchsia brought to the perfection that I anticipate it will be, I think there is every encouragement so far, for the hybridist to persevere in his delightful study, with a fair prospect of still greater achievements and ultimate rewards for all his pains-taking.—*G. Fry, Lewisham.*

THE BEST HARDY PRIMULAS.

(Concluded from p. 583.)

P. officinalis.—This is a plant with which everyone is familiar, it being the Cowslip of our meadows and pastures. Of its merits or otherwise I am not going to make any comment, my object being to give a passing glance at the race or races which have been intermingled with it. One of the principal of these is the Polyanthus, than which we have no more lovely race of spring flowers. The Oxlip (P. elatior) has probably given rise to the vast majority of these, and formerly there appears to have been some confusion among botanists regarding them, since many considered that the Primrose, Cowslip and Oxlip were all varieties of one species, viz., P. veris, and in this Linnæus also concurred. Mr. Darwin, however, from experiments proved them to be distinct species. These technical points are, however, of little moment when we are wanting beauty in the spring garden, and I here venture to remark that no class of plants is capable of giving such a marvellous array of varied beauty in the early months of the year as the Polyanthus. Nothing is of more easy culture or of more simple requirements. Raised from seed they may be had in endless quantity, and by exercising oneself a little when in flower, they may be grouped in colours for spring bedding with most pleasing results. Such then are the fancy kinds, and turning from these the florist finds equal scope for enthusiasm in the refined embroidered kinds known as the gold-laced section. These, though by the old florists they were highly esteemed, do not find the same favour among florists of the present day, due probably in some degree to the facility with which the fancy kinds are produced from seeds, and their general attractiveness when in flower.

P. purpurea.—This appears to be a near ally of P. denticulata, which it strongly resembles, though differing in its entire leaves. Some of the flower-heads of P. denticulata, which now assume a considerable variety of colours, very closely resemble this species. Both are of Himalayan origin, and require similar treatment.

P. rosea.—Another Himalayan beauty, and one which has gained a front place in this vast genus; it is, in fact, one of the most brilliant hardy plants ever introduced, and one which will ever be a favourite among those who love plants for their intrinsic worth. No words of praise would be too much for this lovely vernal gem, a veritable prize either in the spring garden or the herbaceous border. It is reputedly a bog loving plant; indeed, those found in the Kulu district east of Afghanistan, were growing by the water's edge, with their long white roots far in the water; though it delights in abundant moisture throughout the year, it is not absolutely essential to success. In the year 1879 I had some remarkably fine tufts of it planted in rather deep light sandy loam, about 12 ft. from a high brick wall, beside it was its companion in commerce, P. cashmeriana, both did remarkably well, and in February, 1880, commenced pushing up very strong—P. rosea being fully 10 in. high. The ground was liberally dressed with cow-manure, and both soil and position alike seemed to suit. Where they are planted in exposed positions, plenty of water is requisite, and to save watering, it may be planted in a similar place to that I have described for P. japonica; it seeds freely and may readily be increased in this way, and, also by division of the crowns, each of which may be detached with roots; the colour is a clear bright rose, and brilliant carmine-rose in the bud state; it is deciduous in winter.

Primula Sieboldii.—For years this plant was distributed under the name of P. cortusoides amœna, a name by which it is still known. From its general decorative value it has become quite a favourite, and, in consequence, is rather plentifully grown. It is distinct from the other members of this genus in its rhizomatous root-stock; it is of free growth, hardy in all soils, grows 1 ft. or 15 ins. high, with Cortusa-like leaves, and produces large magenta-crimson flowers, which come naturally out of doors in early May. In the greenhouse, without undue forcing, it may be had a month or six weeks earlier. The numerous varieties which it has produced are, in some instances, improvements upon the type; in others the colour is too washy and not pleasing. As a whole, the group is a most valuable one, and some of its members at least ought to find a home in every garden. Apart from the type, we have in grandiflora a very fine variety with grand trusses, flowers deep rose externally and French white within; in grandiflora alba we have the very finest pure white and a fragrant flower. Other good kinds are lilacina and lilacina marginata; laciniata, rich deep red, very effective, and intermedia Improved. These are among the most worthy and distinct, and they are all readily increased by division after flowering.

Primula scotica.—This is a true Britisher, and a quaint and interesting little plant—in fact, P. farinosa in miniature, seeding equally free, and requiring exactly the same treatment. It delights in abundant moisture, being found in damp pastures in the Orkney Isles, Sutherland, and Caithness; flowers rich purple with large yellow eye, on stems 2 ins. in height.

P. Sikkimensis.—Of the many fine introductions from the Himalayas, there is, perhaps, none to equal, much less surpass, this exquisite gem when well-grown. I say when well grown, as it is rarely met with in good examples, though there is really no very great difficulty in the way. Too often is it represented in puny examples, 8 ins. or 9 ins. high, with a small umbel of its flowers; but what is this compared with it in its Indian home, where it is the pride of all the mountain Primroses. It loves a deep spongy bog, or a position near the margin of a stream, where its fleshy roots may descend to the very water itself. In such a place it thrives in a remarkable degree, attaining a height of 2 ft. and upwards. Some years ago I saw it in fine condition in the York Nurseries, similiarly placed to what I have here described, and fully 2 ft. high. In its mountain home it grows at elevations varying from 12,000 to 17,000 ft., covering acres of ground with its lovely pale yellow flowers. When in good condition, the flower-stalk is strong and vigorous, slightly mealy, and its numerous pendulous flowers emit an agreeable perfume; each umbel carries from ten to twenty, sometimes more, of its deliciously fragrant flowers, which are very distinct from all the rest, flowering by acres in its mountain home, makes it more remarkable that we only see it here in the lowlands, in ones or twos. Nothing would repay the trouble better than making a deep peaty bog-bed for this handsome plant, and procuring fresh seeds, and plant it thickly when of sufficient size, it would charm all who beheld it in flower; for, after all, how few of us, alas! know anything of the actual beauty of many of these lovely plants in their native haunts, and to establish a colony at home would be an attempt (a modest one 'tis true) to imitate its homely grandeur. Happily, it seeds freely, the seedlings flowering the second year. It is a true perennial, but the second year plants produce much the best results; so that, if treated more after a biennial, fine umbels of its delicious flowers may be had annually.

P. sinensis.—Hitherto I have confined my remarks to the hardy species of Primula, with some varieties. The part, however, which this species plays in the decorations of our conservatories, greenhouses, &c., with its endless forms, will, I trust, be more than sufficient reason for my momentary digression. It is so familiar to us all, as to have become everybody's plant; a plant which always must accompany every seed order. The great variety of colour, the rich telling shades of which render them so conspicuous, that their annual display is regarded with certainty. It was about the year 1821 when it was first introduced to England, since which time we have flowers of all shades, both single and double, and many excellent free-flowering strains, by different raisers.

P. verticillata.—This species is of Abyssinian origin, and consequently is not hardy. It is, however, so very pleasing and distinct that I think a passing notice may not be out of place; it grows 1 ft. high, the leaves and stems being covered with a silvery farina, and bearing whorls of deep yellow and fragrant flowers. It is most interesting as a cool greenhouse species, and flowers in mid-winter. I have kept seed of this Primrose for about seven years merely wrapped in paper, which has germinated to the extent of about 90 per cent. in three weeks from the sowing, much to the writer's surprise and pleasure.

P. viscosa.—A charming Alpine species, having clear rosy purple flowers nearly 1 in. across, and growing about 4 in. high. It is a native of the Alps and Pyrenees where it forms charming cushions of its somewhat clammy leaves, and surmounted by numerous heads of its exceedingly pretty and sweet flowers; a charming plant for the rockery where it should have a

deep and well drained soil, or to simplify matters, I may remark that the culture of P. nivea, by some regarded as a variety of this species, will suit this plant exactly. It seeds freely, and may also be propagated by division.

Herein have I given some of the most worthy of this valuable and extensive genus. I have, however, been obliged to omit many very fine and interesting species, while I have endeavoured to place before the readers of THE GARDENING WORLD a selection of kinds which by following the simple instructions given may be grown successfully, and also such as will form an extensive season of flower, while the majority of them are of such widely different bearing and aspect generally as to give sufficient room for those deeply interested in them to specially study their individual wants, which after all is the only real means of growing them to perfection.—*J.*

FRUITS, FLOWERS & VEGETABLES.

The Hardiest Rhododendrons.—I was always under the impression that Rhododendron ponticum was the hardiest of all, but it would seem as if I had been labouring under a delusion, for during last winter the ponticums suffered terribly in the West Riding of Yorkshire. They appear to be all more or less damaged, the leaves seared and browned as if a red-hot iron had passed over them; indeed, most of the ponticums here, if not killed half way down, have at least for the present lost their leaves, whilst the species or hybrids, of which Catawbiense is the type, are, comparatively speaking, untouched. Their stout, well-ripened branches and thick, handsome, leathery leaves seemed to defy the action of frost. Were I going to plant, I should certainly select the hybrids in which the blood of this hardy North American species predominates, for as well as being hardier, the quality of their flowers is superior.—*B. Lockwood, Huddersfield.*

The Germination of Seeds.—On p. 582 I notice Mr. Fry's remarks on Peas not vegetating, and I perceive that they are somewhat in harmony with those of Mr. Gilbert on p. 556. Now I can well realise the disappointment it must be to Mr. Gilbert to see that the Peas he obtained from various firms had shown such a poor percentage of germinating power, while those of his own saving have vegetated so satisfactorily. In this case (as in many others) the question arises, where does the fault rest? Mr. Fry has very rightly said, "It is no consolation to be told that so and so had good results from seeds taken from the same bag as yours were taken from, but in your own case the returns were nil; it would be more consoling to know that the whole bag of seeds was a general disappointment." Mr. Fry also says that "If you want anything done well you must do it yourself." So far so good, from a self-confident point of view; but I think in other ways that assertion is a very wide one. With me Peas have vegetated very satisfactorily, for at present I cannot record a single failure to vegetate; but I will quote an instance, of which up till now I have been unable to satisfy myself, as to the cause. Last year I sowed a bed with Onion seed, which in due time germinated well, with the exception of one row, and thinking that the drill must have been missed, I reopened it, and made sure that I did not miss sowing it that time, and with seed from the same packet; but, to my surprise, not a single Onion made its appearance. I am at a loss to say why.—*C. G., Dorking.*

Soot and the Onion Maggot.—Like many others of your correspondents, I have had some experience with the Onion maggot, and like your esteemed correspondent, Mr. Ward, I look upon soot as a specific remedy for a specific complaint, and till its application as a remedy against it fails me, I shall continue to think it an universal one under whatever diversities of soil and climate the Anthomyia ceparum makes its appearance. I am not so happily placed as some of your correspondents, and cannot by any possibility afford to spend the time they do in preparing the ground, and in the after-cultivation of the Onion crop; yet we have never had a failure, although we never dress the ground with soot either previous to or when we sow the seeds, only when from the appearance of the crop it is evident that the maggot has commenced its ravages. We give one good dressing of soot, which has always proved sufficient here to check its ravages and insure the ingathering of a crop of good sound Onions. —*W. B. G.*

Boronia elatior, megastigma, and serrulata.—These three fine greenhouse plants are now at their best, and offer unusually attractive features to plant lovers. The long bright pink sprays of flowers produced by elatior are very fine, almost every branch being furnished with flowers, and a few plants dotted about the greenhouse has a very pretty effect. In B. megastigma the colour of the flower is more sombre, but the rich scent given off from it will always make it a general favourite. B. serrulata is perhaps the most difficult of the three to grow, but when it can be managed well, it is certainly a very beautiful variety producing bright pink clusters of flowers at the end of every shoot. This latter plant is not often seen in collections now—the cause being the length of time it takes to make a specimen of it. Ordinary cool greenhouse treatment suits them, and the kind of soil suitable for their well doing is good sound peat and sand, except in the case of elatior when a small amount of loam may be added. They require very firm potting, and are very impatient of being over-watered. Elatior and megastigma may be cut into shape after they have finished flowering, but serrulata should not be cut but trained into shape.—*W. G.*

Salads.—In a salad competition it would seem as if some would measure the capabilities of a good gardener alone by the growing and flowering of an Orchid. It appears to me not unlikely that a grower of Orchids will soon be easier to obtain than one who can produce a good salad daily for his employer's table, without going to Covent Garden or any other garden for it. I know from a long experience that a daily salad is very highly appreciated, and reflects the greatest credit on a gardener. A breakfast table nicely set out with a plate of Rampions, Radishes, Cress, &c., is always refreshing to look upon, and the green-stuff is always eaten. Good blanched heads of Sutton's Crimson Flaked Chicory is a fine adjunct to the salad bowl; Silesian, Long Magdeburg, and Brunswick, nicely blanched, are very wholesome and palatable eaten like Celery. I would say to my young friends, keep the table well supplied daily with saladings, you will find it no slight matter to do so, but you will always be well repaid in the long-run.—*Geo. Bolas.*

The Snowy Mespilus.—This is the common name of Amelanchier Botryapium or Mespilus canadensis. It is just now an object of singular beauty and attractiveness in the Sydney Gardens, at Bath. It comes from North America, and was introduced to this country in 1746. I saw some very fine specimens of it at Bath a few days ago, one, a large tree for this subject, growing in an elevated position by the side of a cutting of the Great Western Railway, for this great avenue to the west cuts through the gardens for some distance just previous to reaching Bath. As seen here, it is well named the Snowy Mespilus. The branches of the tree are laden with racemes of white flowers, and they look as if the soft silent snow had fallen lightly in the night, lodged on the branches, and was waiting for the warm sun to dissolve it. Perhaps there is something in the locality that suits it, but I never before saw this tree so wonderfully floriferous as it is at Bath. Who introduced it to this country? If it came to us now for the first time it would be welcomed as one of the floral stars of the season. Nor does its service end with its blossoms. It produces small purplish fruit, and in the autumn the leaves assume a fine reddish yellow tint. In addition it is quite hardy. Mr. Leo Grindon tells us in his book on Fruits and Fruit Trees that the natives of the vast districts extending from Hudson's Bay southwards to Florida, and westwards to Nebraska, collect the fruit when ripe, press it into square cakes, and use it with their pemmican.—*R. D.*

Tiger Flowers.—Your correspondent "Reader," p. 586, approaches this subject with "fear and trembling," but why he is thus over-awed is not quite clear. I trust your correspondent does not regard me in the ferocious light of that prodigious quadruped, with which the popular name of these flowers is associated, for I assure him I am perfectly harmless, and only enter upon these criticisms that the general reader may be benefitted. I take exception to "Reader's" statement, of my admitting the necessity of artificial heat and moisture during the resting period, and I again condemn it, as I did at p. 571. But let us examine the case; my statements are these, "never apply artificial heat or water from November to the end of March," then in April they are transferred to the open ground and there remain till November again, and which leaves not a shadow of a chance of their receiving artificial heat. What I do believe is this, that the colder you can keep such things, consistent with safety, the better for them, and save your artificial heat which is as injurious as it is unnecessary; and I say, too, that there is a wide difference in the atmosphere of a cellar or shed than in an artificially heated greenhouse. In the former you have a humid uniform atmosphere, while in the latter it is arid, and which gives rise to the occasional waterings which your correspondent appears to prefer. Why not, I ask, have them in their more natural quarters, secure from frost, than subject them to the ever changing temperature of a heated greenhouse? I freely admit that there are cellars and cellars, and though of the same name, very widely distinct in themselves, and I left it to the common-place discretion of an enlightened public not to select the one containing several inches of water above the floor. Many people may embrace Tigridias, Begonias, and Gladioli, who have no heated structure to winter them in, and who must leave them alone if artificial heat is requisite, but happily, it is due to their adaptation to cool quarters in winter, and their starting into growth naturally, and minus artificial heat in spring, that these plants are becoming popular. Lastly, "Reader" does not believe in absolute cessation, still, I incline to the belief that in many cases of bulbs and tubers it is absolute, especially such as Narcissus, Tigridias, tuberous Begonias, Potatos, Gladioli, and so forth, which lose the majority, and in some cases, the whole of their roots annually, and as a child awakes from sleep so does the potato push forth its eye and then the root; and so in turn do Tigridias, Narcissus, Gladioli, and the like, by first putting out roots and then leaves, show symptoms of awakening from that state of somnambulism into which they annually fall, a state which may be shortened by foreign means.—*E. Jenkins.*

BLACK BEETLES.—Can any reader of THE GARDENING WORLD tell me how to get rid of Black Beetles? I have tried almost all the different kinds of powder sold, including Hardiman's of Manchester, which is said by many to be the best, but it only killed a few. I have also tried scalding them out with hot water, and several kinds of poisons, but all to no purpose. Mushrooms and Sea Kale they cleared off as fast as they grew, so my best plan for the time was, I thought, to try kindness by feeding them on sliced Potatos which they prefer to Mushrooms. I have them in almost every shed and building in the garden, and yet two years ago they were scarcely known here. Now that my winter house of Mushrooms is almost done with, it is my intention to declare war against them once more, but if any of your readers will be kind enough to give me instructions as to the best way of destroying them, I shall feel obliged.—*Onslow.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—As the varieties of Odontoglossum vexillarium go out of bloom, they should, after seeing if they require re-potting, be placed either in a shady part of the cool house or in some other moist corner of an unheated house, where they may remain throughout the summer. Odontoglossum Roezlii may afterwards be placed with them, and suspended or placed on a shelf near by O. Phalænopsis; all these like a moist pure air in a house not heated by artificial means throughout the warm weather. Shade and moisture at the roots are essential to all this section. It should also be seen that all the Oncidiums of the O. crispum and O. varicosum sections, viz., O. Marshallianum, O. prætextum, O. crispum, O. Gardneri, O. curtum, O. dasytyle, O. concolor, O. varicosum, O. bifolium, O. holochrysum, &c., should be placed in a strictly cold house for the summer, or if kept warm and close, gradual decline will be the result.

The varieties of O. cucullatum and phalænopsis are, strictly speaking, cold house plants all the year round, and will bear even a touch of frost better than excessive heat. The varieties of Masdevallia chimera are, in most collections, kept a little above Odontoglossum house temperature, but from henceforth until late autumn the coldest house is the place for them.

Fire heat and lack of free ventilation in summer is a prolific source of evil with Orchids, it is best, therefore, in all cases, except with Phalænopsis, Ærides, Den-

drobes, and other plants which are making their growths, to treat all as cool Orchids, keeping the Odontoglossums, Masdevallias, and other occupants of the same house shady and humid, and the Cattleyas, Lælias, &c., in a rather drier atmosphere, and with a thinner shading; the shading should, where possible, be fixed to run on supports, which gives a passage of air between it and the glass. Very small growing Orchids are particularly liable to be destroyed by being kept too warm and close in summer. The varieties of Lælia pumila, L. pumila præstans, &c., which thrive well in a light situation in the cold house all the year round, are generally kept too warm; they succeed best, perhaps, when grown with the L. anceps, L. autumnalis, &c.—*James O'Brien.*

Orchids at Elmers Lodge, Beckenham.—I recently saw a magnificent display of Cattleya Skinneri in the garden of J. Goddard, Esq., some of the varieties being exceptionally fine. I counted ninety spikes, and on some of the spikes were as many as thirteen blooms. This species, when seen in such numbers and in such good condition, is really a glorious sight. Mr. Reed, the gardener in charge, has been very successful in Orchid culture, and has annually a fine display of bloom, but on no previous occasion have I seen his Cattleyas in better condition; he manages them with comparative ease, too, growing them in a higher temperature than is generally recommended, but with plenty of moisture under and about the stages. Among other noteworthy examples of cultural skill I noticed a number of Cattleya citrina making larger bulbs each succeeding year; C. Mossiæ (fine), C. Mendelii, with richly coloured lip, and C. intermedia; Dendrobium crepidatum, D. Pierardi latifolia, Odontoglossum Reichenheimii, with many branching spikes; Oncidium leucochilum pulchellum, with the beautiful mauve-coloured lip, and a richly coloured form of O. Marshallianum; Lælia purpurata and the alba variety; Phalænopsis Schilleriana, P. grandiflora, with a spike of 12 blooms, 3½ ins. across; Tricopilia coccinea, T. tortilis, delicately tinted; Epidendrum macrochilum, E. odoratum, Vanda Roxburghi, and V. suavis among other things were in bloom. In a span-roofed orchard-house, also in a long lean-to, are some fine examples of trained Peach and Nectarine trees, carrying enormous crops of fruit, the best varieties grown being Prince of Wales, Barrington, Royal George, and Noblesse Peaches, and Violet Hative Nectarine. The other departments bear testimony to Mr. Reed's industry and skill.—*G. W. Cummins.*

The Orchid Album for April, just to hand, contains beautifully executed plates of Phalænopsis casta, a supposed natural hybrid from the Philippine Islands; a handsome form with white flowers, spotted with crimson on the lip; Lycaste plena, an old Peruvian evergreen species, of which the form represented (from Mr. R. H. Measure's collection) has partly green sepals, and a rich crimson lip; Cattleya Hardyana, the magnificent variety illustrated by us at p. 825 of our last volume, and which Mr. Williams considers to be a natural hybrid between C. gigas and C. Dowiana aurea; and Cypripedium insigne albo-marginatum, a very distinct variety, having a distinct yellowish cast in its flowers, and the dorsal sepals broadly margined with white, which is quite devoid of the spotting usually found in the type.

Another Yellow Odontoglossum Pescatorei made its appearance at Protheroe & Morris's Rooms, on the 14th inst., and was sold under the hammer for 55 guineas. The plant, which was a small one with only two or three flowers, came out of the same importation, we believe, as Mr. Knox's, and differed somewhat from his variety in being whiter in the centre.

Castle's Treatise on Orchids.—Mr. Lewis Castle announces a new edition of his "Orchids, their Structure, History and Culture," as being nearly ready for publication. It has been considerably enlarged, by the addition of chapters on cultivation, and other subjects, but there will be no increase in the price. That a new edition should be called for so soon is sufficient proof of its popularity.

Warm or Cold Water for Orchids.—I am putting up an Orchid-house, and one of my friends advises me to run a hot-water pipe through the tank, so as to have warm water to water with; two others tell me not to do so on any account. I should be glad if any of your correspondents would say whether I had better do so or not.—*J. T. M.*

TULIPA GRIEGI.

In recent years several species of Tulipa have been brought into notice from Central Asia and other districts, especially from Turkestan, the discovery of which was either due to Russian botanists like Dr. Regal, or the plants have been rescued from obscurity by being pourtrayed in botanical works like the *Gartenflora*, the *Botanical Magazine*, and other publications. Some of these plants have been found to possess sufficiently distinct characters to recommend them to the attention of cultivators, and one of the brightest and best is that shown in our engraving, Tulipa Griegi. This species was introduced from Turkestan in 1873, but it is only within the past two or three years that it has attracted much notice, though it has been exhibited several times at South Kensington.

The flowers are of a peculiarly brilliant scarlet colour, varying a little in different plants, but mostly very bright, and when the flower has expanded the large black spots at the base of the petals are seen very prominently showing up the scarlet tint admirably. It is extremely effective either for pots or the open borders, and as the stock of bulbs becomes larger, it will find a place in many gardens where it is now unknown. Other Tulips from the same region are Ostrowskiana, red, spotted at the base; brachystemon, yellow, purple

Tulipa Griegi.

at the back; Borszczowi, bright yellow; turkestanica, white, yellow at the base; and Kesselringi, yellow and orange-red. Most of these are strangers to British cultivators, or are only to be found in a few choice botanical collections, but T. Griegi is the most handsome of the group.

The Gardeners' Calendar.

THE PLANT HOUSES.

The Gardenias will now have done flowering and to keep them shapely should be at once pruned back or they will become straggling, and if planted out, in my opinion, it is advisable they should be annually lifted to keep the plants healthy; if not so treated, as a rule, they are very short-lived and unsatisfactory. If they are grown in pots and have attained full size, so that for various reasons it may not be desirable to give them a further shift, they may be kept going another season by plunging to the rim in bottom heat and liberally feeding with artificial manure, maintaining a humid atmosphere during the growing season and gradually hardening them when growth is finished to ensure a good "set." Young plants should be kept in stock, and by well pruning in may be kept in a useful size for some time, and will frequently furnish some nice blooms after the main supply is over, and when kept in fair health do without bottom-heat; should they from any cause change colour bottom-heat is absolutely necessary to restore them to health.

Herbaceous Calceolarias will now be coming to their best, and if attention has been paid to them in the way of keeping them clean, a grand show will be given, as the strains now procurable are so very superior to what could be obtained a few years ago. Should green fly in ever so light a way shew itself, fumigate at once, or in the case of the light flowers they will become quite spoiled by the stain, and, of course, useless for all purposes. Should anything very good be noticed among the set, and it is desired to save seed, let the plant be removed away from the stock completely or it will become fertilized. The fancy Pelargoniums will need much the same attention as the foregoing, as they will now be fast coming into flower.

Keep the structures in which the plants are growing thoroughly ventilated, and if the sun is very powerful a light net shading may be placed on the roof. The weather having been so fitful, we have not yet started bedding-out, having all our plants where they can be protected rather than run the risk of having them killed. Be sure that those in pits or frames be kept as hardy as possible by the removal of the lights, and as we are now fast approaching June, we may expect something like settled weather shortly.

THE FORCING HOUSES.

Where the early Peaches are approaching ripening, less water and more air must be given or flavour will be deficient; in fact, front and back air should be left on continually at this stage, and to prevent the border becoming too dry if left exposed, it should be thickly mulched. The grass cut from the rough part of the pleasure grounds is good (after being partly "made") for the purpose, and of course syringing must be discontinued. Many prefer placing netting under the trees to catch the fruit, but we consider by far the better plan is to go carefully over the trees every morning, trying each fruit, and by this means very few are lost, and in many varieties, if the fruit is allowed to hang until dead ripe, they lose much in flavour. Of course, the gathering should be done before the sun has much power, or shortly after 6 a.m.

The Lady Downes Vinery is now in full flower; we consequently give them a little extra attention, a temperature of 70° by night and 80° by day (fire-heat) being maintained. Some growers dispense with fire-heat with this variety, but, generally speaking, it is a dangerous practice. Leave the laterals as free as possible, and tap the Vines very frequently during the day, and more particularly in the morning, and do not damp-down at all during the middle of the day until "set," when a good soaking of liquid manure should at once be given. Thinning should be attended to as early as possible, and before the clusters become too crowded.

Figs should now have made sufficient growth to require a stop all round, and a good second crop is certain if watering and so on is carefully attended to; even in case of the first crop failing the second one is frequently more serviceable as a relief to the monotony of Grapes, Peaches and Melons as dessert, so that extra attention may be profitably bestowed.

THE KITCHEN GARDEN.

We took advantage of the rain on Tuesday last to plant out our batch of spring-sown Cauliflower, also Brussels Sprouts and Celery; the rains we have since had will be the means of giving all a good settling and a start. For this planting of Cauliflower we always rely upon Eclipse, and so far it has proved by far the best with us, in fact, were I asked to pronounce in favour of one Cauliflower it would be this variety. Peas will now make rapid growth, and sticking must not on any account be deferred, or the haulm will be damaged in the process, and then the crop is not at all satisfactory; draw the soil to the rows in good time, so as to prevent the winds wrenching the plant.

Winter Spinach being now nearly past, may be pulled up, and dug in as manure, when the ground will suit such crops as Endive or Turnips. Spring Spinach must be sown at frequent intervals, as it so soon runs to seed. The New Zealand should be sown in pots in heat, and planted out when hardened off; this will give a good summer supply, and at intervals a dish is much relished. A good breadth of Turnips may now be sown without fear of bolting, and with the damp weather fly may be avoided; they had our first batch. Another good sowing made a fortnight hence will ensure a

supply until autumn. Of course, as cool a square as possible should be chosen for them, and one in good condition, or the roots will be hot and stringy. Plant forced Strawberries out as soon as hardened off.—*Walter Child, Croome Court.*

FLORICULTURE.

Gold Laced Polyanthuses.—I have to thank you, Mr. Editor, for so kindly sending me on Mr. Barlow's Polyanthuses, and here let me remark as encouragement to those who may receive flowers per post in a dubious state, that although these same flowers had travelled per post twice, and when they reached me were in a desperately withered condition, such as would have led most persons to pitch them away at once. I preferred to clip the stems a little shorter, and set them into a glass of cold rain water, standing them in a cool place, and the result is that now on the 15th, probably six days after being gathered, they are singularly fresh; every bloom is expanded, and no doubt they will keep as fresh for another week. So much *en passant* for caring for withered flowers. Now I have to thank Mr. Barlow also for sending the flowers, because I take it for granted that those represent the best strains of one of our most capable raisers.

I not only repeat the note you appended, "They are not good enough for the florists' standard," but most of them are of very moderate quality indeed. The named variety Model is a red ground of a good rounded form, indeed, unusually so for a gold-laced kind, but the lacing is far from being clear and regular, and does not cut clean through the ground. The centre is too heavily yellow, indeed, almost an orange hue. In other respects it seems to present some good qualities as a parent, and should be utilised as a pollen parent upon some pin-eyed forms of which we often find many admirably laced in batches of seedlings. A couple of thrum-eyed flowers are meritorious, because the lacing is good, and one especially so, having that refined lacing which marks our best black grounds. Both these kinds, however, seem unwilling to expand fully; on the other hand, most of the others expand well, but have either pin eyes, clouded centres or grounds, and lacing wanting body or clearness. More size is desirable also, as some few are comparatively small flowers, and very few would make any appreciable show in the borders; indeed, I venture the assertion that gold-laced Polyanthuses are not worth growing as border flowers, for they lack altogether those attractive and robust properties found in the true border or fancy varieties.

As to the term "rivals," which I previously employed, and to which Mr. Barlow objects, I may say that I used it in this sense. Calling the other day upon a friend, who has for years being growing large quantities of gold-laced Polyanthus from seed as border flowers, and thought them very beautiful, I found that this year he was blooming a quantity of the newer fancy—self or border kind, now becoming so popular—and he said, "After these he could not think anything henceforth of laced forms for border purposes." It is enough to say that whilst the border kinds give pips double and treble the size of gold-laced, much larger trusses, and infinite variety of colours, the gold-laced kinds give absolutely no variety whatever, except such distinctions as may be found in bad and good flowers, or in red or black grounds. As the perfect beauty, such as exist in high-class gold-laced kinds, can only be found in plants grown under glass, it is obvious that it is useless to grow them out in the open for pure florists' purposes, except in raising seedlings when such culture is necessary. When so much ink has been spilt over the discussion as to the origin of the florists' Auricula, doctors disagreeing deucedly, and no one convinced, it seems odd that no one has undertaken a similar satisfactory labour on behalf of the gold-laced Polyanthus. That it is of the same original parentage as the border kinds we have now in abundance is probable, but no doubt selection distributed over generations of lives of florists has endued something apparently diverse from the ordinary strain. There is a black-ground strain much grown for market around London, which is late, and apparently distinct, but, perhaps, earlier, was allied to the gold-laced section. Some day, perhaps, we shall know more about Polyanthus parentage; at present we have chiefly to do with the improvement of Polyanthus progeny.—*Florist.*

HORTICULTURAL SOCIETIES.

Royal Botanic.—*May 19th.*—The Summer Exhibitions of this Society in the Gardens at Regent's Park, have deservedly gained the reputation of being the most effective in the neighbourhood of London, and the show now under notice was no exception to the rule. There was not quite such a large proportion of brilliant colours such as are furnished by Azaleas, for these were not so numerously represented as usual, but if the softer tints predominated it did not lessen the beauty of the exhibition, and in some respects it was superior to its predecessors. Orchids, for example, were in great abundance, occupying a long bank in the centre of the tent and a similar one at the side, some scores of really fine specimens being exhibited. Roses also were more numerous than we have seen them at this show for several years, and though there was only one lot of giant plants the smaller specimens were equally as beautiful though they did not produce such an imposing effect. The Stove and Greenhouse Plants from Messrs. Chapman, Cypher, and Rann were distinguished by their excellent, fresh, healthy condition, and careful training added considerably to the attractions of the show.

In the Orchid classes, Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was the most successful exhibitor in the amateurs classes, securing first honours with twelve plants and with twelve single specimens, in both cases showing capital plants of Cattleya Mossiæ, Odontoglossums, Dendrobiums, &c. His Odontoglossums—vexillarium and Roezlii, with varieties—were marvellously well grown, and seldom do we see more healthy plants at exhibitions. One variety of O. vexillarium, named Silvia, was remarkable for its rich rosy crimson colour; O. crispum and O. citrosmum were also represented by good plants of first-rate varieties. Mr. F. G. Hill, gardener to H. Little, Esq., the Barrons, Twickenham, and Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham, were second and third, each showing well, and Mr. Salter's Masdevallia Veitchi majus, with eleven flowers, was the best variety we have seen for some time; Dendrobium Falconeri being also notable for the size and high colour of the flowers. In the nurserymen's classes, Mr. J. Cypher, Cheltenham, was as successful as Mr. Douglas in the other classes, taking the first prize in each, and staging some excellent Lælias and Cattleyas with other plants similar to those we noted at Birmingham last week. Other exhibitors and prize-takers were Mr. H. James, Lower Norwood, who followed Mr. Cypher in the two classes for nurserymen; Mr. S. Cooke, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks; and Mr. W. May, gardener to F. C. Jacomb, Esq., Amhurst Park, Stamford Hill, who were awarded equal second prizes in the amateur's class for twelve single specimens, both showing healthy plants of moderate size.

Roses were contributed by Messrs. Paul & Son, Cheshunt, Mr. C. Turner, Slough, Messrs. G. Jackman & Son, Woking, and Mr. Rumsey, Waltham Cross, in the Nurserymen's classes, which proved the chief exhibits; the Cheshunt Roses being in admirable condition and grandly flowered. With Stove and Greenhouse Plants the amateurs were well to the front, Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, taking the lead, closely followed by Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, Messrs. Wheeler & Butler showing in the class for six. Mr. J. Cypher secured the premier awards in the trade classes for twelve and six specimens with his usual giants; Mr. H. James and Mr. J. F. Mould, Pewsey, were awarded second and third prizes. Mr. C. Turner had some grand examples of Azaleas, and his Pelargoniums were very bright and well flowered, the latter from Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley, also being noteworthy for their good culture. Heaths, Ferns, fine foliage plants and others were well shown by several of the exhibitors already mentioned.

The non-competing exhibits were numerous as usual; the handsome groups in the centre of the tent from Messrs. W. Paul & Son, E. G. Henderson & Son, J. Laing & Co., and B. S. Williams, for which silver medals were awarded, were the most noteworthy. Messrs. Cutbush & Son, Highgate, Messrs. H. Lane & Son, Great Berkhampstead, Mr. J. James, Farnham Royal, Slough, and several others, also exhibited well, the Farnham Royal Calceolarias being of uncommon merit. Certificates were awarded for the following plants:—Botanical Certificates:—To Mr. J. Douglas for Aeranthus Leoni; to Messrs. J. Veitch & Sons for Phœnix hybrida, Rosa lucida Rose Button, Ulmus Dampieri aurea; to Mr. B. S. Williams for Alocasia regina, Lælia purpurata bella, L. Russelliana, and Oncidium tetracopis; to Mr. J. Douglas for Cattleya Mossiæ Silvia, and Odontoglossum vexillarium Silvia; to Messrs. H. Low & Co. for Cattleya Mossiæ splendidissima, perhaps the finest-formed Mossiæ that has yet appeared, and remarkable for the grand expansion of the lip and its brilliant colour; to Sander & Co. for Odontoglossum Ruckerianum; and to Henderson & Son for Alocasia Regina. Floricultural Certificates:—To Mr. P. Ladds for Zonal Pelargonium, Queen of the Whites; Messrs. J. Veitch & Sons for Rhododendron President and Brookianum; Messrs. J. Laing & Co. for Begonia Incendie, Begonia Queen Victoria; Mr. T. S. Ware for Moutan Pæonies Lord Macartney, Madame de Vitry and Carolina. We shall have occasion to refer to these later on.

The Bath Floral Fête—Spring Show.—In the midst of drenching rain, and with surroundings of the most depressing character, the annual May exhibition took place on the 12th inst. There were charming gardens, with the trees in the full flush of their vernal beauty and many in splendid bloom, such as the Amelanchier, various forms of the Pyrus, and especially the Chinese P. spectabilis, Horse Chestnut, Lilac, &c.; there were tents filled with good plants on various patches of turf; there were thousands desirous of seeing them and listening to the first-class music provided; but with few breaks the rain held on steadily, and though some ventured in, it was at the risk of severe cold. But Bath has a plucky committee that rises superior to all failures; they trust to the citizens to help them out of a financial difficulty, and they seldom find disappointment. In the upper part of the Sydney Gardens, where the shows are held, there is one space with turf banks, and when covered with canvas, this forms an imposing tent. Here were grouped the leading features of the show—huge Azaleas, stove and greenhouse and foliaged plants, pot Roses, Calceolarias, &c. One collection of twelve specimens, set up by Mr. G. Gardiner, gardener to W. Long, Esq., recalled the days when Turner and Veitch used to contend for supremacy at the London exhibitions. There were excellent examples of Roi d'Hollande, Roi Leopold, Duc de Nassau, Souvenir de Prince Albert, Stanleyana, Model, Magnet, Stella, Mrs. Turner, Flag of Truce, Iveryana, and Criterion. Mr. James Cypher, nurseryman, Cheltenham, whose productions helped to make the show, had the best nine, staging large bush-grown plants as contrasting with the pyramids just noticed. He had Duc de Nassau, Model, Reine de Pays Bas, and Duchesse Adelaide de Nassau as his best. Mr. J. F. Mould, Nurseryman, Pewsey, had the best six; and Mr. C. Gardiner the best specimen in Model. All the others staged were so poor that second prizes in the first three classes were withheld.

Roses in pots are generally a good feature in Bath. They were not so numerous as usual and scarcely so fine. One leading exhibitor had overdone his—got them too forward, and they were past their best. Mr. Taylor, gardener to S. P. Budd, Esq., had the best nine, well-grown and flowered specimens; Mr. R. B. Cater, of Bath, being second. Mr. A. Hawkins, gardener to T. Jolly, Esq., had the best six; Mr. F. J. Walker being second. Some Pelargoniums that would have done credit to the Regent's Park show were staged by Mr. Cypher; they were generally of the decorative section, well grown and flowered. Lady Isabel, purple, and Triomphe de St. Mande deserve especial mention. Mr. Tucker, gardener to Major Clarke, Trowbridge, was a good second. With six plants, Mr. A. J. C. Bliss was first, and in this collection the two varieties just named were prominent. Mr. Jno. Mattock, nurseryman, Oxford, was second. Calceolarias were fine and gay. Mr. Tucker and Lord Justice Lopes were first and second; and in the class for six Cinerarias, in which there were several exhibits, Mr. R. B. Cater, of Bath, was first, and Mr. Jerome Murch, also of Bath, second. Mr. Cypher had it all his own way with Heaths, having the best four and the leading single specimen also, backed up by Messrs. Bryant and Gardiner, the first-named taking the second prize four.

But it was in the class for twelve stove and greenhouse plants that Mr. Cypher shone, and it may truly be said, surpassed himself. I think I never saw a better twelve from Cheltenham; they consisted of noble plants of Pimelias Hendersoni and spectabile, Dracophyllum gracile, Franciscea eximea, Anthurium Scherzerianum, and a fine variety named densifolia, Erica affine and E. Cavendishiana, Hedaroma tulipifera, Aphelexis macrantha purpurea, and two fine Azaleas. Mr. C. Gardiner was a good second, having Anthurium Andreanum, Ixora Williamsii and I. Fraseri, Clerodendron Balfourianum, &c. Mr. W. C. Drummond, nurseryman, Bath, had the best six, and Mr. Cypher had the best single specimen, staging a fine plant of Anthurium Scherzerianum Cypheri, with ten bold rounded spathes. Mr. Gardiner was second with a fine Ixora Prince of Orange. Foliaged plants and Ferns were such as is usually seen; Mr. Cypher had the best fifteen, a fine lot; Mr. W. C. Drummond the best nine, and Mr. Cypher the best single specimen, staging a fine piece of Kentia Canterburyana. Mr. Tucker had the best fifteen Ferns, and Mr. Drummond the best nine.

Of Orchids there was a select display. Efforts are being made to encourage the cultivation of Orchids in the Bath district, and there is every probability of its proving successful. The Rev. E. Handley, Bath, had the best six, showing Cattleya Mossiæ, C. Mendelii, Lælia purpurata, Oncidium Marshallianum (not a good form of this showy species), Odontoglossum Roezli, and Dendrobium thyrsiflorum; Mr. H. C. Miles was second; and Mr. Cypher third. The Rev. E. Handley had the best single specimen in Odontoglossum citrosmum. In the amateurs' class the best four came from Mr. H. C. Miles, who had Cymbidium Lowianum, Cattleya Mossiæ, Lælia cinnabarina, and Masdevallia Lindeni; Mr. E. E. Bryant was second.

In the cut-flower classes Mr. J. Mattock, nurseryman, Oxford, put up a stand of twenty-four fine blooms, some of the Tea-scented varieties being wonderful in development. He was first with Madame Villermoz, Marechal Niel, Niphetos, Auguste Rigotard, Catherine Mermet, Souvenir de Paul Neron, Perle des Jardins, Anna Olivier, Madame Welch, and Jean Pernet; second, Mr. S. P. Budd; and third, Messrs. Geo. Cooling & Son, Bath, who had some very fine blooms of Marechal Niel. Mr. W. Pethwick had the best twelve, Mr. W. W. Kettlewell coming second. Florists' Tulips were fairly well shown in sixes. In the classes for twenty-four and twelve blooms of fancy Pansies the Hoopers were to the fore on both occasions. Collections of twenty-four bunches of cut flowers were finely shown, Orchids predominating. Bouquets and Epergnes were a charming feature.

Fruit was represented by Strawberries—very fine James Veitch—Apples and Pears. Vegetables were numerous and very good; the chief item being some very fine examples of May Queen Broccoli, a late form of Knight's Protecting. The collections of vegetables shown by cottagers were also good. Prizes were offered for wild flowers to consist of twenty-four species collected within twelve miles of Bath, and correctly labelled. Mr. A. E. Burr was awarded the first prize, Mr. L. Payne being second. After the prizes were awarded, the committee and judges lunched together, Mr. Richard King, the chairman of the committee, presiding, supported by the Mayor of Bath, the Hon. and Rev. J. T. Boscawen, &c.

Messrs. J. R. Pearson & Son sent all the way from their Chilwell Nurseries, at Nottingham, a collection of cut blooms of their beautiful zonal Pelargoniums, including some remarkably fine seedlings. The named varieties included Cato, M. Myrich, Miss Hamilton, Mrs. Holford, Aspasia, Zelia, Octavia, and Norah, a very fine lot indeed.

QUESTIONS AND ANSWERS.

Kew Gardens.—*J. T. Richardson:* No special qualifications are required, beyond some knowledge of your profession, a good moral character, and a good recommendation from your employer. If you would like to get employment in the gardens, apply to the Curator.

Ixoras.—*J. T. Richardson:* The best soil is good fibrous peat mixed with a moderate quantity of sand. The use of leaf soil and manure should be carefully avoided, but in the case of large plants, if you can get thoroughly good fibrous loam, that may be used with or without peat. We suspect the cause of your plants of I. Pilgrimii not doing well is to be found in the watering. Ixoras are not such free-rooting things as many other stove plants, and therefore require more care in watering, and not to be kept so wet.

Names of Plants.—*I. O. C.:* 1, The Bird Cherry, Prunus Padus; 2, Cerasus Mahaleb: 3, Leucothoe Catesbæi; 4, Staphylea pinnata; 5, Biota pendula. *J. Mollinson:* Phytolocca decandra, a hardy plant. *S. Marshall:* 1, Masdevallia Harryana violacea; 2, M. Harryana; 3, M. Harryana lilacina. *W. E., Malvern:* 1, Deutzia crenata flore-pleno; 2, Azalea mollis var.; 3, Forsythia suspensa; 4, Iberis sempervirens; 5, Saxifraga ceratophylla; 6, Echinopsis Eyriesii; 7, Berberis aquifolium.

Communications Received.—J. H.—J. L.—B. L.—G. F.—W. P.—W. T., Junr.—G. N.—W. J. M.—E. J.—R. B.—M. T.—J. D.—G. B.

TRADE CATALOGUE RECEIVED.

Viccars Collyer & Co., Leicester.—Specialities for the Summer, 1886.

LONDON SEED TRADE.

May 19th, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a very thin attendance on the Market to day, and business flat, the sowing season being now practically over. Clovers of all kinds continue in plentiful supply and values remain unchanged at the low rates lately ruling. The low price of white has attracted a few buyers for carrying over, but generally there is no speculative demand. Grasses are still enquired for, and late quotations are maintained. Spring Tares are also in request in small quantities, and the supply of these is now very limited. The demand for Mustard and Rape is improving, and both are likely to advance in value. Linseed cheaper. Hemp and Canary show no change.

COVENT GARDEN MARKET.

May 20th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	10 0
Grapes per lb.	2 6	6 0	Pears per dozen	12 0	15 0
Kent Cobs, per 100 lbs.	40 0		Strawberries per lb.	2 0	6 0
Peaches, per doz.	8 0	21 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	2 6	3 6			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages per doz.	2 6	5 0	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	3 0	4 0
			Turnips, per bunch	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, 12 bunches	3 0	6 0	Marguerites, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	2 0	6 0
Blue Bells	0 9	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet, 12 sprays	0 4	0 6
Camellias, 12 blooms.	1 6	4 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primroses	0 6	1 0
Cyclamen, 12 blooms.			Roman Hyacinths		
Daffodils, 12 bunches	1 6	6 0	Roses (coloured)	2 0	4 0
Eucharis, per dozen	4 0	6 0	Roses, Tea per dozen	0 9	2 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Stephanotis, 12 sprays	1 6	3 0
Gardenias, 12 blooms.	1 0	4 0	Spiræa, doz. bunches	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Hyacinths (Dutch),			Tuberoses, per dozen.	1 0	1 6
Lapageria, red, 12 blms.	1 0	2 0	Tulips, 12 blooms	2 0	0 6
Lilac, English, 12 bunches	4 0	8 0	Violet, 12 bunches		
Lilac (French), bunch	2 0	7 0	— Parme	4 0	6 0
Lilies, 12 sprays	0 6	1 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 6
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen	6 0	10 0
Azalea, per dozen	24 0	42 0	Heaths or Erica, var., per dozen	10 0	24 0
Bedding Plants, various, per doz.	1 0	2 0	Lilies of the Valley, pots, per dozen	12 0	24 0
Begonias, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cineraria, per dozen	4 0	8 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, doz	9 0	18 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen	9 0	15 0
Ferns, in var., doz.	4 0	18 0			
Ficus elastica, each	1 6	7 0			

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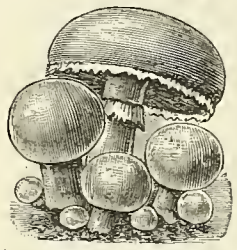
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14 by 10	for 13s. 0d.	for 19s. 0d.
14 by 12	for 17s. 6d.	for 24s. 0d.
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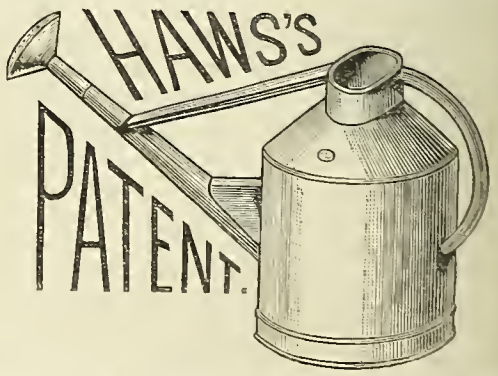

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ROYAL BOTANICAL AND HORTICULTURAL SOCIETY of MANCHESTER.

The GRAND NATIONAL HORTICULTURAL EXHIBITION of 1886 will open at the Gardens, Old Trafford, on FRIDAY, June 11, at 2 P.M. Entries close on June 4. Schedules may be had from the undersigned.

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

ROYAL HORTICULTURAL SOCIETY,

GREAT PROVINCIAL SHOW AT LIVERPOOL.

JUNE 29th to JULY 5th, 1886

GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.

Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.

NOTICE.—Entries close JUNE 12th.

Applications for Advertisement Space in the Official Catalogue should be made at once to ADAMS & FRANCIS, Advertising Agents, 59, Fleet Street, London, E.C.

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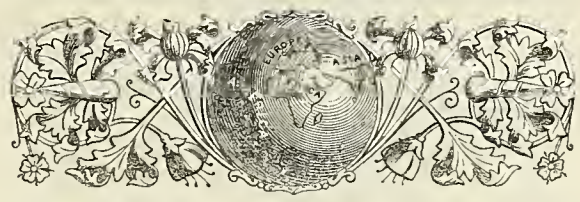

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 29, 1886.

THE COMING BOILER COMPETITION.—The probabilities of finding some medium for the heating of glass-houses other than hot water are at present so remote that we cannot but regard with satisfaction the announcement made in our last of the intention of the Council of the Royal Horticultural Society to associate a boiler competition with its great provincial exhibition at Liverpool. Certainly, we have no great anticipation that from such a competition will result any remarkable boiler, or that anything novel or specially distinctive will emanate. Indeed, the most that can be hoped for is that all the best boilers, with their diverse methods of construction and heating, will be tested alike, and that from such contest may be obtained by those most interested a correct line as to the best, most economical, and cheapest system of boiler heating. It may be said, "Well, all this has been done before," which is quite true, but not recently, and, probably, at no time upon so admirably arranged a basis. The conditions of the competition, published by us last week, seem to be fair throughout, and to place every competitor upon the same footing. The only point into which elements of doubt enter is to be found in the opinions and decisions of the judges, because these are, after all, swayed by uncertain considerations, and they may be right or may be wrong, just as those detailed to discharge the important duties undertaken have not only the required knowledge or otherwise, but possess, also, the essential capacity of wise and impartial judgment.

The weak features of the contest lie in directions over which the promoters have no control. They may determine the breadth and height of the boiler-settings, the height of chimney, the extent and dimensions of piping; but they cannot control imperfections of setting, for instance, which may influence even the best of boilers disastrously; neither can they provide absolutely those conditions of temperature or area under which boilers are most fully tested when in permanent employ; as, for instance, we should like to see the powers of any one, or, indeed, of all the boilers tried, when the temperature is some 20° below freezing. Certainly, in such case, the test would be alike for all and fair for all, as will be the case now; but in no case can the coming test be so severe as is that to which a boiler is put when the temperature is very low. Some esteemed admirable boilers may work well in temperate weather, but soon break down or prove wanting in long-continued spells of cold weather. Then it is evident that no test can be absolutely satisfactory where the trial is not conducted under the same conditions as apply when boilers are fixed for the heating of glass structures. Pipes may, in the open air, seem exceedingly hot, and, perhaps, send up the thermometer inordinately; and yet others in which the heat was less fierce prove, under glass, capable of giving the greatest and most enduring amount of warmth in an enclosed and roofed area.

It would seem, judging by the conditions published, that all the respective blocks of piping are to be arranged exactly alike. If this be so, no scope is permitted for display of skill on the part of the engineer, who may, in heating a house, so arrange his pipes that a boiler of moderate power may be capable of performing as much work as another larger boiler which had the heat-pipes of the same length but diversely placed. Naturally, in the open air, where the only test which can well be applied to any system of heating must be the thermometer laid on the pipes, it will probably be found that blocking the pipes densely will promote the required results the most speedily. In a house, however, where a prescribed area has to be equally heated, it may be found that a diffuse arrangement of the pipes may be productive of most good. Of course, we are aware that the intended competition is limited to boilers only, and that it is anticipated that whatever power or heating capacity a boiler possesses or displays in the open and under the trial it will also show when permanently set. On that head we venture to think there is room for considerable difference of opinion, and that when the trial is over the winners are gratified and the losers discontented, it will still be found that these latter have lost no faith in the capacity of their pet construction to perform more satisfactory work in houses than was performed in the open.

Since boilers became so popular for heating purposes—and the original introduction of hot-water for that use is not such a remote thing—we have seen many and various combinations and arrangements employed; some simple, some very complex. It seems hopeless to expect that the coming competition will introduce to us anything novel in boiler construction that is also effectual and cheap. To-day it seems as if such comparatively simple boiler forms as the saddle and the tubular were the most favoured, only in the latter case horizontal forms seem to be superseding vertical ones. We must, however, be careful in expressing even so elementary an opinion as that lest we bring down an avalanche of protests, for there does seem in connection with boiler designing and construction *amour propre* of a kind so tender that it is by the simplest allusions easily wounded. Would that boiler-men could assimilate into their nerves and temperaments some of the solidity which characterises the metal in which they work, and

then we, in common with other critics, might approach discussion of this theme with greater pleasure and confidence. Let us, however, pay a compliment to all the various boiler designers, to which they are justly entitled. They have, in endeavouring to excel each other, been actuated by one desirable purpose, viz., to secure such a combination as shall perform the most work in the best way, and at the least expense.

In these days, when glasshouses have become such an important element in our social and business life, without doubt the man who gives to us the very best boiler, because most thoroughly complying with business conditions, is a public benefactor; and although the number of the best must be limited, whilst those found wanting may be legion, yet the fact that all designers of boilers have wished to that end, justifies the assertion that each and all more or less are benefactors. Steam, in some instances, has displaced hot-water as the heating medium, but not to any appreciable extent; whilst the adaptability of steam to the heating of glasshouses is at present far from being obvious, indeed, we may say of hot-water, as it was said of something else the other day, "It still holds the field." Electricity has become the spoiled pet of science, and in many ways has revolutionised systems of lighting, and partly of locomotion. There seems no prospect, however, that this wondrous element of nature, as well as of mechanical genius, will ever supply us with heat, at least, artificially. It lacks the combustible nature of gas, and, therefore, emits little heat in its operations. Boiler makers, and, indeed, the hot-water heating fraternity at large, seems to have little to dread from the competition of electricity; indeed, as far as human capacity can discern, we shall have to depend upon fire in the form of combustion of some tangible elements or products for the production of heat artificially till the end of time.

It is possible that the decadence of coal deposits may materially affect boiler construction in the course of the coming century, but present generations, probably, have little to dread on that account, and we may trust our descendants to be wise enough to take care of themselves. Our concern in mundane matters of necessity must be for the present only, and we have no cause for complaint that either the ingenuity of man or the forces of nature are not wisely employed for the benefit of the human family. Hot-water heating may be superseded somewhen, but at present hot-water holds the field, and we look with some hope that the coming Liverpool boiler competition may prove very helpful for horticulture, apart from all mere mechanical or formal considerations.

GARDENING MISCELLANY.

"My Garden."—We are requested to state that Mr. A. H. Smee's beautiful garden at The Grange, Hackbridge, Surrey, will be thrown open to visitors every day next week, and that anyone can walk through on leaving their names at the lodge. "My Garden" is only seven minutes walk from Hackbridge Station, a fact which should tempt many plant lovers residing beyond the home district to enjoy the pleasures which a visit will afford.

The Smoke Nuisance.—A case of considerable importance to Nurserymen and Florists, was decided in the Queen's Bench Division of the High Court of Justice, before Mr. Justice Field and a Special Jury, on Monday. The plaintiff, Mr. Andrews, a nurseryman and florist at Temple Mills Lane, Stratford, sought to recover damages from the Great Eastern Railway Company for injury alleged to have been done to his plants, and consequently to his business, by smoke from the company's locomotive engines, through negligent management at their shunting ground near to his premises.—Mr. Crump, Q.C., Mr. Cock, Q.C., and Mr. Crispe were counsel for the plaintiff; while Mr. Moulton, Q.C., and Mr. Douglas Walker were for the defendants.—The defendants denied negligence and injury, pleading that if the plaintiff had suffered any damage it had arisen unavoidably in the carrying on of the company's undertaking, and in the exercise by them of the powers conferred and the duties imposed upon them by Act of Parliament. A considerable amount of evidence having been given on both sides, the learned Judge summed up, and the jury, after considering the matter for some time, returned a verdict for the plaintiff—damages £500; and his lordship gave judgment for the amount, with costs.

The Coming Provincial Show of The Royal Horticultural Society.—"An Old Fellow of the Society" writes: The dense cloud that has so long hung over the fortunes of The Royal Horticultural Society, seemed to many as though it never would roll by. Yet since it became known that the council had decided to again renew their provincial exhibitions, and that Liverpool was to be the scene of the renewal, well wishers of the Society have taken heart, and have hopes that these annual gatherings would be continued as they deserved to be, this being about the best work the Society can accomplish. But to continue, these exhibitions must be successful, and to be successful the council of the Society, and the committee who represent the locality where the show is held, require to pull together in perfect harmony. This is so obvious that it might be supposed no sane individual could fail to see it. Yet it appears that one member of the council has taken upon himself to interfere with the work of the Liverpool Committee, in a way that is anything but calculated to promote the requisite unity of action. It would be interesting to know whether the gentleman in question represents the council in this matter, or only himself. The latter is the most likely; and it is one more evidence of the mistake the Fellows commit in not taking a more active part in nominating and electing representatives, who can be depended on to work loyally for the good of horticulture. Fortunately for the Society, during the long course of adversity it has gone through, there have always been some such of the council to represent it.

Australian Fruits.—Another large shipment of fruit from South Australia and New South Wales has reached the market for colonial produce held in connection with the Colonial and Indian Exhibition. It was brought over per the Orient liner *Cuzco*, and proved to be in excellent order. The South Australian consignment consists of a selection of Apples, Pears, Oranges, Grapes, Quinces, Almonds, Raisins, Currants, &c. A case of eleven Pears weighed no less than 31½ lbs., five of them being 16¾ lbs. They were shown in the South Australian Court on the occasion of the recent visit of the Queen to the Exhibition, and were much admired by Her Majesty, the Prince of Wales and Princess Beatrice, to whom a basket of the fruit was presented. The shipment from New South Wales comprises twelve cases of various descriptions of Apples and Grapes from the district of Orange, packed on an improved system, which has resulted in a complete success. Some of these fruits were shown at a meeting of the Fruit Committee on Tuesday, and were greatly admired for their remarkably fine quality, especially three samples of Belle Angevine Pears from South Australia, the largest of which weighed 2 lbs. 15½ ozs., while the whole were highly coloured, The Apples, Quinces and black Grapes from New South Wales were highly commended, and the committee recommended that a Knightian Medal be placed at the disposal of Sir A. Stuart.

The Camass of North America.—At a meeting of the Royal Botanic Society, held last Saturday, Dr. Cogswell read a paper upon Camassia esculenta, the Camass of the North American Indians, a Lilaceous plant, whose bulbs were once a staple food of the aborigines of the western slope of the Rocky Mountains, though now it has given place in great measure to the white man's corn and vegetables. The season of flowering was held as a high festival by the tribes that assembled together to dig up the bulbs, the maiden who collected the greatest quantity being estimated the most eligible for matrimony. Specimens of the plant in flower from the Society's garden were shown at the meeting.

Thomson's Vine and Plant Manure.—The little pamphlet relating to this, which Messrs. Wm. Thomson & Sons, of Clovenfords, Galashiels, N.B., sends gratis to all applicants, will be of especial benefit to all who need advice in plant and fruit culture at this season, when some stimulant of a more reliable nature than the crude mixture of seeds and insect germs usually known as rotten dung is essential. Of such, Messrs. Thomson say:—"The importance to which the cultivation of Grapes has attained in Britain could not have been contemplated fifty years ago. Yet we question if the true rationale of such cultivation is so generally understood as might be expected. We say generally, for there are many cultivators who have very little to learn on the subject. While, however, we too often see Vine borders covered over with farm yard manure in autumn, which is allowed to remain on the border till next autumn, we note one great mistake, for this mass of litter and dung keeps the vivifying rays of the sun out of the border, and also prevents the action of the atmosphere. The pores of the soil get clogged up, and it becomes sour, with the result that the roots go deep down into the border, instead of keeping near the surface, where it is most desirable they should be. At one time we thought it desirable that a little well made dung should be mixed with the soil for Vine borders, but much more extended experience has convinced us that to do so is a mistake, unless where the soil is very light and sandy. There is so little real Vine food in farm dung, and too much humus and inert matter, which merely clogs the pores of the soil, that it is best to avoid it. As a rule it encourages the formation of large soft young roots, which nearly always perish during winter, and are not able to supply the Vine with nourishment when most needed; hence so much shanking where the Vines are otherwise strong." To remedy this matter, which is, perhaps, the most prolific source of failure with amateurs, Messrs. Thomson advance the manure used by them in the celebrated Clovenfords Vineyard. What is good there should do anywhere, and proof is given in numerous high class testimonials.

The Thames Bank Iron Company, Upper Ground Street, S.E., who deal in everything required in the arranging and fixing of hot-water apparatuses, and a good many other things of which iron is the component part, have just issued a new edition of their trade price list, which is elaborately illustrated and otherwise replete with information of the most useful character to all engaged in the business of hot-water heating. At p. 25 we note a most useful table, which gives the heating power in feet of 4-in. piping of some thirty-nine different sorts of boilers.

Mr. Samuel Eliott (Lucombe Pince & Co.), Exeter, has been granted permission by the Board of Inland Revenue, to make experiments in the growth and curing of tobacco in the county of Devon.

Ash Trees Destroyed by Lightning.—W.M., Chadwell Heath, Essex, writes:—On Sunday morning last a heavy thunderstorm broke over this district, during which the lightning struck two Ash trees at Parsloes, splitting them up the middle, and stripping the bark clean off the boles to the height of about 15 ft., and scattering it in small pieces to a distance of quite 40 yds. round the trees. Heavy showers of rain fell subsequently, and rain is still falling. *May 25th.*

SENDING PLANTS ABROAD.

At the last meeting of the Edinburgh Botanical Society, Mr. R. Lindsay, curator of the Edinburgh Botanic Garden, read the following paper on a method of transmitting living plants abroad:—"The method usually adopted in transmitting living plants, particularly where very long journeys have to be undergone, is to pack the plants in Wardian cases, *i.e.*, cases fitted with glass sashes, which, when closed are nearly air-tight. This is, no doubt, the best mode of conveying plants safely, provided they are properly attended to on the journey. To do so it is almost necessary for someone who understands the requirements of plant life, to take charge of the case, as, when sent without any special attention being paid to them, the results are frequently unsatisfactory. The dangers attending such structures appear to be want of ventilation and shading. The plants contained in them soon become drawn up and weakly in the steamy atmosphere of a close fitting case, and often arrive at their destination in a dying or dead condition.

"One of the most successful importations of plants that I recollect of having seen was contained in a small wooden box sent to the garden from Australia by Baron von Mueller, in 1866. The plants had been over three months on the journey, but were found to be in perfect

health on their arrival at the garden. This result we attributed chiefly to the simple manner in which the case was constructed. It consisted of a rough square wooden box, filled with soil, into which the plants (which had previously been grown in pots) were placed, two narrow strips of wood were nailed on to the sides of the box in an upright position, to which a cross piece was attached, constituting a handle. The whole was then covered with strong cotton cloth, no glass being used. In vol. viii., p. 482, *Transactions of the Botanical Society*, a description is given of this case by the late Mr. McNab. In July last, our associate, Mr. John Buchanan, when returning to Central Africa, being desirous of taking some economic plants out with him to that country, an opportunity was thus afforded of trying an experiment. This was rendered all the more necessary as on previous occasions similar plants sent to Central Africa from the garden, packed in Wardian cases, although taken every care of on the way out, were found to be mostly dead on their arrival.

On this occasion a case similar to that exhibited was prepared. It is 18 ins. long, 12 ins. wide, 16 ins. deep, has a ridge roof with a handle fastened on the top for carrying. The main difference from an ordinary Wardian case is in the substitution of cotton blinds for glass sashes. The blinds are nailed to the top of the ridge and tied down with cords to the sides of the case, so that they may be easily rolled up or down as required. The advantage of this method is the admission of sufficient light and air to maintain the plants in a healthy condition; the fine meshes of the cloth act as a shade from strong sunshine, and do not admit so much air as to cause the interior to become quickly dried up. The plants sent on this trial consisted of India-rubbers, several Tea plants, Cinchonas, and Ipecacuanha. They were all turned out of the pots in which they had been growing previously, the balls of soil slightly reduced, and then wrapped up tightly amongst sphagnum moss. The plants were then packed in the case firmly, in an upright position, using sphagnum for filling-in the interstices. Thin strips of wood were placed across the balls, the ends of which were nailed to a flange inside the case for that purpose, thus preventing the plants from moving, even if the case was turned on end. After being well watered and allowed to settle for a day, the blinds were tied down and the case sent up to London, where Mr. Buchanan took it in charge. He was eighty-two days on the journey out, and in a letter to Mr. Taylor, received in December last, Mr. Buchanan reports that all the plants arrived in a perfectly healthy condition, except the Cinchonas, and that he had not given up all hope even of them.

I may mention that the Cinchonas referred to were not very vigorous plants to begin with; they were the best we had at the time, but were merely young seedlings. It would be well to have this method still further tested, either by having a few plants sent to a distance alone, or, at all events, in charge of someone less skilful in the management of plants than Mr. Buchanan. For all but very tender plants (where special provision would be required), I think much more favourable results would be attained by the use of a case such as that described, always provided it were placed free from danger of sea water getting through the canvas, than if the usual Wardian case were used."

PANSIES.

This is the weather for Pansies. The showers of rain which have fallen during the past three weeks are causing them to root, and they are taking a good hold upon the soil and getting well established by the summer; that is a great advantage. If Pansies are not put out until April, and May is a dry month, they do not always get a good hold upon the soil unless they are well looked after, and May being a very busy month indeed, some neglect is almost inevitable.

I have, in the matter of Pansy culture, to deal with a somewhat stubborn soil. It is stony and light, and yet of a nature that causes it to bind together hard in summer. When I plant-out my Pansies, I make up a compost of fine siftings from the potting-bench, some leaf-soil, and cocoa-nut fibre. Now, I may as well state here, for the information of amateurs, that those who manufacture cocoa-nut fibre sell it in two forms—one rough and the other finely sifted. The extra cost of the latter over the former is not much, and it is a great advantage to be able to procure it in this way; it is this finely-sifted material that I use for Pansy-growing.

My Pansies for spring blooming are planted-out in October, but I am sorry to say many succumbed to the cold of last winter—not that I would for a moment appear to hint that the Pansy is not a thoroughly hardy subject; but the prolonged frosts of last winter, combined with cutting winds from the north-east bringing the fogs over on to the side of London where I live, severely told upon the plants. Those that survived are now doing well, but they are late in flowering—decidedly later than usual.

In planting, I find it of great advantage to make a deep hole, and I place the roots of the plants as deep down into it as I can, and I then fill up the holes with the compost named above, add some of the surface-soil, and press all down firmly together. Later on the plants have a good top-dressing of the same. It is only by inducing the plants to root freely and deeply that I can keep them blooming through the winter.

A Show Pansy.

For late summer and autumn flowering, I depend upon seedlings raised from seed sown in March. They are put out in July during the dripping—*i.e.*, showery—weather that generally comes the second and third weeks in July, that period so useful for gardeners, and they, with proper attention, grow into good plants and maintain the floral succession until the Chrysanthemum time. The plants put out a few weeks ago, and which bloom during June, July, and August, are the best sorts, and these are well top-dressed, and at the end of the summer break up into young growths, especially if the flowering-shoots be cut away. When these are divided and planted in a nursery-bed for a few weeks, they make excellent stuff for planting-out in October and November for spring blooming. Strong-growing shoots of Pansies—leading growths that stretch away from the plants for some distance—should be pegged-down to the soil in order that they be not blown about by the wind and broken off from the plants. The blossoms, also, are preserved from becoming disfigured so much when the shoots are thus held in position as when swayed about by wind.

There are large numbers of named show Pansies being sent out every year, and especially by the Scotch florists. Here, in the south, we have but little opportunity for becoming acquainted with them, but I can take upon myself to name a few good standard sorts that can be depended upon. They are as follows:—Yellow Selfs: George Rudd, Captain Hayter and Gomar. Dark Selfs: George Keith, Garry and Harry Paul. White Selfs: Mrs. Galloway and Mrs. Dobbie. Yellow Grounds: Bailie Cochrane, Comns, E. Daglish, James Black, Master Ord and Royalty. White Grounds: Captain Spiers, Miss Barr, Miss Baird, Mrs. J. G. Paul, Mrs. Isa Clark and Mrs. R. B. Matthews.

In regard to Fancy varieties, there are now so many, and all so good, that I cannot undertake to give a selection. Any dealer in Pansies can be safely depended upon to do justice to a purchaser.

The following can be highly recommended as bedding varieties: Blue Beard and Blue Stone, the former dark, the latter light blue. Yellow: George Rudd and King Coffee. White: Hebe and Mrs. Cannell, purple and maroon; Black: Sam and Mrs. Turner. George Rudd is not only an excellent exhibition flower, but an excellent bedder also, making a good growth, and standing the heat of summer well.—*R. D.*

VOLUNTARY ALLOTMENTS.

A meeting of the Land and Glebe Association for the Voluntary Extension of Allotments was held on Monday at Grosvenor House. The Duke of Westminster occupied the chair, and, in opening the proceedings, said he would give a short history of the rise and progress of the movement. Lord Tollemache became interested in the matter. Then came the cry of "three acres and a cow," and the declaration—iterated and reiterated before and during the election—that the landlords were doing nothing in the direction of allotments. Lord Onslow, the secretary of the association, addressed to landlords owning over 3,000 acres of land inquiries as to what they were actually doing. He received replies from owners, in the aggregate, of 2,441,628 acres. Then his lordship had moved for a Parliamentary report upon the subject, and Lord Spencer had promised one. The speaker argued that landlords had not been idle in the matter of giving allotments. Lord Onslow afterwards spoke, touching upon the work and the progress of the association. He contended that Mr. Chamberlain was the true originator of the movement. That gentleman had asserted that landlords did their best to drive agricultural labourers off their property. Had he (the speaker) not read that he would not have been induced to take any action in the matter. As it was, when he did read it, he decided that the imputation was unfounded, and by way of establishing its erroneous character he gathered the experiences and views of other landlords. The information he had thus gathered, and which he had embodied in the book now in his hand, disproved Mr. Chamberlain's assertion. As for the association, it numbered as its members 340 landlords and 380 clergymen, the latter owning glebe land, and being prepared to promote the extension of allotments. He had communicated with Mr. Arch on the subject of allotments. Asked what steps he would advise a landlord anxious to give allotments to his labourers to take, he said, "Let the landlords call together the labourers of the village, without the assistance of any intermediary, and tell them that he proposed setting aside a convenient plot of land for them for allotments; that on the one side he would divide it into small plots, and on the other into larger ones; that he should invite the labourers to apply for plots of such a size as they thought they could conveniently cultivate; that the rent would be the same as that for land of similar quality similarly situated, with such increase as might be necessary to cover outgoings of all kinds; and that the landlord should insist upon the punctual payment of rent and upon the proper cultivation of the land." He (the speaker) thought there was great reasonableness in what Mr. Arch said; and if landlords would adopt such proposals there would be no necessity for any legislation.

Lord Carnarvon afterwards moved: "That this association pledges itself to use its utmost efforts to secure the formation of local committees in the rural Parliamentary divisions of England, for the purpose of obtaining for labourers, through voluntary action, such allotments of land as they may reasonably require.' He said that the state of the case regarding allotments was very different in different parts of England. Somewhere they were to be found in abundance; elsewhere they were scarce and not appreciated. Labourers could

be assisted, firstly, by the sale, where practicable, of small pieces of land; secondly, by conferring cottage gardens; thirdly, by conferring "cow runs;" and fourthly and lastly, by means of general allotments. His own experience was thoroughly favourable to allotments, and he had seen nothing but good come of the system. Mr. Brodrick, M.P., seconded, and the Marquis of Bristol, Sir E. Lechmere, M.P., and Sir Harry Verney supported the resolution, which was carried unanimously.

ON THE ROOT-STRUCTURE OF PRIMULACEÆ.

(Concluded from p. 571.)

Storage and Rest.

In perennials we have specially to consider the arrangements for storage of food in convenient places for use when required, and the modifications of structure associated with the periodic alternations of active growth and relative rest. Of a Primrose, whether "by a river's brim," or elsewhere, whether a yellow Primrose or one of other hue, it may be said that at one season its constant care is to increase its store, while at another its aim is to make all snug for winter. Of course the Primrose is not peculiar in these matters; but we may, perchance, profit somewhat if we make use of it as an illustration of general application.

The Root stock.

The body which emits roots on the one side or beneath and throws up leaves and flowers on the other is the "rhizome," or root-stock. It is usually subterranean, and so gets called a root, but inasmuch as it produces leaves, buds, and offsets, and has the internal structure of a stem, botanists will not admit its claim to be considered a root, for a root, under ordinary circumstances *(exceptis prætermissus)*, does none of these things. It is a development of the plumale or of the caulicle, or of both together. Usually it is more or less horizontal in its direction, as in the Primrose, in other cases it is vertical, as in the Auricula, where it thrusts itself above-ground, and gives off buds or offsets in such a way that no one can mistake it for a root. Horizontal or erect, it throws down feeding-roots into the soil, and these roots are usually fleshy, serving, indeed, not only as feeders, but as storeplaces as well, thus sharing the office of the stock itself. At the free end of the stock is a bud, or a cluster of buds, by means of which the plant grows. From these buds upspring the leaves and flowers.

Polarity of the Stock.

Owing to this position of the buds the stock grows at one end, and extends and pushes itself into new territory, while the other end of the stock, having yielded up its store of water and starch to the growing bud, gradually decays. Thus the plant effects very quietly and gradually a change of residence—an indication of the desirability of occasional transplantation. This progressive decay at one end suggested to old Auricula growers the "removal of the end of the Carrot," and there was nothing to be said against the process provided their surgery was confined to dead portion only, and did not include the healthy and (potentially) active roots also. In such a case the stock is put to the trouble of making new roots, which, to say the truth, it does not fail to do speedily under propitious circumstances.

The progressive growth at one end associated with progressive decay at the other, is a very marked feature in Primulaceæ. Moreover, it is often manifested in the earliest period. The root apparatus of the seedling plant seems destined for the use of the seedling only (which is thus, as before noticed, practically an annual), and when the plumale developes gradually into a permanent stem with its leaves and potential flowers, new roots are thrust out from the plumule.

The development of the tufted stem from the plumule is well exemplified in the case of the Cowslip, as pointed out to me some years since by Mr. Holland. The seedling plant germinates in the usual way, but after a time the weight of the rapidly growing plumule causes the caulicle to bend downwards and become more or less horizontal. Adventitious roots are then thrown out from the top of the original caulicle or the base of the plumule, which gradually decays, leaving the young plant independent. (Henfrey's *Elementary Course of Botany*, ed. 4, p. 654.)

Protection.

One other provision with reference to the root-stock may here be noted, and that is the manner in which, in most species—notably, in P. latifolia, P. graveolens, P. Palinuri—the deeply descending rhizome is protected from loss of heat, as also from mechanical injury by the dense covering afforded by the remains of the old leaves. Contrast this state of things with the way in which Auriculas thrust themselves out of the ground, their root-stalks showing little or no trace of the leaves beyond the scar, which indicates the place whence they have fallen. It would be interesting to ascertain whether these peculiarities in the Auricula may not be connected with the development of offsets (buds) from the side of the rhizome.

Tubers.

The tuber of a Cyclamen (a development originally from the tigellum) is essentially the same as the root-stock, differing only in its more or less globular form. It throws off feeding-roots from its base or its sides, and it forms a bud or buds at the top. Its fleshy tissue is laden with starch and building material for new growth.

In Trientalis, from the caulicle or from the base of the plumule emerge long subterranean branches, which end in thickened tubers like those of Convolulus sepium.

Winter Buds.

In Primula rosea and P. involucrata, P. farinosa, P. rotundifolia (herbarium spec.), and probably in many other species, we find what may be termed winter buds. In point of fact the stock in these cases decays away almost entirely, leaving only the buds which form at its extremity, or at the ends of its branches. These bubs are made of dilated leaf-stalks densely packed one over the other, like the similar parts in a "head of Celery." They are furnished at the base with numerous root-fibres, very fleshy in P. involucrata, fibrous in P. rosea, and which serve to supply sufficient moisture in the dry season. Carefully stowed away in the centre of the leaves is the inflorescence whose tiny pearl-like flowers may be seen securely nestling, even in midwinter, beneath their protective wraps exactly as in the case of bulbs, or Cabbages in which the leaves "turn in" well. P. denticulata is not so fortunate. In this plant, the leaves spread widely and do not close up to cover the inflorescence, the consequence of which is the latter is apt to be stimulated by the capricious and unseasonable gleams of sun that we get in some winters, and bursts into bloom at a time when "a frost, a killing frost," is only too likely to damage the blossoms, or, if this does not happen, the flowers are liable to be rotted with wet or snow. Of course this is easily prevented by laying a Fir branch or other protection over the plant.

The formation of a thick root-stock of tubers, of fleshy roots, or of large winter buds, may all be taken as indicative that the plant is thrifty enough to lay by a provision for the future, and, moreover, that it adapts itself to falling temperature and other untoward circumstances, and goes to rest. To afford such rest in our uncertain climate is, as all gardeners know, occasionally a difficult matter. In my own experience, which, if personally small, is vicariously large, I find much virtue in a covering of Fern, straw, or a Fir branch.

The foregoing remarks apply to plants growing in the open air, or with no other protection than a cold frame in winter. Under glass the requirements are somewhat different, and the conditions likewise. The plant is grown for some special purpose, and the gardener considers not so much the natural "habit" of the plant under normal circumstances, and the way in which he may promote *its* welfare, as to the manner in which he can induce it to adapt itself to *his* requirements, and the conditions *he* offers. He may even find it requisite or advantageous to invert the natural course of things—to force when the plant, left to itself, would go to rest, to check growth when the natural tendency would be to progress. For instance, the formation of the Cyclamen tuber is an indication that the plant, under natural circumstances, has a season of rest; and before Cyclamen culture had reached such a pitch of perfection as it has now attained, growers were wont to give the tubers an enforced rest by drying them off. Now, that practice is quite reversed; and that such an amount of rest as the old growers gave the plant is not necessary under artificial conditions, is shown by the fact that the foliage of the Cyclamen is persistent, and no deficiency of food to sustain this prolonged season of growth is to be feared, for food the gardener can give freely and at times when Nature herself might close her stores. This justifies the treatment of the Cyclamen as if it were a bulb with evergreen foliage.

Servile imitation of Nature—such imitation, that is, as we can compass—is, to say the least, not very much better than mechanical routine. The wisdom of the gardener is shown first in his knowledge of plants and their ways, and next in the skill and judgment which he brings to bear in inducing or helping the plant to adapt itself to unnatural conditions, and to the fulfilment of artificial requirements.

Whether from the point of view of the physiologist, or from that of the cultivator, a thorough study of the life-history of plants is absolutely essential to complete success. It is not given to any to reach the highest standard, but it is a satisfaction to know that every step in the way is a real gain—a link in the chain of true progress—a progress which, at least as far as the community at large is concerned, knows no countermarch.—*(Communicated to Primula Conference by Dr. Masters).*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—X.

Although the early-flowering varieties are the best for growing in the borders, yet the large flowering varieties are sometimes planted out, and in mild seasons they produce a fair display of bloom. For this purpose the cuttings need not be inserted until February or March, and when they are rooted they should be stopped and potted off singly into 3-in. pots as previously directed. As soon as they are established in these pots, gradually harden them off, and before planting them out let them be fully exposed to the night air for a few days. They can then be planted out at the end of April or early in May in well manured soil, and a strong stake should be put to each plant, to which the shoots should be securely tied. They will require very little labour in watering them, but in hot weather the foliage should be syringed every evening.

Plants grown during the summer in this way, can, if desired, be taken up for blooming in the greenhouse, and should be treated as follows:—The best time to take the plants up is shortly after the buds are set; but before taking them up, each plant should (if dry) be well watered, and a circle should be cut round each about a fortnight before they are lifted. Keep them well watered, and when they are lifted the roots can be got well into 8½-in. pots. As soon as they are potted they should be well watered, and be stood in a shady position and syringed once or twice a day when they will soon recover. Then they should be removed to a sunny position till they are taken into the house

In many gardens Chrysanthemums are planted out permanently. Where such is the case, they should be taken up in April, the ground manured, and the roots be divided and replanted. By so doing the plants will produce better blooms than if left to grow on undisturbed year after year. After they have done blooming they should be cut down and treated according to the directions given on p. 246.

Where late blooms are desired, the cuttings should not be inserted till February. As soon as they are struck they should be stopped, and when they commence to break, pot them singly into 3-in. pots, and return to the frame. Before they are repotted again, the shoots should be gone over, and any that are 4 ins. long should be stopped. They should be finally stopped about the last week in June, and should be finally potted about ten days after this stopping.

When the buds show colour, the plants should be placed under some temporary shelter to keep the frost from injuring the buds. A good plan to adopt is to drive some strong poles into the ground, to which a few pieces of wood can be fixed, and some mats thrown over to protect the plants from injury by frost. The plants should be kept outdoors until the blooms commence to open, when they should be placed in a cool, light house, giving plenty of air night and day; but in wet or foggy weather a little fire-heat should be applied, or the grower will run the risk of having his blooms spoilt by damp or mildew.

The following are a few good varieties for late blooming:—Boule d'Or, Boule de Neige, Ceres, Ethel, Fair Maid of Guernsey, Fleur de Marie, Grandiflora, Hero of Stoke Newington, Meg Merrilies, Miss Marechaux, Mrs. C. Carey, Mons. Lemoine, Peter the Great, Princess Teck, Snowdrop, and Virginale.—*W. E. Boyce, Archway Road, Highgate, N.*

THE PETUNIA GROWN AS A STANDARD.

A great deal has been said and written about this useful and very beautiful flowering plant during the last half century, and there is no plant more easy to manage, or one more ornamental, whether cultivated in pots or for garden decoration. A pinch of carefully selected seed will give a large percentage both in the number of plants, and variety in colour; and the varieties are now so intermixed, and have assumed such a sportive character, as to render the conservatism of colour as regards individual plants almost out of the question; but still they are for all that, objects of great interest, and have been so for forty, or I may say fifty, years.

The most attractive varieties that I remember in my early days, were those raised and sent out by Mr. Miller, of Providence Nursery, Ramsgate. This was between forty and fifty years ago, and Mr. Miller also at that time raised simultaneously some good distinct varieties of the Verbena; in fact he devoted considerable interest to the raising of novelties, such as Fuchsias, Petunias, Verbenas, &c., many of which I have had the pleasure of growing. Samuel Girling of Stowmarket, and others, used to send out batches of these novelties every season; in this way, sometimes, high prices were paid for plants of no considerable merit, hence the number of plants that have been raised, named, and discarded, from time to time, is almost beyond calculation. As Robert Burns has it "Few seem favourites of fate," and those few were retained as new features developed themselves, and have been the means of building up, as it were, the floricultural world, as we now view her varied and beautiful structure.

The showy Petunia is not the least amongst its numerous compeers in this respect, both in and out of doors, in the greenhouse or the garden, when grown as Standards from 2 ft. to 4 ft. high, the plants have an admirable effect, and in every respect are as attractive as many other plants that are far more difficult to cultivate. It has been my practice to go through my seed beds in the autumn, and take up and pot some of the best of them for this purpose; these are preserved through the winter with but little trouble, and commence to flower in the spring, and by potting and liberal treatment may be kept in condition for a very long period. I send you a few blooms that you may form an estimation as to their effect *en masse* grown as standards for greenhouse and conservatory embellishment.—*George Fry, Lewisham.* [A fine lot of blooms, not large as a rule, but fragrant and very brightly coloured.—Ed.]

SCOTTISH GARDENING.

Fruit Packing.—It may be pardonable for one to introduce a subject which has been often discussed in the gardening press, but as the excuse which can be made by young practitioners is always to the front, "just commenced," it may not be out of place to offer a few brief remarks on the transmission of fruits. Every season there are new hands who enter into the ranks of fruit growers, and who having to pack and send the produce to a distance, are ready to receive the best instruction which can be offered. Sending fruit by parcel post, or by rail, is not always the most serious or difficult portion of the business, but across country roads by carriers, message carts, or other locomotion, is the most trying part of the journey for the fruits.

The evils most common with young packers, is their timidity in placing the fruit close together, often leaving space which allows shifting, which means bruising and destruction. We have since our earliest recollections of gardening, had something to do with transmission of garden produce, and have always tried to follow the best examples recorded. Many years ago, when living in the neighbourhood of Covent Garden, we took special notice of the arrival of produce; its condition being the best proof of careful packing. Much has to be sent from Scotland for proprietors in London and elsewhere, it is therefore of great moment to be able to furnish the dessert table at a distance with as tempting fruit as when handed from the garden at home. Strawberries are at present fruits which are much in request, and it is only by careful management that they can be transmitted in condition to form a tempting and enjoyable dish when they arrive at their destination.

It facilitates success by growing kinds which are solid and do not suffer readily from decay—Sir Joseph Paxton, Sir Charles Napier, and British Queen, are as manageable as any we know of. When forced they should be ripened with plenty of air, cool, and quite free from a moist and close temperature. This not only improves the flavour very much, but the solidity of the fruit renders it very manageable and capable of bearing carriage with safety. The small and frequent consignments from private gardens are most manageable when placed in shallow flat boxes, a piece of clean paper is laid over the bottom, and each fruit is placed in a leaf as closely together as one can pack them without bruising. Strawberry leaves taken off the night before they are wanted, laid thinly over a table, gives them a somewhat tough and limp texture which prevents them cracking. When the fruit is placed on them, a layer of leaves is placed over the surface, and when this is done the lid is fastened so that it may be easily removed. Thin wooden or tin boxes are preferred. If the box is too deep for the size of the fruit, a layer of waddiug is placed over the surface (keeping leaves or clean paper between it and the fruit) so that there may be no moving on the journey.

We find Strawberries travel well in this way. Our earliest tuition of packing Strawberries when a youth, was to wrap the stalks of the Strawberries in the leaves, but that is not our general practice now. Time is saved by putting first a Strawberry, then a leaf, and we find that by the parcel post the fruit arrives in sound condition. To prove the success of this method, one can send to a friend a box of fruit and ask him to return the same unpacked. With larger lots sent by rail we prefer boxes with portable lids, which will divide in several layers the closely packed fruit. Most days, during the spring and early summer, we send Strawberries in this way to great distances. Another method is to fit the fruit into square (they answer better than round ones) chip baskets holding a fair dish in each; these are fitted into a larger basket. For out-door fruit, the fruit of firm kinds may be placed in three or four layers with leaves between each, and by this means arrive in tolerably fresh condition. The ordinary market system with out-door Strawberry transmission does not suit aristocratic tables.

Peaches are always easily managed when sent under-ripe. If they are packed when fully ripe the flavour is much impaired, the fruit has to be used immediately after its arrival, aud it is very liable to suffer from being bruised. Boxes a little deeper than the sizes of the largest fruit—say over 3 ins.—is necessary, and over the bottom is spread a layer of wadding. Each fruit is wrapped carefully in a piece of tissue paper, and wadding wrapped round to keep them free from each other, thus preventing bruising. Our general system is to cut pieces of wadding and tissue paper into squares large enough to encase each fruit. The paper is laid under the wadding to prevent it from imparting a woolly flavour to the fruit, and the lid of the box is fitted so that the package resists it slightly.

Dry moss is often used instead of wadding, and is much the best material; but this is not so often comeatable as wadding, even in inland places. Then there is the trouble of drying and picking over the moss, which is not necessary with the wadding. Grapes are sent to market in a more satisfactory condition than was very general some years ago, they being laid in baskets resting on clean paper, so that one bunch keeps its fellow steady. They are laid in the bottoms of railway vans, and are removed to the place of sale almost as entire as when they left home. This is, of course, special transmission. A system for extra care is to have boxes along which a row of bunches can be tied by their stalks, holding them in position to the sides of the boxes. Two rows of bunches can thus be taken safely to their destination in charge of officials with as much safety as they are taken to the exhibition tables. The general method is to place the bunches in boxes or baskets lined with wadding, and soft paper shavings pressed closely over the bottom. Cleau paper is used to keep the fruit from the package. The baskets or boxes are filled closely with bunches (compact ones of moderate size are most suitable); clean tissue paper is placed next the fruit, but nothing between the bunches. Wadding between the lid and Grapes keeps all safe.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

There has not been much occasion for shading just lately, but we must soon have bright hot weather, if it is to come at all, and then some attention will be needed to prevent scorching or undue drying of the soil. Most plants require a free exposure to sun during growth to mature the wood and buds, and prevent the rapid sappy growth, which is always unsatisfactory in results whether the plants be grown for flowers or fruit. When, however, the flowers are expanding, especially on the plants from temperate climates which are those chiefly grown in the greenhouse, some shading is needed, or they are likely to be injured, or their duration greatly lessened.

In very bright whether too, if the house is not shaded the soil in the pots is dried very rapidly, and unless constant attention be given to watering, the plants are seriously damaged in a short time. In providing shading for such houses, it should not be of a permanent character, unless they occupy an extremely hot exposed position and are used mainly as flower-houses; but in all cases it is preferable to have blinds that can be rolled up at pleasure. A thin scrim canvas can be obtained that will admit plenty of light while effectively breaking the force of the sun, and this can be easily fixed to the house. A circular bar of wood of sufficient weight should be employed, to which one edge of the canvas is securely tacked, then the upper edge of the canvas is tacked to ridge of the roof, and by running strings over a circular piece at each end and fixing these to the upper part of the roof at one end, the blind can be readily raised or lowered.

Ventilation is another important matter, and it will be safe to leave some of the ventilators open all night now, openiug them still more the first thing in the morning, and in the calm, warm days, the roof-lights, if these are moveable, or the ordinary ventilators should be opened to their fullest extent. Supply water liberally morning and afternoon, and any plants coming into flower, like the show and fancy Pelargoniums, will be greatly assisted by applications of weak liquid manure. But whenever using stimulants of any kind, be careful to have them well diluted, and if the liquid is strained through rough canvas or other material, it will be all the better, as it will not then disfigure the surface soil in the pots, nor will it be so likely to clog the soil and interfere with the drainage. Above all, in assisting plants in this way, it should be remembered that it is quite useless to give them more than they can readily assimilate.—*Scolytus.*

FORESTRY IN JAPAN.

Within the last few years an important experiment has been made in the introduction into Japan of the seeds of trees and shrubs from other countries. Tea is extensively cultivated, but it was only in 1879 that the first Coffee berries were brought from the Sandwich Islands and planted in Japan, and great hopes are entertained of the success of this experiment from a commercial point of view. The Cinchona tree was introduced from India in 1878, but the climate of Japan does not appear to be favourable to it; and in 1880 large importations of forest trees were made from Europe and America, and planted in the experimental gardens of the forestry department at Tokio. Some were failures, and others took favourably to the country—the list including several Firs, Oaks, and Maples, the Birch, the German Larch, Lime, Ash, Pinus Webbiana, and other trees, which will, in time, form an important addition to the timber supply of the country. Extending over 15 degrees of latitude, and with high central ridges of mountains on the larger islands, the climate of Japan differs considerably in the north and south, on the plain and in the mountains, so that the vegetation partakes both of tropical and temperate zone characteristics. The country itself may be divided into five distinct tree regions or zones. In the first the temperature is high, and the forests consist of broad-leaved evergreen trees; then comes the zone of the Oak and the Beech, and other broad-leaved deciduous trees; next that of the family of Cedars, among others the Thuias and Retinosporas, for which the country is remarkable. Higher still is the region of the Firs and Pines, the Conifers including many of the finest speci-

mens of the Abies Veitchii. Chief, however, among the trees of Japan are the Cryptomeria japonica and Retinospora obtusa, which attain to a height of about 120 ft., and a girth of 20 ft.

The United States Commissioner of Agriculture says that to those who have only been accustomed to see small dwarf specimens of the Japanese Arbor vitæ and Conifers used for lawn decorations, nothing is more astonishing than the great slabs of wood which such trees supply in their native country. Of such slabs many specimens are seen in Japan, and the ornamental woods are also very numerous. A very useful Japanese hardwood is the Keyeki, which has a reddish hue; and there are many varieties of Oak. From one of the trees grown in Japan—the Broussonetia papyrifera—the inner bark is taken and manufactured into paper, while from one of the climbing plants the woodmen make their clothing. The wood is steeped in water, then beaten with hammers, and the fibrous mass thus obtained is woven into cloth, which is dyed a deep blue colour. In the way of timber, the Japanese are able to supply the greater part of their own wants, and as the houses are largely built of wood, the quantity required is very considerable. A large quantity of timber is exported to China, and a small quantity is imported from America. In Japan there are large numbers of ponds in which timber is preserved. These are usually constructed near the mouth of a river, and into them fresh and sea water is allowed to flow, in the proportion of six parts salt to four parts fresh. Should there be a larger proportion of salt water, the timber is apt to become black; if a larger proportion of fresh water, the wood is liable to attack from worms. The ponds are about 5 ft. in depth, and by means of canals many of them are often connected. The timber is piled in the form of a cube, and is kept in the pond from two to five years before being used; the trees most frequently treated in this way being the Retinosporas and Cryptomerias; a part of the preserving process being the thorough washing and re-arrangement of the wood twice a year. Some of the ponds are made large enough to contain 10,000 pieces of timber.—*Society of Arts Journal.*

THE BOG GARDEN.

Mr. Paul, in his interesting account of his bog garden, asks for the experience of others in this direction. I give a short note of mine. I first had the Wilson raft, which made a capital bog garden as long as it kept the different levels, but as the wood got water-logged it sank so much that only quite wet plants became at home. A metal raft, made for me by an engineer, had not the floating power I ordered, so this served me the same trick, but is now a pretty floating island ornamenting an ugly tank.

In 1878, I got possession of Oakwood, Wisley; in the wood there, there is deep bog and all degrees of moisture in the black soil, some plants are in their congenial positions, doing well. I then made an artificial bog with a small bog pond, this answered well, but I found it advantageous to make ponds, the soil dug out being worth for mould as much as the cost of digging the sides of them at a gentle slope down to the water's edge; this gives great facilities for growing all bog and moisture-loving plants. In our oldest pond the water is covered with Aponogeton distachyon, Water Lilies, &c.; then come very wet plants, such as Sarracenias; then moving up the slope, we have Gentians, Primula farinosa, &c.; then higher, Trientalis europœa; then at the top, Gentiana acaulis, &c. My experience agrees with that of Mr. Paul, that most bog plants like full sun, though there are some decided exceptions; my artificial bog has plenty of sun.—*George F. Wilson, Heatherbank, Weybridge.*

SELECT HARDY PLANTS.

A few days ago I made a note of a few things shown by Mr. T. S. Ware, in his stand at South Kensington, that it seemed to me highly desirable to grow. There was Mertensia Virginica, the Virginian Cowslip, belonging to a genus that likes a little shade and some peat to grow in. It puts up flower stems 18 ins. or so in height, terminating with clusters of long tubular flowers of a rich purplish blue. Give this plant a cool and light soil, and a half-shaded position, and success is certain. It is known, in some old gardens, under the name of Pulmonaria virginica.

I suppose most lovers of hardy plants know the Vernal adonis, that in regard to the size of its flowers may be regarded as the queen of all the Butter-cup and Globe flower race. Fine as this is, it "pales its ineffectual fire" before the Pyrenian adonis (A. pyrenaica). If, as some are disposed to think, this is nothing but a fine form of A. vernalis, then it is yet a superb plant; but, it appears to me to be quite distinct, having larger, more rounded, and slightly deeper colored flowers, and it fully deserved the First Class Certificate of Merit, recently awarded it by the Royal Horticultural Society. Then, there is the dwarf double form of the Marsh Marigold, Caltha palustris fl. pl., a most showy and attractive spring-flowering perennial, that, loving a marsh place, should be treated to such, so beautiful a subject is it; but it is of no use to plant it in hot dry places. The difficulty of having it moist can be overcome by sinking in the soil an earthenware pan, 4 ins. or 6 ins. in depth, and standing the pot in it, taking care that it is kept full of water. I have seen large clumps of this in the moist climate of Manchester, doing grandly.

Viola pedata, the Bird-foot Violet, and its white variety are exceedingly pretty plants, but require special treatment. It is the most beautiful of all the American Violets, and in a wild state it inhabits sandy or gravelly soil in the Northern States of America, and is of easy culture in this country, grown in the choice rock garden, or in pots in a cold frame. It is not so much cultivated as it deserves to be. Lupinus Nutkænsis is a distinct and charming species, a dwarf-growing perennial, bearing spikes of bright blue flowers, and requiring a fairly light soil.

Orobus varius, or Vera, is a distinct and beautiful species, the flowers variously colored, and produced with great freedom; it is an excellent companion to the old O. vernus, from which it greatly differs. It is not a new plant, but decidedly scarce. Lastly comes a charming white Allium named flavium, bearing large trusses of white flowers. The Alliums are sometimes objected to on the score of the strong smell they give forth, but they are worth growing, and the one under notice in particular.—*R. D.*

A NEW SYRINGING STAND.

At the Royal Horticultural Society's Meeting, on Tuesday, Mr. G. Freeland, Tunbridge, Kent, exhibited a new Syringing Stand, designed to facilitate the washing and application of Insecticides to plants in pots. It is constructed to hold a plant, in any size of flower-pot, in a horizontal position over a water-tight frame or tray, with raised sloping sides and mounted on short legs, in such a way that the foliage does not touch any part of the frame, and is in no danger of being bruised or broken. When the plant is placed in position the Insecticide is applied to the under side of the leaves by means of a Syringe or Spray Distributor. The tray and raised sides and end catch all the splashes and drippings, and convey them back to a pail placed at the end of the stand next the operator. By this means none of the Insecticide gets to the roots of the plant, and there is no waste of the solution.

It is thus described by the Inventor:—"The contrivance for holding the pots consists of three strips of wood about 3 ins. wide attached to the lower end of the tray by hinges fastened to one end of each strip. Two of these strips are so attached that, when partially raised on their hinges, they form the shape of the letter V, and the angle of this V can be altered at will, by means of a simple arrangement. The end of the third strip of wood is hinged close to the bottom of the V, but at right angles to it, and this slip can be raised and lowered by means of a small chain fastened to one extremity of the V, passed through an eye in the upper end of the third strip, and secured to the other extremity of the V by a hook. The pot is to be held in a horizontal position and the rim placed in the V, which must be adjusted to suit the size of the pot, and the height at which it is to be held above the frame. The third strip is then raised by tightening the chain until it acts on the lower end of the pot as a lever, and, according to the height at which this lever is set, the pot can either be held in a horizontal position, or at any angle, up or down, as may be desired. The rim of the pot is prevented from slipping forwards through the V by little ledges attached to the strips. When the pot is in position it can be turned round at will without altering the holder, so that all sides of the plant can be syringed alike. The pot lies in the holder as in a cradle, held in position by its own weight, which, acting upon the chain, tends to draw the three strips together, and so secures the pot. When the holder is once adjusted it will do for various sizes of pots without alteration, as it will to some extent adjust itself, the only difference being that larger pots will be held higher above the tray than smaller ones, which is exactly what is required. The whole apparatus is arranged to fold up into a small compass, and can be put away under a stage, or in any other convenient place."

THE STUDY OF WILD FLOWERS AS A PASTIME.

Now that the fields and hedge-rows are getting gay with the flowers of our own indigenous plants, it will not be out of place if I now call attention to a subject which has often been thought over by me, and that is, the little regard which the young people pay to our own British plants. Many young ladies of my acquaintance can take a visitor into the conservatory, give the names of all the plants contained therein, together with some fact connected with many of them; but take them into the fields, among our own flowers, and but few of them have any acquaintance with any but Buttercups, Daisies and such-like common flowers, which force themselves on their notice. Now even in districts where the flora is not well represented, there are many flowers to be found, by one interested in them, which even escapes the eye of the casual observer, and these, together with those more profusely displayed, makes the study of wild plants interesting everywhere. Once a taste for the pursuit is acquired, one's own immediate neighbourhood is rendered more interesting, and the pleasures of a visit to a distant part, with its necessarily somewhat different flora, is greatly increased.

To the young, the study of our wild flowers is a pleasant pastime; to the traveller, a lightener of the fatigues of the road; to the healthy and strong, a means of contributing to the preservation of that health and strength; and to the ailing, who are not equal to rough exercise, a pleasant means of occupying the mind, and exercising the body. Perhaps these last appreciate the pleasures of a knowledge of our wild flowers most of all, and get more good from the quiet pursuit than any. The youthful and hearty should therefore remember this, and commence the study; as, although now strong and boisterous, and surrounded by friends, in whose company they delight, they never know when the time may come when, by failing health, or some of the other chances of this life, they may take greater pleasure in a solitary ramble, and be glad to make friends of the flowers in the fields and hedges—at least, they should learn by what names to address them.

Useful books are now published on the subject, and I should advise each little circle of friends to band together for frequent rambles book in hand; by one purchasing one of the cheap books on the subject and another a different one, a useful set of references can be got together at little cost to each. I cannot too strongly recommend these little parties for botanising excursions, as they are infinitely preferable to the often aimless pursuits of the young, and contribute to the acquiring of knowledge which is pleasant and useful as long as they live.—*M. A., Camb.* [Should any of our readers experience difficulty in identifying any of the plants, we shall be happy to name them.—Ed.]

THE VARIEGATED "KARAKA."

The Karaka tree of New Zealand, Corynocarpus lævigatus, has been known in this country for some forty years or more, the first record we have of its flowering being in 1846, but it has never in any sense become common. We have, however, several times lately, seen a variegated form in Mr. B. S. Williams' nursery, which possesses merits as a decorative plant that should ensure for it a wider range of cultivation. This also came from New Zealand, whence it was introduced by Mr. Williams, and has been named C. lævigatus aureo-marginatus, the broad irregular margin of the leaves being of golden yellow, and the centre olive-green. It is a handsome plant, of a compact habit of growth, with the leaves in a young state measuring from 4 ins. to 5 ins. in length, and about 2 ins. in breadth, of stout texture, and the variegation very bright. An attractive subject for the permanent decoration of a greenhouse or temperate house.

HARDY PLANTS IN FLOWER.

It has occurred to me that a few remarks on the flowering plants of the week might prove of interest to some of your readers, and especially those who may have some idea of establishing a border of hardy-flowering plants. Particularly have I set out on this errand that those who require hardy perennials in flower at certain seasons may the more readily avail themselves of the opportunity offered, so that in time a good selection of the showiest and best will come within the reach of all your readers. My remarks will necessarily be very brief, and I shall suffice by giving the predominant colour, with average height; and while giving those only of robust habit and free growth, I shall ignore the fastidious. Of the numbers that are past and gone I will say nothing, for these, probably, might form a fitting summary to the whole.

One of the most charming flowers we see just now, is the pure white Snowdrop Anemone, A. sylvestris, a modest beauty, and of elegance unsurpassed; its purity, as seen fully expanded in the mid-day sun, contrasts favourably with it at eventide, when it folds its silver wings, and bends its head in sleep. Only 15 ins. high does this beauty grow, and its flowers rise from compact tufts of leaves. Free and durable, too, are its flowers, which in size are nearly equal to the well-known A. japonica alba, which comes in autumn.

This same genus also give us the exquisite flowers of the Alpine Anemone, A. alpina, whose loveliness is unique. This plant attains a height of 2 ft. when well established, and though this is only a question of years, it is too seldom seen in this state. Nothing can equal, much less excel, its stately grandeur, its soft silken cups, and its elegantly-cut leaves. The flowers are white internally, while the reverse is faintly striped with pale blue; it is a plant that one may never tire to gaze upon, it is so lovely. There is also the sulphur-coloured form, which makes a pleasing companion for it; both flower in their Alpine home with the melting snow. Anemone pulsatilla is a fine perennial at this time, a native plant, too, and, probably, the most ornamental native species we possess. From its compact tufts rise the flower-stems to about 15 ins. high, on which are situate its distinct purple flowers, which are densely clothed with long silken hairs, making in all a very charming and valuable plant. Of the others which come in the month of May, but which are on the wane, are Robinsonia, fulgens, coronaria in its many forms, and the abundant-flowered Apennine Anemone. The latter is very fine when planted *en masse*; height 6 ins., and flowers blue, forming a perfect floral carpet.

So much for the Anemones; and now come the Gentians, in which group the old garden Gentianella, G. acaulis, steps in prominently. The intense indigo blue of its huge flowers, and the glossy tufts from which they spring, are ever welcome. Only 6 ins. high, and barely that, with flowers in abundance, it is one of the glories of spring; and, in like manner, G. verna, even of an intenser blue than the former, is extremely lovely, and though a miniature, as it were, of the first, it holds its own against all comers in point of brilliancy and intensity of colour.

But turning to some of the golden yellow flowers, we find in Doronicum austriacum and D. Clusii two of the showiest; the former about 2 ft. high, and the latter some 6 ins. taller. For a profusion of flowers, the first-named is perhaps the best, but for size and general excellence it cannot compare with the latter: both grow freely, and increase readily. The pretty group which the Grape Hyacinth forms, are very charming at this season, in colours of blue (various shades) and white. Pretty bulbous plants are these, coming early in the year, only 6 ins. high, and good for rockery or border.

Of Primulas, very finely in flower now is P. Sieboldi, flowers of a deep rose, about a foot high; an extremely attractive and effective plant for pots or the border. P. japonica is just emerging into flower; in colour, in foliage, and general robust habit it is distinct from all else. Then, in the genus Narcissus, the Poeticus varieties may yet be found; among these, Poeticus

Corynocarpus lævigatus aureo-marginatus.

recurvus, a fine bold flower, and the pure white Poeticus plenus. The former has been in bloom a fortnight, and the latter is now (May 24th) emerging into bloom.

To those enumerated, I may add the various kinds of Scilla, beautifully adapted for naturalising. In the forms of S. nutans, we find intense blue in violacea, whilst we have rosy lilac in rosea, and pure white in alba. In the Campanulate group, the colours are similar, while the general aspect of the plants is very distinct.—*J.*

SEEDLING POTATOS.

It is fortunate for those who embark in the raising of seedling Potatos that they find the labour involves some considerable interest, in which pleasure is always existent if profit is not always present. Why Potatos should be so largely objected to by a certain class of critics it is hard to say, but the very men who revel in the increase of varieties in some flower or other, seem never to tire in denouncing increase of variety in Potatos. That is a very dog-in-the-manger sentiment, but happily hurts no one, for the simple reason that, with all their complaining, the Potato world still moves. It will be bad for the horticultural planet as for many similar ones when it does come to a dead stop, for sure as fate, it will but stop to fall into oblivion. Those who keep the axil of the planet well oiled, by constantly adding to its products, render good service; and I think it will be long ere we cease from doing so at the bidding of some hypercritics.

I have been tempted into the penning of this exordium because it is not possible to think about seedling Potatos without having one's mind drawn to the criticisms so freely lavished from time to time; and, thinking cannot be helped when one is engaged in planting, as well as in thinking. I made a few crosses last year, with more or less success, but was greatly handicapped by the heat and drought, for these combined, not only seriously affected the production of pollen but also the retention of the flowers on those kinds employed as seed parents. It is well worthy the attention of all who may feel interest in Potato seeding, that kinds usually very prolific in pollen, make good pollen parents, but should never be employed as seed parents. It is a nuisance at any time, to have sorts which produce an abundance of seed-apples. Woodstock Kidney, Grampian, and Radstock Beauty are examples of this class and should be avoided as seed parents. Not only are such kinds nuisances, but it is most obvious that the production of a heavy crop of seed-apples robs the plants of much of their power to produce root-crops. Hence it is, that kinds which bloom fairly free but never set their blooms, make the best seed parents, asssuming that, the by no means easy task in all cases of fertilizing the blooms with pollen from some other kind can be performed with success. Mere haphazard cross breeding is undesirable, and anyone setting out to raise seedling Potatos should have in their minds some ideal towards which they should work. If they do that, they may look eventually to find their labours have not been in vain.

I draw attention to this matter now, because the blooming season of Potatos will soon be here, and those who would strive for new varieties should be ready as soon as the proper season opens. When fertilisation is performed, not more than a couple of flowers on any one truss of bloom should be manipulated, the rest being removed. It is not at all needful to remove the pollen cases which surround the pistil of the flowers to be fertilised, as these probably contain no pollen. If ever so thin a covering of pollen grains can be obtained from other flowers, and be thrown upon the thumb-nail of the left hand, enough may be found to fertilise several blooms, if needful, by simply drawing the top or point of the projecting pistils across the surface of the thumb-nail, as the pistils will take up the pollen. Each cross should be noted, and the blooms marked and supported by having the stem tied to a stake. The seed-apples are quite fit to gather as soon as they assume a yellowish tint. Last year, owing to the drought, some few of the seed-apples I had, the product of fertilised flowers, dropped ere mature, and some seemed almost to shrivel up on the stems, but in all cases the seed though very small has proved fertile, and I have a considerable batch of young plants ready to plant out in rows in the open ground. These are from several crosses, and are certain to produce many good forms, but whether really distinct and improvements remain to be seen. Certainly it is not easy to obtain a new kind which excels all the sorts we have in commerce.—*A. D.*

TABLE, WINDOW AND INDOOR PLANTS.

Many of the varieties of Lilium are among the most beautiful of plants for the dwelling-house when in flower, and fortunately the cheap and moderately cheap ones are the best, viz., the varieties of L. speciosum (lancifolium) and the varieties of L. longiflorum. These are very handsome, and are delightfully fragrant; but not with the overpowering and heavy odour of L. auratum, which constitutes its only objection as a plant for decoration in the dwelling-house, for its beauty admits of no question. Liliums may either be grown in pots plunged in ashes or cocoa-nut fibre in a shady garden frame, and brought into the house when in an advanced condition of growth, and with those who get into the way of so growing them, they are very easy to manage; but, on the other hand, some fail with them in pots.

In several instances I have gained the thanks of those who could not grow Liliums well in pots by recommending them a plan which I adopt sometimes, and which I find hardly admits of failure, viz., to plant the bulbs outdoors in a sheltered place, and lift and pot with good turfy loam as they are coming up strongly in spring. In this manner they may be taken up even in an advanced stage, and flowered successfully indoors, and afterwards returned to the place outdoors until the next spring. From my experience Liliums do not like bright sunlight, and are easily injured by being nursed up or kept close while dormant; and, consequently, when the dormant bulbs are potted up, they should rather be placed under ashes outdoors or in a cold cellar until they start strongly than in a greenhouse or close room. Lilies require to be kept always moist, but like a liberal supply of water while the growths are coming up.

The best varieties are:—L. speciosum, white, spotted rose; L. album, white; L. Kratzeri, the best white; L. rubrum superbum, white, tinged crimson; L. rubrum cruentum, glowing crimson, edged white; and L. longiflorum varieties, all white. Most of the other dwarf Lilies do well in pots indoors when lifted in spring from the open ground as directed.—*M. A., Camb.*

FRUITS, FLOWERS & VEGETABLES.

Tiger Flowers.—After Mr. Jenkins' re-assuring remarks I will venture to get a little closer to him, and as our objects are mutual—*i.e.*, for the benefit of the general readers—I hope he will remain perfectly docile and harmless. It is now evident that Mr. Jenkins is basing his remarks on out-door culture of the Tigridia, whilst I, on the contrary, have from the beginning—as your readers will have observed—confined my observations exclusively to the cultivation of them "in pots," or in other words, to their cultivation under glass. This is a distinction with a difference. Mr. Jenkins bases his criticisms on my warning not to subject the Tigridias to very much artificial heat, and Mr. Jenkins comes "down upon" me the following week, and says that artificial heat is not only unnecessary, but postively injurious, but he has not brought forward a tittle of evidence to prove that assertion, but so far he has relied upon the "rule of thumb" practice of storing and keeping them through the winter under out-door culture in this country, and under such conditions the advice of Mr. Jenkins is good, for the bulbs imperfectly matured out of doors could not withstand—to remain quiescent—the amount of artificial heat during the winter, as what those bulbs will that have been grown and matured under glass. I have practically demonstrated, year after year, that Tigridias grown as I have stated, and wintered in a glass structure from which frost is excluded by means of artificial heat, do *not* grow "smaller by degrees, and beautifully less," and that it is *not* prejudicial to their welfare, and mere assertion is not sufficient to prove my statements to be erroneous.

The amateurs, for whom I write, in a majority of cases have not suitable borders in which to cultivate them out of doors, and still worse, the local climatic conditions are more unsuitable; and in my opinion the average annual temperature in the Midlands and North of England is insufficient to properly develope and mature the corms of the Tigridia, except in favoured localities, and I fear that is the reason they are so rarely seen. In the southern counties the case is different, but even there, occasionally, a season comes in which the Tigridias have a bad time of it, as many have found out.

In my mind's eye I see scores, nay hundreds, of small greenhouses, so small that a full-sized man can touch with his fingers the sides and ends of each house as he stands in the middle. These miniature greenhouses are full of things as precious, yea, more precious to them, for do not the owners water, and pot and tend them with their own hands, than are the most costly exotics to the nobleman or wealthy commoner? One house here and there may belong to a "specialist," but the majority are filled with miscellaneous plants, and all the owners of these houses cannot help admiring the Tigridias when they see them. It is for these, and such as these, that I write. It is hopeless for them to try the Tiger Flowers out of doors in their allotments, as some of them have found out, and that for other reasons besides those of cultivation; but everyone of these men may grow them in their greenhouses if they choose to try, and they may grow them successfully. I have never yet known an ordinary greenhouse filled with ordinary greenhouse plants, to be "arid" during the winter months, how is it possible for such a structure to become "arid" under such conditions? even if a drop of water were not given to the occupants for weeks, it would take a tolerable amount of firing—far more than any amateur in his senses would be likely to waste—to create an "arid" atmosphere during one of our cold damp winters. With most people the difficulty is to keep the atmosphere of such houses dry enough. Mr. Jenkins' experience appears to be of a different character.

Is a damp cellar anything like the "natural quarters" of the Tigridia? I trow not. I condemn cellars in general as storehouses for the subjects mentioned by Mr. Jenkins, and I have not made special reference to cellars "containing several inches of water above the floor." It is perfectly true that people may embrace Tigridias, Begonias and Gladioli under the conditions mentioned by Mr. Jenkins, and I have no doubt people who so "embrace them" will be satisfied with a qualified measure of success. It is also true that people may embrace Tigridias, Begonias and Gladioli under the conditions mentioned by me, and have a full measure of success, and that when Mr. Jenkin's conditions are not available.

Is it more "natural" for Tigridias to remain in the soil in which they grow, or to be taken up out of the ground or out of the soil and be stored away in sheds and cellars? If the latter are more natural, by what means does nature perform those functions? It is true the plants mentioned do loose their roots, but their vital functions are no more dormant than are those of the sleeping child; but in case they are dormant, then they would be dead, as would be the child under like circumstances.

The Tigridias in their native habitat in Mexico are warm and dry, and remain in the ground during their period of rest; and I maintain that under artificial culture in this country, no matter whether in pots or in borders, they are better for being kept in soil dry but not too dry, and in a structure from which frost can be excluded—a cool greenhouse being the best. I like them to be kept either in soil or some other suitable medium, so that they may not be in direct contact with the atmosphere, no matter whether it be moist or dry, and thus prevent a certain degree of loss of vital force owing to direct contact with the atmosphere. Tigridias are taken up from outside borders every year, not because it is natural to them to be so taken up, nor yet because they could not be placed out of the reach of frost, for that would be an easy matter by placing a few ashes or cocoa-nut fibre over their places, but because our winters are jointly too cold and wet. A winter temperature anywhere between 40° and 50° will suit them admirably, and if they are kept in the pots in which they have grown and flowered, a watering occasionally when the soil is very dry indeed will do them more good than harm.—*Reader.* [We think it is due to Mr. Jenkins that we should say his experience as a grower of these plants is much greater than "Reader" would appear to give him credit for.—Ed.]

Richardia æthiopica.—Although this plant is by no means new, it is still one of those useful things that those who have to provide plants in number and variety for winter or spring decoration cannot afford to neglect. When well grown, it is always handsome and effective in any combination, and has the great merit

of being an easy thing to cultivate. It can be grown readily in a 6-in. pot, singly, or planted in threes in the 12-in. size. The great point in its culture that must be attended to is to give it bountiful supplies of moisture during the growing season. It is a gross feeder, and, therefore, should have an occasional application of something stimulating. I have tried most sorts of manures on them, and find that "Clay's" suits them, perhaps, better than anything else. At the commencement of summer, when their season is over, I plant them out on a rich piece of ground, and lift them again about the third week in August, when they are potted up and placed in a frame on a good moist bottom-heat at starting. Keeping them safe from frost, they soon begin to throw up their flower-scapes. The best compost is turfy loam, not too heavy, mixed with a little well-rotted cow-dung and a good sprinkling of sand, and in potting it is not a good plan to make the compost too firm about the roots.—*J. M.*

Fuchsia Venus Victrix "Improved."—I have ever grown the original variety with considerable interest, from the fact of there being a kind of local relationship existing between us, the variety having been raised in close proximity to my native place, and sent out by a gentlemen (Mr. Thomas Cripps) whom I knew when I commenced my gardening career. Consequently, it may be assumed that when I saw an announcement of an improved variety, I was at once, as it were, under magnetic influence, and was induced without loss of time to purchase the plant, which was forwarded in due course. This was about six or eight weeks ago; it was a nice sturdy little plant, and was potted with all care. New growth commenced; when, anon, two bloom buds showed themselves, which I was very much pleased to see. Although the plant was then only about 4 ins. high, it is now nearly 1 ft. high, and no more bloom buds have shown themselves but the two which are now fully developed, for the production of which I am ready to think that the plant in its early or cutting state must have received a check, it might have been before it was taken off the parent plant, thus, being stunted in growth and the formation of bloom buds resulting thereby. The plant, at all events, is now making vigorous growth, with no additional flower buds to be seen. As regards pedigree, whatever relationship may exist, I should think this variety is very many generations removed in advance of the original, as the growth, and the general character of the plant is of a more decidedly robust description, apparently being immensely free in growth, which is a desideratum, when equally free in blooming. The blooms before me are telling and effective, the tube very short; sepals well recurved, broad and uniform in style; the colour by no means white, having a greenish hue on the outer or upper surface, with a density of that colour on the tips, the under surface being suffused with a shade of pink or carmine; the corolla of medium size, and of a rich violet-purple, contrasts with the tube and sepals most effectively, although the latter lacks purity of white. Nevertheless, it is, as far as I am able to judge, a variety that will be sure to give satisfaction, and well worthy of being added to any collection however select. A friend of mine who purchased Rose of Castile 'Improved,' took off the top and sent me the cutting a few weeks ago. This is now a nice plant about 9 ins. high, showing bloom buds in the apex, and the plant appears equally robust in growth and habit, and so similar in character, that one would fancy that both were the issue of the same parent. Be that as it may, I am pleased to accept these two varieties as being in advance of all other similar light varieties, and the pioneers of still greater successes, which I have every confidence in believing will result. I have a double white corollad variety named "Mrs. Short," that is said to be of extraordinary merit as regards size and other qualifications. The plant, after travelling the other week many miles through the post, is in excellent condition and growing admirably. As time rolls on, I may have more to say under the above heading, the outcome of being pleasureably affected or subjected by a malady that may be with some propriety designated Fuchsia on the brain.—*George Fry.*

Anemone Robinsoniana.—In the note on "Choice Hardy Plants," at p. 567, "R. D.," writing about this little gem, cites it as being an American introduction. I have always understood that the variety associated with the name of Mr. Robinson was found by that gentleman among the wild wood Anemones in Kent, and if this be so its origin cannot be American. The two plants—*i.e.*, Anemone nemorosa cærulea and A. nemorosa Robinsoniana—are very distinct, though hundreds of the former have been sold for the latter, and stated by some to be synonymous. In the first-named variety we have a *fac-simile* of the wood Anemone in general appearances, and differing only from the type in its light sky-blue flowers. In the latter plant we find an altogether distinct variety, inasmuch as it is considerably stronger, generally growing, when well established, fully 8 ins. or 9 ins. high, and having delicate lovely mauve-coloured blossoms as large as a florin. I also remember once meeting with the plant last described under the name of Anemone purpurea. The American form is certainly a most distinct and superior plant; and what appears to me not quite obvious is whether this last-named, or the sky-blue form of our native wood Anemone, is the true Robinsoniana. Both cannot be, as the plants are very distinct, and I should feel obliged if any of your correspondents knowing the facts would authoritatively decide the matter. What I myself regard as Robinsoniana, and which has flowered gloriously this spring, is a most lovely plant, fully 9 ins. high, and the flowers are as large as a florin.. In fact, it is as distinct in its flowers as regards size from the blue wood Anemone, A. n. cærulea, as A. apennina is from A. blanda. Mr. Robinson, in *Alpine Flowers*, speaking of the forms of A. nemorosa, says, "I have a single blue variety which has flowered densely in a fully-exposed position, and produced the most exquisite cushions of cærulean blue imaginable." The colour there cited fully agrees with A n. cærulea, and in doing so absolutely disagrees with the subject of these remarks.—*E. Jenkins.*

Peas not Vegetating.—My experience of Peas this year, bought of various firms, is that they germinate well. I have sown in small pots and kept an account of the number of Peas of the following sorts put in each size, four being the greatest number in the largest pots:—Sharpe's Paragon, Duke of Albany, Wordsley Wonder, Stourbridge Marrow, Prodigy, Sharpe's Triumph, John Bull, Webb's Marrow, Culverwell's Giant Marrow, Pride of the Market, Telephone, Telegraph, and Stratagem; twelve of these thirteen sorts came up well, scarcely a Pea missed. Wordsley Wonder, the one that did not come up well, I did not get so soon as the others by a day or two, so soaked the Peas in water before sowing to try to gain time, and must have left them in the water too long. I made another sowing, but without soaking the Peas, and they came up and proved to be quite as good as the other sorts. I think gardeners are too apt to lay the blame on the seedsmen's shoulders before giving the seeds a fair trial, although I know well that bad seeds are sold very cheap now in almost every town, by those who never first try their germinating power themselves; such seeds are dear at any price.—*Salopian.*

Gloriosa superba. — This magnificent stove climber is just commencing to flower with us. It is very easily managed, and seldom fails to produce a fine display of its brilliantly-coloured, quaintly-formed flowers. I need not enter into cultural details, for they were fully explained by a correspondent in the columns of this journal a short time since. I have never forgotten once seeing this plant in flower in Mr. John Fraser's Lea Bridge Road Nursery; it was trained on the roof of a three-quarter span stove. The plant was, I think, in a 10-in. pot, and at the time I saw it was a mass of bloom, presenting a strikingly beautiful appearance.—*J. S. B.*

Pansies.—I am a great admirer of Pansies (show and fancy), and have grown them for a number of years, but somehow have never succeeded very well with them; perhaps some of your readers could throw a little light on the subject as regards the best soil, treatment, and best varieties to grow. I know it would interest a great many readers of THE GARDENING WORLD as well as myself. It has always been a mystery to me that so little has been said about the Pansy, and especially as it is so much grown now-a-days.—*Pansy, Dumfries.*

Pulmonaria saccharata grandiflora—Apart from the peculiarly striking shot-silk kind of flowers, this fine Lungwort produces, in early spring—flowers having a mixture of colours of rose, blue and lavender—it is really worth growing on account of its richly spotted leaves, which are thrown up as soon as flowering is over. It is said that the name of Lungwort was given on account of its leaves being blotched with white; but the species named above appears to be fortunate in having the handsomest leaves of any I am acquainted with. I have seen stove ornamental plants, the foliage of which were inferior to this hardy plant, but the fact that a plant is hardy appears to lower it in the estimation of some persons. No Sonerilla I am acquainted with can compare with the above Pulmonaria for its marked leaves; but in saying this much, I must not be understood as running down the Sonerillas, for anyone who has seen the fine specimens of these produced at the Whitsun Show of the Manchester Horticultural and Botanical Society will know how to appreciate them. I find this Pulmonaria to be, as might be supposed, perfectly hardy, and it does well in ordinary garden soil; it blooms very early, and with great freedom, and if let alone, soon grows into a large size. It is a native of Europe, but why called the Sugared Lungwort I am unable to say.—*R. D.*

Lady Downe's Grape.—I send you a few berries of Lady Downe's, as a sample of the last dish sent to my employer's table on the 20th inst., and which have been cut from the Vines and kept in bottles for the last five months, though we have no regular Grape room. From two Vineries, and by no means large ones, we manage to keep up a daily supply of Grapes for eleven months out of the twelve, and have done so for the last six years—a fact which I mention only in the hope that it may encourage other small growers to try and do the same, as what can be done here can be repeated elsewhere.—*Con.* [A very good sample indeed, the berries being plump, fresh, and very sugary.—ED.]

Notes on the Fuchsia.—We inadvertently omitted to state in our last, when inserting Mr. Fry's interesting notes on the Fuchsia, that the article in question was written for publication in the catalogue of Mr. H. J. Jones, Hope Nursery, Loampit Vale, Lewisham, and by him communicated to us for wider publicity.

Red Currants: Effects of Heat.—I send you a few bunches of Red Currants, from a tree on a north wall, one branch of which is trained against a chimney, and which is bearing ripe fruits (sample enclosed) while on the other branches the fruits are only of the normal size at this season. The branch against the chimney flowered and set its fruits before the other part of the tree commenced to grow.—*Con.*

BLACK BEETLES.—If your correspondent "Onslow" has not already tried Hester's Magic Paste, I think that if he will give it a trial it will effectually rid his houses of the pest of black beetles of which he complains in your last issue. I have had many years experience of this remedy, have recommended it to many friends, and have never known it to fail. It is to be had from Messrs. Hester Brothers, Rosebery Cottage, Mayfield Road, Dalston, N.E.—*W. E. G.*

ORCHID NOTES AND GLEANINGS.

Reichenbachia.*—We have before us a copy of Part I. of this magnificent new work which is dedicated by special permission to Her Majesty the Queen, and which has been named in honour of Prof. Reichenbach, the greatest living authority on Orchids. The botanical descriptions by Prof. Reichenbach are printed in Latin, and are accompanied by analytical details of the construction of the flowers, while the general text is published in English, French, and German, an advantage which will command for it a wide European circulation. The plates measure 21 in. by 15 in., and are drawn in the most artistic manner, three of them by that clever young artist, Mr. H. G. Moon, and the fourth by the veteran, W. H. Fitch, while the work of the chromo-lithographer has been carried out most admirably, so that the general effect of the plates in each case is all that can be desired. The plants figured in this number are Odontoglossum crispum, a fine example from Baron Schroder's garden; Cattleya Percivaliana, from Lord Rothschild's collection, at Tring Park; the grand new Cypripedium Sanderianum, a wonderful species from the Malayan Archipelago, with the general appearance of C. lævigatum but with extraordinary long petals, like C. caudatum, and handsomely marked after the manner of Masdevallia chimæra—a truly marvellous Orchid; and Odontoglossum Rossii, sketched from a plant at Blenheim Palace. The whole of the subjects illustrated, are fairly and admirably rendered, and "Reichenbachia" must be regarded without doubt as the best work of its kind on Orchids yet issued, and one of the finest illustrated library books ever published.

*Reichenbachia, Orchids illustrated and described by F. Sander, with the assistance of scientific authority. St. Albans: F. Sander & Co. London: Sotheran & Co.

Warm or Cold Water for Orchids.—In reply to "J. S. M." p. 604, allow me to recommend him not to run a hot water pipe through his Orchid house tank, as, in my experience, rain water which has been stored in an unheated tank in the Orchid house is warm enough for any of the plants, while water heated to any appreciable extent by artificial means, is, if used for any length of time, positively injurious. I could give many instances in which I traced injury to Orchids to the fact that they were watered with warm water, but suffice it to say that many years ago I saw enough to show me that heated water was unnecessary for watering Orchids and other plants, if not injurious.

Writing in *The Garden*, July 8th, 1876, on the subject, I said "Some are under the impression that it is necessary to have hot water pipes running through the tanks in the Orchid houses, in order to warm the water before giving it to the plants; but in the cool Odontoglossum house this is altogether unnecessary. If the water has been in the house for any length of time, it will be found to be quite warm enough without being heated by means of pipes, and the tanks may be sunk under the floor. In the East Indian house, however, where a higher temperature is maintained, the difference between the temperature of the house and that of the water in the tank is greater than is desirable, and in this case it is better to have the tank for rain-water under the middle stage, its base being level with, or just below the floor of the house, the top or covering being open work on which the plants are set. A two-inch branch pipe, which does not interfere with the working of the ordinary piping, should be run round the tank as near the bottom as possible to increase the temperature of the water. This branch-pipe should be fitted with a valve at the outside of the tank on the flow pipe, to afford means of regulating the temperature of the water to from 75° to 85° Fahr."

These instructions, if adhered to, not to allow the temperature of the water to exceed that prescribed, may be followed to-day; but experiments made on tender plants in the winter of 1876 proved to me that unheated water was the best, for at that time, assisted by M. Chas. Maron, who is now chief gardener at the Château de St. Germain, I made some severe experiments on duplicate sets of Cyanophyllum, Bertolonia, Orchids, &c., for the one set getting the water from the often-frozen tank outside, and for the other taking it from a heated tank in the house. The plants watered with cold water steadily improved, and those with warm as steadily declined, and in spring the former were good healthy plants and the latter very sickly, notwithstanding that the water used on the best collection was often so cold that even an enthusiastic experimentor would not like to recommend it in general practice, unless in preference to that of a high temperature. Water heated by artificial means seems to undergo a chemical change which robs it of its good qualities for use on plants in proportion to the highness of the temperature.

The practice of syringing is now brought down to a very low point in Orchid-growing, and in many of our best collections is entirely discontinued, unless on special work; but still a few advocate warm water for syringing. For my part, I am convinced that rain water stored in the unheated tanks in the houses, or, failing that, other water conveyed to them and stored, is the best for all purposes in the Orchid-houses. Beyond this heating the water by artificial means is an unnecessary expense, and one frequently only prevented from doing mischief by the fact that the piping in many cases does not act. Some of our strongest advocates for watering warm-house plants with warm water would, if they used the thermometer, find that they had been deceiving themselves, and making a great fuss, and taking a great deal of trouble to raise the temperature of the water to such a slight degree that it could do no good; although, fortunately, it prevented them from doing the harm they would otherwise have done if the heating appliance had acted as they desired.—*James O'Brien.*

I AM not an Orchid grower, and have but few Orchids such as Stanhopeas, Oncidiums, Lælias, and Cattleyas, and these I grow in the common stove with Gardenias, Crotons, and other plants of that kind. In the house is a rain water tank with hot-water pipes running through it, but I always kept the valve, which was inside the tank, turned off, as I believed cold water was the best. My plants were always remarkably vigorous and free-flowering, and all went well until about four years ago, I got a fresh man in the houses and in a few weeks all began to go wrong, the buds fell from the Gardenias, the leaves from the Crotons, &c. and a general, and to me, unaccountable misery prevailed. Such a state of things went on for some months, when, at last, one day seeing a plant dry I dipped a can of water from the tank and was surprised to find it quite warm. On questioning the gardener, he admitted that soon after coming he turned the valve in the tank full on, and so it had remained ever since. It at once struck me that here was the cause of all our misfortunes, and I had the valve shut off and the tank made cold again. Time proved that my conjecture was right, for although some of the plants were injured beyond remedy, most of them steadily improved, and in six months our house had its usual satisfactory appearance. I am bound to say that the Orchids stood it best, but most of them were injured and prevented from flowering. I can only say no more watering with warm water for me.—*C. F.*

Orchids at "The Colinderies."—Mr. F. Sander, who does nothing by halves, took most people by surprise when he stated his intention of keeping a show-house gay with Orchids during the run of the Colonial and Indian Exhibition, and it may be added now—right well he is doing it. The substantial new house he has erected near to the entrance to the Indian Court, has been fitted up with rockwork and rustic wood-work by Pulham, of Broxbourne, who, in a limited space, has contrived to provide a large number of pockets in a great variety of positions, which allows of plenty of scope for arrangement in an artistic and effective manner. Since the exhibition has been opened, there has been a constant change of plants, and frequent alterations in the method of grouping. A natural and effective amount of relief to the glowing colours of the flowers, is obtained by mossing the plants in the pockets, and by making a free use of Ferns, Bromeliads, Palms, &c., at all prominent points, and these, combined with the subdued light and the rippling of water in the fountains, give the house at all times a charmingly fresh appearance. At the present time, the leading subjects on view are Cattleyas Mendelii and Mossiæ, which are in great variety. Among the former, at the time of our visit, was that magnificent variety named after The Duke of Marlborough, and which was Certificated on Tuesday. The more it is seen the more its singular beauty is appreciated. Odontoglossums are, of course, present in considerable numbers, including several fine hybrids, first-rate forms of crispum and Pescatorei, the arching spikes of the former having a very graceful appearance. In hanging baskets overhead are many examples of O citrosmum and O. Rossi majus; and conspicuous on various parts of the rockwork, are fine pieces of Lælia purpurata, while the general effect is heightened by the introduction of various Ærides, Masdevallias, Cypripediums, &c. No horticultural visitor to the exhibition should fail to visit Mr. Sander's house.

Cattleya Mossiæ at Bridge Hall, Bury.—This old species is grown thoroughly well at the residence of O. O. Wrigley, Esq., and at the present time the plants are blooming most profusely. Yesterday I had an opportunity of gazing upon the most magnificent bank of blooms it ever was my privilege to behold; on some 300 plants, large and small, there are nearly 1,500 blooms open, to be absolutely correct, 1,426 were counted, but, since a few more sheaths were to come out, and these had only been credited as single buds, there is every probability the higher figure will be reached. On the best plant fifty-eight flowers were open; C. Wagnerii had appeared amongst them and was just coming into flower with fifteen blooms, a rare gem amongst so many beauties. Many of the Mossiæs are 8 ins. across, broad in every part, massive and bold, standing out without a stick to support them. The varieties are very numerous and most beautiful, from the darkest shades with grand combinations of orange and rosy purple in the labellum, to others almost pure white, with slight yellow-purple streaks on the lip. The large house is entirely devoted to this one form, and the display is, perhaps, the grandest ever seen in the northern part of England.—*W. Swan, Howick House, May 26th.*

Odontoglossum crispum.—In answer to "B. D. K.'s" query on p. 349 of your issue for January 30th, 1886, as to the roseum variety losing its colour, I now beg to state that I have again bloomed one of my roseum forms which has retained its deep rosy colour intact, and it has fourteen blooms to the spike; the last time it had eight on March 3rd, 1884. This will give hope to others besides myself.—*De B. Crawshay, Rosefield, Sevenoaks.*

The Gardeners' Calendar.

THE PLANT HOUSES.

In the press of other matters, care must be taken that the Tydæas, Gesnerias, and the succession batch of Achimenes are not overlooked, or they will, if stored under the stage, as is usual, quickly draw and spoil. If time cannot be found just now, rather than run any risk, have all the pots removed to a pit where they can be attended to, and what little growth they make in this position before being re-potted will be satisfactory; but lose no more time than is absolutely necessary for the most pressing work before attending to these. During the dull months of autumn and winter, the two former amply repay all the attention that can be given to them. Use a free, rather rough compost for them all, giving the Tydæas a little extra loam; be extremely careful not to over-water until they are in active growth, or the soil may become sour and sodden, and in that case the only remedy is to shake out and re-pot; through carelessness last season ours had to be so served, and quickly righted themselves.

The seedling Gloxinias must be looked to. The forwardest are now ready for 5-in. pots; the smaller will be pricked-out into small 60's, and with a shift later on, will bloom after the stronger ones, and give us flower until the spring-flowered batch succeeds them. By this means Gloxinias may readily be had in bloom all the year round, and with their various colours staged amongst the Ferns and Palms are always much admired. A great many varieties of Ferns will be found much more useful for all purposes if they are removed from the stove and placed where they can receive more light and air, so that the growth they make will be harder and stand better, either in a cut state or when the plants are used for decoration. If (and it is very seldom otherwise) they are free from mealy bug and scale, they may be placed in the Vineries. Staged thinly, they become well developed, and are quite at home under the partial shade of the Vines. In the Peach-houses they are not, as a rule, so comfortable, the heavy syringing not suiting the Adiantums; but the Blechnums, Pteris, and those of a harder nature may be employed, and help to make the structures so much more interesting than if the stages are left bare.

THE FRUIT HOUSES.

We have gone over the Peach houses, pruning back the laterals and tying all in, making them secure until after the bedding out is completed; a light dusting of guano is given of an evening after closing, which greatly helps the foliage and keeps all in a healthy condition, and the same may be said of the vineries But in addition we add about twice a week, a barrow-load of half-rotted manure fresh from the yard, from which a good sniff of ammonia may be had as you walk through. This will be found of the greatest benefit in warding off an attack of red spider or thrip, should, however, the Vines become affected, fumigating three times on alternate nights, will eradicate the thrip; but for the spider the following course should be pursued.

Choose a dull or rather damp evening as soon as possible after its appearance is noticed, let the pipes be made as hot as possible ready for action, at dusk; procure sufficient *quick*-lime, which should be slaked just before use, let one with a rose-can thoroughly wet the pipes, another follow him with the bucket of white-wash and brush covering the pipes, and a third closely follow with a bag of flour of sulphur and dust thickly on the whitewash, allowing the fire to be pushed sharply for half-an-hour afterwards; as a rule, three applications will remove all trace of the intruders, and this just at colouring time is of no mean importance, as those who are once troubled can testify. Strawberries will be far better if now removed to pits by themselves, as from this, onward, it is a difficult matter to keep them clean, and if allowed to remain in the Vineries are certain to cause a lot of anxiety; keep them well supplied with liquid manure and thoroughly ventilated, and then good flavoured fruit will follow.

THE KITCHEN GARDEN.

In this department, work comes on apace, as from the late rains, weeds grow so rapidly, and—from the state of the ground, preventing hoeing—making us rather uneasy. However, we have to-day started to hoe and clear all the seed beds, preferring to devote time to the picking up of all the larger weeds as the work proceeds; for should rain follow us, our work otherwise would be almost useless. Parsnips and Onions are ready for thinning, and so also is the spring-sown Parsley. Beet comes on very slowly; absence of sun may account for it. A good breadth of Turnips should be kept, and give some cool quarter to them; and I would advise sowing Veitch's Red Globe from this onward; it is by far the best, and keeps well all through.

We have planted out about six dozen seedling Rhubarb, as advised previously, and have sticked all but our last sowing of Peas, which are only just showing through the ground. As soon as the ground will permit, give all the Potato squares a good deep hoeing with a large-sized draw or hacking hoe, so as to prepare them for moulding up; the early square having been already done, will be moulded up without delay. Remove all flower stalks from Rhubarb as they appear, and also from the beds of Horse-radish; Seakale, of course, has been done some time. Cos Lettuce should be tied up according to the demand, and be careful to make a good sowing for succession. Mustard and Cress and Radishes should be frequently sown; in fact, the utmost vigilance should prevail, or later on, failure will follow, and probably be keenly felt.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*May 25th.*—The prizes offered for competition to day, though small and insufficient to bring out really first class specimens all round, nevertheless sufficed to draw a sufficient amount of variety to make up a pleasing little show. Roses formed the leading feature, notwithstanding that the average quality of the blooms did not run high. Only three collections of plants in 12-in. pots were staged viz., by Messrs. Paul & Son, Cheshunt; Mr. Turner, Slough; and Mr. W. Rumsey, Waltham Cross, and the prizes went in the order named. In the two Orchid classes, the competition was poor in the extreme, only two amateurs and one trade grower entering the lists. In both classes the number required to be staged was nine, and Mr. F. Hill, gardener to Henry Little, Esq., The Barrons, Twickenham, beat Mr. A. Luff, gardener to R. H. Hyatt, Esq., Hetherst, Leigham Court Road, Streatham, in that for amateurs, while Mr. H. James, Lower Norwood, secured the first prize in the class for nurserymen. There was no competition with a dozen Indian Azaleas, and Mr. Turner took the highest award with an admirably bloomed collection of half specimens. With eighteen Pelargoniums, Mr. Turner also secured a first prize, beating Mr. Little's gardener, and showing a collection of plants in every way worthy of the reputation of the Slough Nursery for the cultivation of these showy decorative subjects. The same successful grower also secured another first prize with a collection of Tree Carnations.

Amongst the miscellaneous collections exhibited, from a cultural point of view, there was nothing to beat a superb collection of herbaceous Calceolarias from Mr. J. James, Farnham Royal, Slough, the plants forming which were large, with bold healthy foliage, and compact, massive heads of flowers of the finest quality, though including, perhaps, too great a proportion of selfs to suit the average grower's taste. Messrs. H. Lane & Son, Berkhamstead contributed large groups of Indian Azaleas and Rhododendrons, and both Messrs. Paul & Son, Cheshunt, and Messrs. William Paul & Son, Waltham Cross, showed collections of Roses of considerable extent; the last-named firm and Mr. W. Rumsey, Waltham Cross, also contributing fine displays of cut blooms. Mr. T. S. Ware, as usual, had a large and singularly interesting display of hardy plants; and Messrs. Barr & Sons had a smaller group of the same easls of plants. Messrs. James Carter & Co., showed a small group of plants of their Queen's prize strain of Mimuluses, remarkable for their clean healthy growth and large, bold, well-formed and showily coloured flowers. Mr. West, gardener to Major Lendy, Sunbury-on-Thames, staged cut blooms of two exceedingly good varieties of Cattleya Mossiæ, the best in the show; half-a-dozen spikes of Lælia purpurata, one with seven flowers on the spike; and a very healthy well-grown plant of Saccolabium curvifolium, which had developed twenty-three spikes, and to which a Cultural Commendation was awarded. To the Orchid section, A. H. Smee, Esq., The Grange, Hackbridge (Mr. Cummins, gardener), also] contributed a group of Cattleya Mossiæ varieties, fifteen in number, and no two alike, but mostly broad petalled and highly-coloured varieties. With the Cattleyas were also associatad three good varieties of Odontoglossum Alexandræ, plants which were out in the open air for four months last summer, and throwing vigorous spikes of flowers.

The new plants certificated were as follows:—Cattleya Mendelii var., Duke of Marlborough, from Mr. F. Sander, one of the most beautifully coloured varieties that has ever been seen, the blooms being large and massive, the lip broad, the rich purple colour clearly defined, and the broad petals of a lovely shade of violet. Amaryllis Her Majesty, from Mr. B. S. Williams, a good-shaped medium-sized flower of a rich crimson or dark red wine colour. Houlletia odoratissima antioquensis, also from Mr. B. S. Williams, a fine variety with deep blood-red sepals and petals, and the lip white, tinged with yellow; Vanda cœrulescens var. Vesta, from Captain Vipan, a pretty variety, distinct from the type in its white sepals and petals. Moutau Pæony, Madame Laffay, from Mr. T. S. Ware, a magnificent variety, with blooms quite 9 ins. in diameter, fully double, and in colour pink, flushed with satin-rose. Lithospermum graminifolium, also from Mr. Ware, a distinct species from the Austrian Alps, with terminal clusters of small cobalt blue flowers, on stems 4 ins. to 6 ins. high. Pelargonium purpurea (Foster), shown by Mr. Turner, a free-flowering and showy variety, with the lower petals rich rose, the centre white, and the upper petals deep maroon; and Odontoglossum vexillarium var. Sunrise, a large-flowered and richly coloured variety from the collection of H. M. Pollett, Esq.

At the meeting of the Fruit Committee some splendid samples of Apples and Pears from South Australia and New South Wales were again exhibited. Mr. C. Herrin, gardener, Chalfont Park, Gerrard's Cross, received a Cultural Commendation for very fine samples of Citrus indica; and Messrs. Veitch & Sons exhibited examples of The Sandringham Apple, to show its late-keeping qualities. From Mr. Chittleburgh, The Gardens, Worstead House, Norwich, came good examples of Carter's Golden Tripoli Onion; and Mr. T. Lockie, gardener, Oakley Court, Windsor, sent a seedling white-fleshed Melon, raised from Hero of Lockinge and Sutton's Invincible.

Messrs. Sutton & Sons offered prizes for Melons and Cucumbers—a brace of each in separate classes; and Mr. Lockie was successful in taking the highest awards in both classes. In the Melon class, Mr. Ward, The Gardens, Longford Castle, Salisbury, was second; and Mr. G. Malcolm, Willington Hall, Temporley, Cheshire, was third, all showing Hero of Lockinge. In the Cucumber class, Mr. Lockie won with the handsomest brace of Purley Park Hero we have ever seen, the fruits being about 15 ins. long, evenly matched, and carrying a beautiful bloom. Mr. Robins, gardener, Hartwell House, Aylesbury, came in second with a good brace of the same variety; and Mr. J. Neighbour, Bickley Park, was third with Improved Telegraph.

Messrs. James Carter & Co. also offered prizes for a brace of Cucumbers—Carter's Model—which brought out a good competition, in which Mr. Lockie again distinguished himself by taking the lead; Mr. J. C. Waite, gardener, Glenhurst, Esher, coming in second; and Mr. Neighbour again third.

The Crystal Palace Show.—*May 21st and 22nd.*—It is always much more pleasant to record a success than a failure in flower shows, and we are therefore glad to be able to state that the exhibition at the Crystal Palace, last week, was a success in all respects—competition, quality of exhibits, and lastly, but by no means least, the weather. A comprehensive and liberal schedule was provided, and the contributions of the numerous exhibitors who were thereby induced to enter, were arranged with excellent judgment by Mr. W. G. Head, the garden superintendent. The whole of the transept was occupied, besides a considerable space in each nave, the plants being grouped together in the centre, with spaces between, allowing plenty of room for the visitors.

One of the features of the show was the handsome group of plants with which Messrs. J. Laing & Co., Forest Hill, gained the premier prize in the class; and as this occupied a prominent corner near the orchestra, it was exceedingly effective. The specialities of the firm—Tuberous Begonias and Orchids—were numerous, including many novelties of great merit, as there were also amongst the Caladiums, which have some space devoted to them in the Forest Hill Nurseries. At the opposite corner was the slightly less varied but tasteful group from Messrs. Hooper & Co., which took the second prize. In the centre were tables, upon which were arranged the Calceolarias from Mr. James, Farnham Royal, and Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham; the Pelargoniums from Mr. C. Turner; and the Roses from Messrs. Paul & Son, Mr. Turner and Mr. Rumsey, who gained the chief prizes in the respective classes with admirable plants. Then there were the collections of Orchids, Mr. H. James's Sarracenias and Nepenthes, and at each end were the stove and greenhouse flowering and fine foliage plants, with groups of Orchids arranged for effect. The cut flowers, bouquets, stands of flowers, table plants, Gloxinias, Mignonette and miscellaneous exhibits also had much space devoted to them.

The groups of Orchids were much admired, and as it was a somewhat novel feature, they were all the more pleasing. The prizes were awarded to Mr. C. J. Salter, Mr. H. James, and Mr. H. Luff, gardener to R. R. Hyatt, Esq., Hethurst, Streatham, each having a collection of small plants, but all very well grown, and mostly flowering freely. Mr. Salter's group was especially valuable for the number of choice varieties it included, Odontoglossums, Cattleyas, Dendrobiums, Masdevallias, and Oncidiums, being largely represented. In the other Orchid classes, Mr. H. G. Catt, gardener to W. Cobb, Esq., Silverdale Lodge, Sydenham, was the most successful, taking the first place with nine and six plants, mostly large and vigorous specimens. Very fine were Lælia purpurata, Cattleyas Mossiæ and Skinneri, Cypripedium Lawrenceanum, with about two dozen large flowers, Odontoglossum vexillarium, twelve spikes, Dendrobium Bensoniæ, Phalænopsis grandiflora, and Dendrobium thyrsiflorum, bearing a dozen trusses of flowers. With nine Orchids, Mr. H. James and Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, were the other prize-takers; and for six, Mr. H. Luff, followed with excellent plants; and Mr. C. J. Salter, third; equal second prize going to Messrs. Chadwick and Salter for single specimens Vanda suavis and Oncidium sphacelatum.

Stove and greenhouse plants were chiefly shown by Mr. H. James, Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard, Rugeley, Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, and Mr. J. F. Mould, Pewsey, who had the large specimens which are familiar to most visitors to horticultural shows at this time of year. Messrs. James and Chapman were respectively first and second in the open class for nine specimens, the former having large even examples of Bougainvillea glabra, Aphelexis macrantha purpurea, and Erica Lindleyana, with others; the latter's plants were equally fresh, but less symmetrical, the Ixoras and Ericas being wonderfully fine. In the Azalea classes, Mr. C. Turner was the premier exhibitor, having beautiful plants loaded with flowers of the best exhibition varieties. Mr. C. Rann was easily first in both classes for fine foliage plants, staging fine specimen Palms, &c., in capital condition. Mr. Rann also had the best six Ferns, followed by Mr. J. Bolton, gardener to W. H. Spottiswoode, Esq., Combe Bank, Sevenoaks, and Mr. T. N. Penfold, gardener to the Rev. Canon Bridges, Beddington House. Messrs. Laing & Co., Forest Hill, were first with Caladiums, showing nine specimens over 4 ft. in diameter and excellently coloured. Mr. Bird, gardener to J. A. Causton, Esq., Lodgemore, Alleyn Park, contributed the best Dracænas and Crotons, taking the first place in a good competition. The floral decorations comprising vases, epergnes, bouquets, &c., from Mr. J. R. Chard, Clapham Common, were very tasteful, and secured him the principal prizes in the different classes.

Extra prizes were awarded to the following exhibitors:—Messrs. W. Paul & Son, for a magnificent group of Roses; J. H. Causton, Esq., for a group of tree Mignonette and Crotons; Messrs. Paul & Son, for a group of Alpine plants; Messrs. J. Laing & Co., for a collection of tree Pæonies; Mr. W. Rumsey, for boxes of cut Roses; Messrs. J. Cheal & Sons, for collections of Apples and flowers; Mr. J. R. Chard, for floral decorations; Mr. J. Wiggins, for group of Pelargoniums; and Mr. R. End, for a floral cross.

Several Certificates were awarded, Messrs. J. Laing & Co. securing these honours for the following:—Tuberous Begonias: Charmer, single, white centre, edged with rose, very handsome; and Marquis of Stafford, double scarlet. Tree Pæonies: Lactea, pure white; and Odorata Marie, very large, full crimson. Caladiums: Raymond Lemoinier, and Comte de Germiny. Mr. J. Wiggins had a Certificate for Pelargonium Delight, white, spotted crimson; and Mr. J. A. Causton, for Croton Improved Sunset, a brightly-coloured form of this beautiful Croton.

Nottingham Horticultural and Botanical.—A special general meeting of the members of this society was held at the Mechanics' Lecture Hall, on Wednesday evening, May 19th, when there was a large attendance of members and friends. The meeting was called for the purpose of giving the members an opportunity of contributing anything in the shape of spring flowers, which are of special interest at this season of the year, and a very liberal response was made by them to the invitation sent out by the energetic Secretary, Mr. E. Steward, to whom thanks are due for the excellent manner in which he carried out

the arrangement of the numerous exhibits. At six o'clock, the members of the Mechanics' Institute, as well as the general public, were admitted, and large numbers availed themselves of the opportunity of inspecting the numerous exhibits. The hall presented a very pleasing effect, the orchestra being nicely furnished with a great variety of flowering plants. Low tables were arranged upon each side of the room, upon which the choicer Orchids were judiciously arranged amongst small-growing Palms and Ferns, whilst the centre of the floor was occupied with the larger groups, the principal one being sent by the mayor (Alderman William Lambers, J.P., Mapperley Hall), who is president of the society. With the exception of some well-flowered seedling Gloxineas, and a few well-coloured Caladiums (Prince Albert Edward), the group possessed no other special merits. A long cross table was devoted to cut flowers, and much interest was evidently centred in them. Mr. T. S. Ware, Tottenham, sent a good box containing many fine examples of hardy spring flowers, amongst which we noticed the lovely crimson Ixia cratcroides, which was much admired, and the pretty double white Saxifraga granulata fl. pl. ; a vote of thanks was accorded for this interesting collection. Messrs. Cannell & Son, Swanley, sent a splendid lot of cut flowers of the new Carnation, Pride of Penshurst, which was much admired and favourably commented upon by admirers of this class of flowers. Lieut.-Col. Seely, M.P., Sherwood Lodge, Notts (gardener, Mr. Swanwick), contributed a very interesting stand of cut stove and greenhouse flowers, amongst which were remarkably good blooms of Anthurium Andreanum and Anthurium Scherzerianum, &c. ; the same exhibitor staged about twenty fine Cockscombs, which were not thoroughly developed. C. J. Cox, Esq., J.P., Basford (gardener, Mr. Meadows), had several exhibits, amongst which was a good box of stove and greenhouse flowers ; and Mr. J. B. Hallam, Nottingham, some well-arranged hand-bouquets, wreaths for the hair, &c. During the evening, large numbers gathered around the table containing the exhibits of Miss Cutts, Malvern House, Nottingham (gardener, Mr. German), which contained some fine examples of rare Orchids, very noticeable being Odontoglossum citrosmum roseum, carrying four fine spikes ; Brassia verrucosa major, four spikes; Cypripedium caudatum, with sepals over 22 ins. long; Aërides Fieldingii, Cattleya Mendelii, Cattleya Mossiæ (var. Sanderianum), and the curious Oncidium papilio, &c. It is to be regretted that many of the specimens contained in this interesting group had not their names attached, causing much inconvenience and confusion amongst those interested in this curious and beautiful class of plants. Samuel Thacker, Esq., Minever House, Nottingham sent some well-flowered Cattleyas of the Mossiæ type ; but, like the preceding lot, the names were not forthcoming. Oncidium Marshallianum and a variety of cut flowers were fairly well shown by the same gentleman. H. R. Clifton, Esq., Clifton Hall (gardener, Mr. Anderson), sent some well-flowered Calceolarias, and a very large variety of Mignonette, said to be of American origin ; his table also contained some small but well-flowered plants of Cypripedium barbatum, and a good specimen of Impatiens Sultani. Mr. Locker, curator of the Nottingham Arboretum, had a large varied collection of Sedums, Agaves, and Cacti, which during the evening received a large share of attention from the visitors. Many other good groups were set up by members. A very creditable lot of Ferns and flowering plants came from W. H. Farmer, Esq., of Alexandra Park, and Mr. C. J. Mee, Woollaton Hall Gardens. Ten o'clock brought the exhibition to a close, and concluded one of the most successful meetings yet held by the society.—*J. H. W.*

Aberdeen Horticultural Association.—The members of this association held their usual monthly meeting on the evening of Friday, 21st inst., in the hall of the Christian Institute, Aberdeen. There was a capital attendance of members, and the president Mr. Peter Harper (Duthie Public Park) occupied the chair. Mr. J. Taylor, Clashfarquhar, read an able and interesting paper on "The Action of Light on the Colour of Flowers." He showed in a lucid manner how the sun's rays affected the colour of flowers and also fertilization. Discussion followed, and a hearty vote of thanks was accorded the author of the paper. Mr. Farquhar, Fyvie, read a short paper on "Peas," dealing mainly with their cultivation. He gave a brief sketch of the history of the Pea, and compared some of the numerous varieties. In conclusion, he touched upon the best modes of preserving the plant from the attacks of insects, vermin, and game. Mr. Farquhar was awarded the thanks of the meeting for his interesting contribution. A number of blooms were exhibited, and, on the recommendation of the committee a Cultural Certificate was awarded to Mr. Hay, Westburn, for two beautiful Cinerarias. The thanks of the members were also accorded to Mr. A. Robson, Aberdeen, for a fine collection of Tulips ; to Mr. A. Grigor, Fairfield, for a splendid collection of cut flowers ; and to Mr. James Scott, Deemount Road, for boxes of Pelargonium blooms. A cordial vote of thanks to the president for his conduct in the chair, terminated the proceedings.

QUESTIONS AND ANSWERS.

Gooseberry Bushes.—*T. M.:* We never saw Gooseberry shoots so badly blighted before, or heard of so many trees being in such a filthy condition. We cannot assign any cause for the visitation, but certainly should not attribute it to the manure. The dead points would seem to show that you took no measures to clean the trees last year, and they have become debilitated in consequence, and unable to shake off the enemy. If you cannot afford to use Fir-tree oil, or any other of the admirable insecticides now in the market, get a large tank of soft-water, add tobacco juice and soft soap, until you have made it of good strength, and with this wash the trees with the garden engine. There is no easier method, and you must get to work at once or your trees will be ruined.

Fumigating.—*A. M.:* So far from the practice being "all nonsense," it is now followed by many, and with the most satisfactory results. You have failed somehow in your method, and our advice is to try again. See Mr. Otto Bailiff's letter on p. 556 of our number for May 1st. If you open the ventilators early in the morning, the smell of the Tobacco need be no stronger than if you fumigated it in the ordinary way.

Adenocarpus.—*Erratum:* The specific name of the Adenocarpus mentioned at p. 596 is decorticans, not decorticus as there printed.

Names of Plants.—*E. J. H. C.:* The orange flower is Diplacus glutinosus, and the red one Habrothamnus elegans. The other specimens are too small for identification.—*T. M. F.:* Dendrobium crepidatum.—*Plants received without a letter.*—1, Scilla nutans (blue); 2, Doronicum austriacum (yellow); 3, Claytonia perfoliata.—*R. W.:* 1, Exquisetum sylvaticum ; 2, Allamanda neriifolia ; 3 looks like Mussænda frondosa, but materials insufficient ; 4, Aubretia deltoidea.

Communications Received.—A. O.—P. B.—J. H. W —W. P.—J. W.—W. S.—H. K., N.B.—W. W. B.—B. L.—R. B.—H. J. J.—T. F. & Son.

TRADE CATALOGUE RECEIVED.

A. F. Sarafana & Co., Saint Paul, Brazil.—List of Orchids.

LONDON SEED TRADE.

May 26th, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report almost total absence of business on the market to-day, and the attendance exceedingly small. There is still a plentiful supply of all kinds of Clover on offer, and it is presumed, therefore, that considerable stocks will be carried forward to another season, which may probably have a depressing effect upon the value of the growing crop, should this prove to be up to the average yield. Prices all round rule unusually low, and in the absence of any speculative demand, there is no appreciable change to note on last week's quotations. Italian, Perennial, and other Grasses are still inquired for. The demand for Mustard is more active, and fine samples being scarce, command high prices. The principal supply consists of medium quality seed, which is held firm for full value. Rape maintains late quotations.

COVENT GARDEN MARKET.

May 27th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	10 0
Grapes.....per lb.	2 6	6 0	Pears .....per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries ..per lb.	2 0	6 0
Peaches, per doz.	8 0	21 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	2 6	3 6			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 6	5 0	Onions, per bushel ..	5 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket..	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike ..	2 0	
Herbs, per bunch....	0 2	0 4	Tomatos, per lb.	2 0	2 6
			New Turnips, per bun.	1 6	

Potatos.- Kent Regents, 80s. to 100s. per ton ; Kent Kidneys, 80s. to 100s. per ton ; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, 12 bunches			Marguerites, 12 bun...	3 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun...	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	2 0	6 0
Blue Bells	0 9	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet, 12 sprays..	0 4	0 6
Camellias, 12 blooms.	1 6	4 0	Primula, double, bun.	0 6	1 0
Carnations, 12 blooms	1 0	3 0	Primroses	0 6	1 0
Cyclamen, 12 blooms.			Roman Hyacinths ..		
Daffodils, 12 bunches..			Roses (coloured)	2 0	4 0
Eucharis, per dozen..	4 0	6 0	Roses, Tea per dozen	0 9	2 0
Forget-me-not or Myosotis, 12 bunches ..	2 0	4 0	Stephanotis, 12 sprays	1 6	3 0
Gardenias, 12 blooms.	1 0	4 0	Spiræa, doz. bunches	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Hyacinths (Dutch), Lapageria, red, 12 blms.	1 0	2 0	Tuberoses, per dozen.	1 0	1 6
Lilac, English, 12 bunches	4 0	8 0	Tulips, 12 blooms....	2 0	0 6
Lilac (French), bunch	5 0	7 0	Violet, 12 bunches ..		
Lilies, 12 sprays	0 6	1 0	— Parme.....		
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Foliage Plants, various, each.....	2 0	10 6
Arum Lilies, per doz.	9 0	12 0	Genista, per dozen ..	4 0	6 0
Azalea, per dozen ..	24 0	42 0	Heaths or Erica, var., per dozen	10 0	24 0
Bedding Plants, various, per doz. ..	1 0	2 0	Lilies of the Valley, pots, per dozen....	12 0	24 0
Begonias, per dozen..	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cineraria, per dozen..	4 0	8 0	Mignonette, per doz.	6 0	8 0
Cyperus, per dozen ..	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz..	30 0	60 0	Pelargoniums, doz .	9 0	18 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Spiræa, per dozen....	9 0	15 0
Ferns, in var., doz. ..	4 0	18 0			
Ficus elastica, each..	1 6	7 0			

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HER MAJESTY, THE BENNETT ROSE, and all the best new English and Foreign varieties.
All the choicest well-tried sorts in pots, 15*s.* to 36*s.* per dozen.
Descriptive List free on application.

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MAKE A SPECIALITY OF

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and have a large collection, now ready for sending out, including all leading
HYBRID PERPETUAL VARIETIES (10*s.* 6*d.* per dozen).
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CLARA COCHET (Lacharme), 3*s.* and 5*s.* each; THE BRIDE, new American Rose, 3*s.* each; HER MAJESTY (Bennett), extra strong plants 2 ft. high; W. F. BENNETT (Bennett), in 6-in. pots 4*s.* each, in 7-in. pots, 5*s.* each; YE PRIMROSE DAME (Bennett); VISCOUNTESS FOLKESTONE (Bennett). See advertisement May 29, 1886.—H. BENNETT, Pedigree Rose Nursery, Shepperton, Middlesex.

GRAND NEW SEEDLING POTATO.

"THE COLONEL," First Class Certificate Royal Horticultural Society, 1885. "THE DOCTOR," First Class Certificate Royal Horticultural Society, 1884, and many *Sterling Novelties in Seed Potatos.*
Send for Retail Priced Catalogue, which contains all the best sorts in cultivation.

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Seed Potato Growers and Merchants, BOSTON, LINCOLNSHIRE.

HENRY IRVING.—The best new single dark Fuchsia in cultivation, 2*s.* 6*d.* each; 12 best, including H. Irving, Phenomenal, the largest grown, and General Roberts, 5*s.* 6*d.*; 6 best incurved Chrysanthemums, 1*s.* 2*d.*; 6 best Japanese, 1*s.* 2*d.*; 6 best single, 1*s.* 2*d.*; 6 best early-flowering, 1*s.* 2*d.*; 8 distinct lovely Cactus Dahlias, including Mr. Tait and Lord Lyndhurst, 3*s.* 6*d.*; 6 best show Dahlias, 1*s.* 6*d.*; 6 best Pompons, 1*s.* 6*d.*; 6 best single, 1*s.* 6*d.*; new single Dahlia, Chilwell Beauty, yellow edged, scarlet, very novel, 1*s.* 6*d.* The new-shaped Dahlia, Germania Nova, like a fine double Petunia, 1*s.* 3*d.*; black and white Dahlia, Mr. Miller, 1*s.* 3*d.*; new crimson-scarlet Chrysanthemum, Cullingfordi, 1*s.* 2*d.*; yellow Carnation, Pride of Penshurst, 1*s.* 4*d.*; Alegatiere, scarlet, and Miss Joliffe, salmon, 9*d.* each, the three for 2*s.* 6*d.*; new double Ivy-leaf Geranium, Madame Thibaut, 1*s.*; 6 best, including Madame Thibaut, 3*s.*; new white Geraniums, Le Cygne, double, Queen of the Belgians, single, 1*s.* each; 6 best double and 6 best single, to include the two above, 5*s.* 6*d.*; new Ageratum, White Cap, a novelty, 4 for 1*s.* 2*d.*; 6 blue Marguerites, 1*s.* 2*d.*; 6 seedling double Tuberous Begonias, 3*s.* 2*d.*; 6 single ditto, 2*s.* 2*d.*; 6 choice seedling Gloxinias, 2*s.* 2*d.* These are from the finest strains. 6 extra fine-named Begonias, in 6 colours, 6*s.*; the new Golden Pyrethrum, like a golden Fern, does not flower the first season, 12, 1*s.*, 24, 1*s.* 6*d.*; 12 beautiful Mimulus, 1*s.* 6*d.*; 12 single Petunias, the splendid Grandiflora strain, 1*s.* 6*d.*—H. J. JONES, Hope Nursery, Lewisham.

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BEDDING BEGONIAS,

Unquestionably the best strain in existence, just coming into flower, and will make a display at once. 5*s.*, 8*s.*, and 12*s.* per dozen. Special price per 100 and 1,000. (Would also be splendid varieties for Greenhouse.)
The same with all other bedding plants. Low quotation for quantity. Send for a Catalogue.

H. CANNELL & SONS,
The Home of Flowers, SWANLEY, KENT.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, JUNE 8th.
SHOW OF ORCHIDS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

ROYAL HORTICULTURAL SOCIETY,
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29th to JULY 5th, 1886
GREAT EXHIBITION of PLANTS, FLOWERS, FRUIT, VEGETABLES, &c., in the BOTANIC GARDENS and WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 21st.

ROYAL HORTICULTURAL SOCIETY,
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29th to JULY 5th, 1886.
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to ADAMS & FRANCIS, Advertising Agents, 59, Fleet Street, London, E.C.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 5, 1886.

CUCUMBERS.—If anyone who attended the meeting of the Royal Horticultural Society at South Kensington, on May 25th, and saw the two brace of Cucumbers exhibited by Mr. T. Lockie, The Gardens, Oakley Court, near Windsor, ever looked upon model fruit he did so on that occasion. The variety so fittingly named Model, by Messrs. James Carter & Co., and that named Purley Park Hero, by Messrs. Sutton & Sons, were perfect models of their types, the last named rather smaller than the other, but both symmetrical throughout, perfectly even, without any heel, and carrying at their points what gardeners like to see—the decayed flower. Mr. Lockie has been a successful cultivator of the Cucumber for many years, and has also raised a very popular variety—Blue Gown—but we are afraid the original type of this as at first sent out by Mr. Turner of Slough has become very scarce indeed. The Reading district is famous for its good exhibition Cucumbers, and at the spring show of the local horticultural society they are always both numerously and finely shown.

Between forty and fifty years ago the principal sorts of Cucumbers were Snow's Horticultural, Hero of Surrey, Superb White Spine, Manchester Prize, Man of Kent, Victory of Suffolk, and Windsor Prize. Later on the late Mr. James Cuthill, of Camberwell, who made a speciality of the Cucumber, introduced some useful varieties, among them Cuthill's Black Spine. Others followed, such as Syon House, Himalaya, Star of the West, Blue Gown, &c. until Improved Telegraph took the lead. Time was when the Black Spine was regarded as inseparable from a good Cucumber, but now the popular taste goes after the smooth-skinned varieties, of which Carter's Model is such a fine type; and yet a thoroughly good black-spined variety, if introduced now, would be gladly welcomed by many cultivators.

The Cucumber is a very ancient fruit; in north-western India it has been cultivated for 3,000 years. When the Israelites complained to Moses in the wilderness, comparing their old Egyptian luxuries with the manna of the wilderness, they exclaimed, "We remember the fish which we did eat in Egypt freely, the Cucumbers and the Melons." Mr. Folkard states that there was formerly a superstitious belief in England that Cucumbers had the power of killing by their natural coldness. Gerarde states, "They yield to the body a cool and moist nourishment, and that very little, and the same not good. To dream of Cucumbers denotes recovery to the sick, that you will speedily fall in love, and that you will marry the object of your affection. It also denotes moderate success in trade; to a sailor a pleasant voyage."

Cucumbers are very plentiful in London during July, August, and September. Then it is they come up in large quantities from Bedfordshire, where they are largely grown in the open air. Travellers by the Great Northern Railway can, between Hitchin and Huntingdon, see long patches of Cucumbers grown between patches of corn, mostly Wheat, for the sake of the protection the corn affords. It is an interesting fact that the Cucumber is the only fruit which, in England, we eat while still green and unripe without cooking.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* meeting of Fruit and Floral Committees of the Royal Horticultural Society and Orchid Show at South Kensington.—*Wednesday:* Royal Botanic Society's Second Summer Show.—*Friday:* Great National Horticultural Exhibition opens at Manchester.

The Curatorship of Kew Gardens.—We understand that Mr. George Nicholson has been appointed to the post of Curator of the Royal Botanic Gardens, Kew, in succession to Mr. Smith; and Mr. W. Watson has been appointed Sub-Curator in the place of Mr. Nicholson, who ably fulfilled the duties of that office for about fourteen years.

Plagiarism in the Seed Trade.—Whatever may have been done in the way of plagiarising other people's illustrations of novelties, it is but rarely that we hear of one seedsman appropriating the literary wares of another; but when such a case of dishonesty does occur, it is for the public good that the facts should be made known. We have before us the seed catalogues for the present season of Messrs. Dobbie & Co., an old and respected firm of seed-growers and florists in Rothesay, and of Messrs. Knight & Co., 104, Cazneau Street, Liverpool, a firm we never before heard of, and who, from their apparent inability to write a catalogue for themselves, we should imagine know nothing of their business, and cannot have been long in the trade. A comparison of the two reveals a daring case of wholesale appropriation, the Liverpool firm having

copied nearly the whole of Messrs. Dobbie's catalogue, including some of the articles on gardening matters, which embody the results of their many years of practical experience. The only difference between them that we can see is the size, a slightly altered arrangement of the matter, and the substitution of the name of "Knight" for that of "Dobbie." Such barefaced plagiarism as this requires no comment—it carries with it its own condemnation.

Messrs. John Laing & Co. have issued a general invitation to all interested in Begonias to view their grand collection, which is now in full bloom.

The Evening Fête of the Royal Botanic Society will be held on the 30th inst., when besides prizes for floral decorations of various kinds, medals are offered for arrangements of flowers, leaves, &c., for personal adornment, such as wreaths, chaplets, and the like, and also for use in dress trimming and ornament; for lamps or illuminants for ornamental outdoor or conservatory use; and for self-contained garden and conservatory fountains.

Mr. John Garrett, formerly of the Royal Horticultural Society's Garden, Chiswick, and for the last four years foreman of the Greenhouse and Ornamental Department at Kew, has been engaged as gardener to A. B. Mitford, Esq., C.B., Batsford Park, Moreton-in-the-Marsh, Gloucestershire.

"Gardening for Amateurs." — The Rev. F. D. Horner, M.A., and Mr. G. Kidson, Principal of Lansdowne School, Hull, have under this title issued a little work, at the popular price of 1*s.*, which is worthy of a place in every amateur's library. The names and well-known floral proclivities of the authors are a guarantee in themselves of the pleasantly-written character of their contributions, and the soundness of the information they have to impart. Commencing with the Chrysanthemum, we are treated to chapters on the Rose and Dahlia, the Carnation and Picotee, the Pansy, the Hollyhock, the Tulip and the Auricula, annuals and perennials, bulbs, garden pests, &c., and finally to the description of a simple method of growing Mushrooms.

Mr. Chas. Boatwright has been engaged as gardener to J. T. La Trobe Bateman, Esq., J.P., D.L., Moor Park, Farnham, through Messrs. John Laing & Co.

Princess Beatrice has consented to open the combined Exhibition of the Royal Southampton Horticultural Society and the Hants and Isle of Wight Bee-keepers' Association, to be held in Westwood Park, Southampton, on Saturday, the 31st of July.

Mr. Heard has been engaged as gardener to M. J. Freeman, Esq., The Grange, Exmouth, Devon, through Messrs. John Laing & Co.

"MY GARDEN."

To many readers the garden at the Grange, Wallington, the residence of A. H. Smee, Esq., is well known, for it has been admirably described by the father of the present proprietor, in his interesting work bearing the title given above. Since that widely read book was published, numerous improvements have been effected in the garden, both by father and son; a handsome house has been erected by the latter, with a lodge at the entrance in a similar style, and the collection of plants and fruit trees have been greatly extended. The ground now occupied by one of the most picturesque gardens in the neighbourhood of the metropolis, was at one time little better than a swamp, and it affords a capital example of what skill and taste can effect under great disadvantages. The river Wandle passes through the grounds as a broad clear stream, from which numerous smaller streamlets are taken through ferny, shaded glades and dells in other parts of the garden, forming at intervals delightful little cascades and waterfalls with rivulets, where the dainty trout is seen sporting in hundreds, and offering an almost irresistable temptation to disciples of Izaak Walton. There is no formality anywhere, and a visitor who is tired of the monotonous gardens too frequently seen around large cities, is greatly refreshed by the absence of "spic and span dressiness," which is apparently considered by many as the great attraction of a garden. Here in a comparatively small space we have a model garden, where fruit, flowers, and vegetables are accorded skilful culture, where the most costly Orchids and the simplest hardy flowers are equally prized, and where one is free from all stereotyped methods of garden design. The Ferns, from the stately Ostrich Ferns, Struthiopteris Germanica and Pennsylvanica, to the more lowly Adiantum pedatum and the common Bracken thrive vigorously, adorning many cool secluded walks, overhung by choice collections of ornamental trees and shrubs, amongst which the scarlet and white thorns are very beautiful just now, with Rhododendrons, Laburnums and many others. Upon stages erected over the streamlets in the shade of these trees, Mr. Smee has grown large numbers of his Orchids most successfully during the summer months, and we can easily imagine that the conditions are such as are likely to suit the majority of those plants during the warmer portion of the year, better, indeed, than houses, when all the cooler species are often in danger of being too much dried in summer.

The fruit garden is a very remarkable one, the collection of varieties of Apples and Pears being one of the largest in private establishments. The trees are standards, mostly of moderate size, but very healthy and fruitful, although the position is so low that they would scarcely be expected to prove successful. In almost any portion of the garden water can be obtained at 3 ft. from the surface, and this has necessitated the lifting of the trees every three or four years, to prevent the roots passing into the wet and cold subsoil. It is very probable that this frequent lifting has had some effect on the fruitfulness of the trees, as they often yield good crops when elsewhere in the district the supplies are scanty. Of the small fruits, Gooseberries and Currants are largely grown, the former bearing large quantities of fruits upon the non-pruning system, all the attention the trees receive in this way being confined to shortening the unduly long shoots or removing some where they are too crowded.

Seven or eight glass-houses are devoted to plants, amongst which Orchids form the great speciality. A large collection of these is grown, representing over 700 species, varieties, and hybrids; but as numbers of these are in duplicate, it can be seen that to accommodate so many, very large specimens cannot be admitted. The principal genera are well represented, and at the present time Cattleyas, Odontoglossums, Dendrobiums, and Masdevallias are the chief features. They are excellently-treated, healthy plants, and arranged as they are in a long house with Ferns, they form a beautiful exhibition.

Last Saturday Mr. Smee opened his garden to the public, and he has extended the privilege throughout the past week, many hundreds of visitors having taken the opportunity of inspecting this charming and instructive establishment, the fame of which has been ably maintained under the superintendence of the gardener, Mr. Cummins.

TILLAGE OPERATIONS OF THE GARDEN.

All cultivators of the soil—the gardener no less than the farmer—find in the preparation of the ground for the reception of seed their most laborious duty, and one which demands the greatest amount of judgment and skill on the part of the operator. When the soil has been prepared, and the seed committed to the ground, the gardener has, comparatively speaking, little else to do but to watch and wait, leaving the work he has carried thus far to be completed by the secret operations of nature; reminding us very forcibly of the fact that we are to a very considerable extent at the mercy of the weather for our reward. At the same time we may call to mind the gardeners' good old maxim—

"Work on, hope on, and be ye sure
Self help is noble schooling;
You do your best, and leave the rest
To God Almighty's ruling."

In spring-time our arable fields and gardens are generally in a state quite unadapted for sowing seed or setting out plants. The soil is so compact at the surface that we cannot bury or cover the seed we wish to sow easily and uniformly; and even if we fairly begin the young plants will not be able to perform the earlier functions devolving upon them, and the crops will not thrive as we desire.

In good and well-matured seed the powers of vegetable life lie dormant until aroused by the conditions of light, heat and moisture, favourable for their development, but when these are present the seed forthwith germinates, and starts into activity and growth. It is to supply these conditions that the mechanical working or tillage of the soil has to be performed.

The soil of our gardens, however well it was loosened up in the previous year, or for the previous crops, again settles down, so that the particles of earth are in the closest contact with each other, which is the more apparent in very stiff clays. It is rain falling upon newly loosened ground, which especially aids in compacting it. For not only does the falling weight of the rain-drops actually beat down the surface of the land but the filling of the pores of the soil by copious rains, partly or fully floats the smaller particles of fine silt and clay, and then as the water descends below, the whole mass sinks and contracts, by a nearer fitting together of the light mobile parts among each other, and among the heavier less disturbed portions of the ground.

The finest grains of sand and silt fill up the chinks and crevices between the larger clods, and the microscopic rock-dust and the almost invisible clay particles run like cement into the smallest cavities. Each heavy rain produces to some extent, a closer re-adjustment of the particles of soil, and increases its compactness and solidity. The kind of compactness that ensues when rain falls upon the land, depends largely upon the kind of particles which compose the mass of soil.

Sand is an accumulation of more or less minute granules of stones, exhibiting no adherence to each other, but lying unattached, loose, and unconnected beside and upon one another, leaving an abundance of interstices. Pure sand is insoluble in water, it can only absorb and retain small quantities of moisture, an excessive quantity of water filters through it as through a sieve. Grains of sand will, however, stick together with slight energy if moist, for the water which adheres to them acts as a weak cement. When the water dries out, the grains of sand again fall apart; they do not settle down either by being rammed or trampled upon.

Connected with this is the fact that very sandy soils allow absorbed water to evaporate freely again, and when dry they become extremely pulverulent.

These properties are seen clearly enough in so-called "*light soils*"; they have a hot, dry nature, since in long continued drought or under imperfect watering they give up all their moisture, and are accordingly greatly heated by the sun's rays. These kind of soils display a rapid activity when rains abound or with careful watering, since the humus and manuring constituents are urged to a quicker decomposition by the atmospheric air, which has free access through the porous soil. This activity, however, not being permanent, easily leads to the exhaustion of the fertility of the land since the nutrient constituents are not retained by the sand, and hence may pass off both by evaporation and by washing away in the drainage water.

It is clearly apparent from this that manures of slow decomposition are especially suited to soils of this character, and that easily soluble artificial manures should only be applied in very small quantities at a time; say, one-half at seed-time, and the other half as a top-dressing later on in the season according as the plants may require it.

If the sand exists in a very fine mealy state of division, as for example in many kinds of river or marshy soils formed by alluvial deposits, it approaches clay in many of its properties; it absorbs more water than pure sand, and shows something of the adhesiveness so striking in common clay.

Clay is a substance which is insoluble in water, but is capable of absorbing mechanically a large quantity of water, and retaining it for a long time, forming a sticky, compact, tough paste through which water will not easily penetrate. If when the clay is in this soft state it be pressed by the hand, a firm adhesion of the particles takes place.

Hence soils containing much clay are known as "*heavy*," and are difficult to work, and when once saturated with moisture remain a long time wet, and, therefore, cold and inactive. Sudden showers cake such soils—that is, the rain produces a layer of clay-paste on the surface which prevents the further penetration of water or air, consequently very stiff clays are sluggish in regard to their action upon vegetable growth, and should be supplied with readily decomposable and completely fermented manuring substances.

Clay cannot be considered as a food of plants, it derives its high importance for the growth and nourishment of vegetation solely from its physical properties,

especially from its power of "*fixing*," by means of which it unites the more loose particles of the soil into a coherent mass, in which the roots of plants can acquire a firm foot-hold, and abstract from the more soluble ingredients the food they require.

(To be continued.)

A PRIMROSE GARDEN.

By the heading we mean a garden devoted to the fine forms of our common Primrose, in which there is now a range of colour and beauty of a high order. Many may have seen some of the plants we allude to at shows, and as single bits here and there; but to enjoy the full beauty of these plants there is no way so good as devoting a piece of ground in some half-shady spot to their growth. We can promise a good harvest of beauty from it. In the southern and warmer parts of the country the aid of a Hazel copse is almost necessary to a good result. In less sunny parts this will not be so essential. The early bloom and beauty of the common Primrose commend it to all; but its long flowering (as compared with other spring plants) makes it well worthy of a special garden culture in its more showy and distinct forms. We do not say more beautiful, for we do not think any other species of Primrose quite so good as the common English kind. We never thought this so strongly as in the present spring, fresh from the Primula show—dignified by the awkward name of "Conference."

There were many species shown there; but certainly none quite so beautiful or important for our gardens as the common Primrose and its garden forms. The common Primrose has "sported" into so many handsome and richly-coloured forms as to make it well worth growing as a garden plant, even where the country is half covered with wild kinds. Among the many colours now existing, and all raised from the common Primrose, are cream-coloured, sulphur, canary, and strong yellows, inclining to orange. There are also intermediate shades varying towards buff, all these colours being infinitely varied by the different sizes and tints of the eye.

In some cases this agrees exactly with the colour of the flower; in others, shades gently towards it; or, again, differs strikingly from it. Some have a clear white ground colour, with the colour of the eye ranging from palest sulphur to deepest orange. From these light colours the hues range to reds and crimsons, rich claret, and almost black. Some are spotted, some are laced, and some have the colour clouded with a deeper shade of the same, or streaked and broken with lighter contrasting markings. The most pleasing of the highly coloured kinds are the bright reds inclining to scarlet, with an orange eye, and the splendid rich crimson and claret colours, also with the deep yellow eye.

In form the flowers vary a good deal too. Some have the true Primrose shape; some form a nearly perfect circle; others are heavily waved and toothed at the edge. The habit varies much, some standing erect and compact in large trusses, some tossing down, half hidden in the foliage. The more delicate shades have pale foliage, which adds to their beauty. Some of the leaves are much waved and cut, possessing a beauty of their own.

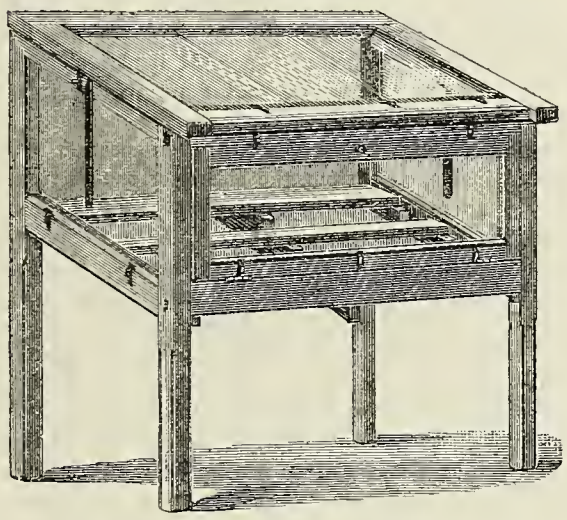
To get a stock of these Primroses, the simplest way is to start with a few good plants and save the seeds early of the very best flowers, sowing it in March, planting these seedlings strong by autumn to flower well the next season. Those who have not such plants might get several strains of seed from distinct sources. Some find them best sown in the autumn. When the plants flower they should be grouped or classed, retaining the types most admired. A very important point, in some soils at least, is to divide the old plants as soon as the seed is gathered, usually about the end of July, cutting the old root-stock clean away, and dividing the crowns into separate plants, replanting rather deeply.

Such a garden in an ordinary year would be a source of interest for quite three months of our spring and early summer. As regards general effect of colour, that should be as pretty as anything seen in a good garden throughout the year. Indeed, few garden pictures we have seen equal one formed by the Primrose garden which has led us to write this. It is in a little clearing made in a Hazel copse, with many Birch stems near.—*Field.*

AN AURICULA FRAME.

I beg leave to direct the attention of Auricula-growers who have no greenhouse to a special frame lately made for me by Mr. M. E. Horley, horticultural builder, of Toddington, Bedfordshire. Amateur growers of the Auricula who live in towns, and especially those who can only devote odds and ends of time to their plants, may well be glad to meet with a contrivance so calculated to reduce the large sum-total of their disadvantages. I have grown Auriculas with fair success for six months past in a little London garden, and have used, to protect them from rain, various kinds of hand-lights, raised from the ground on perforated bricks, so as to admit air from below. The best of these lights are span-roofed, with glass squares which slide in grooves, thus securing top ventilation, for a free circulation of air is essential to the health of the Auricula. But the drawback to them in the case of the amateur, who cannot be in the garden at a moment's notice, is that in doubtful weather it is not safe to leave the roof-slides open, for a sudden shower, and even a slight one, may at all times damage the powdered foliage of many varieties of the Auricula, while in the blooming season it would ruin the delicately-mealed flowers of all the "stage" kinds.

Yet, on the other hand, the weather is often better than it promised to be, in which case the prudent grower's Auriculas under the hand-lights are deprived,



Horley's Auricula Frame.

unnecessarily, of the air which would do them great good. Now, Mr. Horley's frame delivers the amateur from both horns of this dilemma; it is a less elaborate form of the late Dr. Horner's Auricula frame, which was designed to admit a free current of air while wholly excluding rain. Its inside measurements are 40 ins. long by 18 ins. wide, and the body, which is hollow, and is traversed from end to end by three shelves rising in a tier, is supported on four stout legs, the two front ones 17 ins. and the two back ones 23 ins. high; the ends are of glass, and fixed; the back is of wood, and the three shelves are all equally open to the air around. The sloping top, glazed without putty, under Mr. Horley's patent, is provided with a graduated prop, so that it can be lifted and held open at any angle, or it can be swung by its revolving hinges completely over the back. The glass front also drops on hinges, and thus in showery weather a current of air can be uninterruptedly admitted, the tops being meanwhile propped open to the level, effectually sheltering the plants within.

Not only Auricula-growers, but all cultivators of "florists' flowers" which are naturally hardy of constitution, but delicate in their higher developments of leaf and bloom, must welcome a frame so *àpropos* as this, and particularly those who are contending with the many difficulties of town gardening, for these last know that in certain conditions of the atmosphere the falling "blacks" are a worse evil than rain, which injures only the mealed foliage and flowers. It is no unimportant consideration that Mr. Horley's frame protects the plants within it from these baleful "blacks," which spot and soil all foliage indiscriminately, often dashing the hopes of the painstaking cultivator in a single hour.—*C. A. Gaskoin, Kensington Square, W.*

MORE ABOUT PANSIES.

A box of some thirty blooms or so of beautiful fancy Pansies has just come to me through the editor, forwarded to him by Mr. John Forbes, nurseryman, Hawick. Mr. Forbes is one of several Scotch florists who make a speciality of the Pansy, and who in the cool moist climate of Scotland obtain blooms of such large size and rich colouring, as to both surprise and delight those of us living in the London district, where it seems to be becoming more difficult, day after day, to grow Pansies with anything like success. The marvellous growth of London, which covers acre after acre with houses and human beings with a rapidity that is possibly startling, the smoke vitiated atmosphere, the London fogs that seem to carry in them something that means certain death to vegetation, and the systems of draining that is constantly going on, necessitated by sanitary considerations, are rendering it more and more difficult to grow florist flowers near to "London's rich and famous town." The florist must go farther afield if he would score anything like a respectable measure of success.

Therefore it is that I welcome the dish of charming fancy Pansies now before me. They are worthy the tribute of homage that I gladly pay them. I made a note of the following as being particularly fine:—Mrs. Sutherland, Mrs. Barrie, Miss Bliss, G. O. Trevelyan, Earl of Beaconsfield, a very fine yellow self; May Tate, a very fine flower indeed; Kenneth Brodie, Eveleyn Bruce, extra fine; Mrs. McIntosh, Mrs. Hunter, Mrs. John Stewart, violet and cream, very pretty; Mrs. Gordon or Goodwin, I am not quite sure which, but I think the latter, the writing had become somewhat indistinct; W. Cuthbertson, extra fine: Ruby, dark crimson and rosy red, margined with yellow; George Innes, John Sutherland, Nellie Martin, Perfection, Pilrig, Mrs. Duncan, violet, edged with white, very pretty indeed; and William Dean, very fine also. That makes twenty one varieties—a very good selection indeed.

That these gorgeous fancy Pansies are widely popular there can be no doubt. What I particularly like in the blooms sent by Mr. Forbes, is their massive substance of petal, and excellent form. I have seen strains of fancy Pansies that had only size to recommend them—unduly large and thin in substance, with the tips of the petals hanging down like the ears of a sow, not beautiful objects at all. But it must be said in justice to our Scotch fancy Pansy raisers—Forbes, White, Paul, Dickson, Downie, Laird, Dobbie, and others—that they have keen eyes for the true florist qualities in the Pansy, and when any of the newer Scotch-raised Pansies come south, there is but very little fault indeed to find with them on that score. Whatever others may do, they are faithful to the "points" so strongly insisted upon by the past generation of florists who sketched the true properties of florists' flowers.

Here, in the south, we who love Pansies find it to be somewhat risky to plant out in the autumn, because of the losses experienced during the winter. It is much better to winter the plants in pots, or planted out in a cold frame, and put them out in early spring when it is safe to do so. To be thoroughly enjoyed, Pansies should be grown in beds, and for two main reasons—they are under so much better control, and they are showier and more pleasing, besides affording opportunities for comparison. Thus it is that our Scotch friends make their beds in a sheltered spot, protected from sweeping blasts. They manure the ground well in autumn, throw it up rough for the winter, and in March they fork it over and thoroughly pulverise the soil. Then they lay out their beds, 4 ft. or so in width, and of a length to suit both the ground and the collection to be planted. Four plants are placed in a line across the bed, and they are 1 ft. apart each way. A bed of Pansies painted with different varieties has a very pleasing effect; but I would recommend that the show varieties be kept by themselves and the fancy flowers by themselves. One of the leading Scotch growers recommends that the cultivator should, "previous to planting, have some fresh turfy loam at hand, and having made a hole for the plant, put in some of the new loam in the form of a cone, spread the roots over this, and fill round the neck of the plant with the same loam; this causes the stem of the plant to emit roots, and gives it a fresh hold. When the plants have been growing about two months or so, give them frequent waterings or liquid made of sheep or cow manure, taking care not to touch the foliage or go too near the neck of the plant with it, and when the surface of the bed gets caked, run the

Dutch hoe between the rows. Stake the plants as they require it, so that they may not be broken by the wind, and remove all superfluous shoots as they appear, leaving three or four leading stems for flowering. The plants will be much benefitted by a top-dressing of new loam and old cow-manure about the middle of June.

As soon as they get into a flowering stage, pick off the blooms as they expand (in order that the plants may not be weakened more than is necessary) until about ten or twelve days before the blooms are required for exhibition, when all may be allowed to remain." It will be seen that the foregoing remarks are written by by one who is accustomed to grow Pansies for exhibition, and though this is so, the hints given supply a few useful suggestions to ordinary cultivators, who should always strive to get the very best flowers they can from the plants they grow.

As a matter of course, in the case of flowers for exhibition, they must be shaded to have them as perfect as possible. By some cardboard caps are used, tacked on to a piece of wood, the mouth of the cap being 4 ins. in diameter, and the grower I have already quoted states, in regard to shading, "Self flowers should be shaded as soon as the bud has reached its full length prior to opening; but white and yellow grounds may be allowed to half expand, so that it may be seen whether or not the lacing, &c., is complete, and the bloom otherwise true to character." The necessity for shading fancy flowers is not so great as in the case of show varieties; but a little shading is no doubt of great advantage, and there is this further information in regard to cutting flowers for exhibition:—"The flowers may be cut in the afternoon preceding the exhibition, carding and placing them in their position at once. Young flowers which will not lay had better be kept out of water for an hour or two, when they will become easily handled. By "carding" is meant showing the blooms with a piece of white paper on the back of each, about a quarter of an inch larger all round."

As a matter of course, leading varieties can be propagated only by means of cuttings or division of the roots, and so it is recommended that "about the beginning of August pinch a few of the leading stems, which will induce shoots to break out that will make fine, short, stout cuttings, which may be taken off by the end of September. Prepare a cold frame, dig deep, and break the soil well, removing any earth-worms, as they are apt to draw out the cuttings and cause confusion. As to soil, make up a compost of two-parts fresh loam, and one of river or pit-sand; of this put on 3 ins., draw lines 3 ins. apart, and insert the cuttings 2 ins. from each other, fixing them firmly in their position with the fore-finger. Water gently, and keep the frames close for about ten days, shading if necessary. After this, air may be given night and day during favourable weather, and when they are rooted the more air they get while the weather is fine the better. Remove all decayed leaves as soon as they make their appearance, an operation which is best done with a pair of sharp-pointed scissors." It may be added that where it is practicable to plant out in the autumn it is best to do so, as the blooms come earlier; but it is a good plan to have a few plants planted-out in a cold frame. Any plants put out in the autumn should be raised from cuttings taken in June or July.

Need I say that growers should raise a few seedlings, and should obtain a little seed from a few of the finest flowers. "Where early bloom is wanted, seed may be sown in July, and the young seedlings transplanted into beds in September. Seed may also be sown in January or February, in boxes, and allowed to germinate in a greenhouse or hot frame. As soon as the plants are fit for handling prick into boxes and keep comfortable for a week or two, when they may be removed into cold frames, and gradually hardened off till ready for planting out in April. Abundance of bloom will follow, from the beginning of June till frost sets in. Seedlings should not be planted out at a less width between the plants than the named varieties, as owing to their strong-seedling vigour they soon cover the ground."

Lastly, a few words about the insect enemies of the Pansy, they are wire-worms, slugs, and fly. "In planting care must be taken that no wire-worms are introduced in the new loam, should they be there they are easily trapped by means of small pieces of Carrot or Potato laid about 1 in. under the soil near the plants, and which must be inspected every three or four days. Slugs are best kept under by hand-picking early in the morning, and on showery evenings. Should fly attack the plants, as it frequently does in June or July, take a common tub or pail, put into it 1 lb. of soft soap, pour on it sufficient warm water to dissolve it, and add 1 gill of tobacco-juice as received from a tobacconist, mix well, and strain through a piece of course packsheet, and put one pint of this to two gallons of soft water. With this mixture syringe the plants, selecting a showery evening for the purpose, and apply it every other night until the fly be fairly got rid of. Should the weather be dry when they are infested with the pest, syringe the plants with clean water before using the solution, and syringe again with water in an hour or two. Care should be taken that this insecticide is applied three weeks before blooms are required for show, so as to have them without damage."

And now, in conclusion, let me give a list of extra fine show Pansies, dark Selfs, Rev. J. Morrisson, David Malcolm, Peter Lyle, and Mauve Queen; white Selfs, Mrs. Galloway, Mrs. Dobbie, Mrs. Cadzow, and Mrs. Turnbull; yellow Selfs, Gomar, George McMilan, William Crockart, and Lizzie Stuart; white grounds, Mr. J. G. Paul, Mrs. James Millar, Jessie Foote, Miss Richie, and Miss Barr; yellow grounds, D. Daglish, William Robin, J. B. Robertson, Robert Pollock, Lizzie Bullock, and Lord F. Cavendish.—*R. D.*

RED-SPOTTED POTATOS.

Mr. C. B. Plowright, King's Lynn, sent the following remarks on this subject to the last meeting of the Scientific Committee:—In 1884 it will be in the memory of the Committee that a number of tubers grown at Chiswick in connection with the Jensenian experiments, which were found upon inspection to be spotted inside, as if from the effects of the Phytophthora; so much, indeed, did they represent truly diseased tubers that some members of the Committee regarded them as such. Specimens were, however, sent to the three gentlemen in Europe to whom we owe most of our knowledge of the Potato disease—namely, to Professor De Bary, of Strasburg, Dr. J. Kuhn, of Halle, and M. Jensen, of Copenhagen. Without throwing any light upon the true nature of these spots, all three of these gentlemen were unanimous in their opinion that the spotting was entirely unconnected with the Phytophthora. An instance of this spotting disease came under my notice the same year near King's Lynn, and I took the opportunity of making a few observations upon the affection. First and foremost, although resembling the Phytophthora spots in colour, there is this great difference—the Phytophthora spots always originate upon the surface of the tuber and pass inwards, this being, as De Bary has long ago shown, the essential nature of the disease. Secondly, Phytophthora spots are soon followed by decay (wet rot); the spotted tubers under discussion do not tend to decay at all. I had under observation about half a bushel of suspected tubers, for the tubers show no indication of the spotting until they are cut open, from October till May, but none of them showed any signs of decay. I obtained these tubers from the grower, who resided near King's Lynn, and who suffered considerable loss from the affection, because it was impossible to tell how many were spotted until they were cut open; the consequence was that the crop was unsaleable, and, as a matter of fact, was used for feeding pigs.

In the following spring (1885) my tubers began to sprout just as healthy tubers would. On May 24, 1885, five tubers were selected, which on section showed the internal spotting in a very marked degree; they were planted in my garden and carefully watched. In due course they threw up healthy shoots, which bore healthy leaves and grew in all respects as healthy Potatos ordinarily grow. On October 16 they were dug up and examined. They had produced forty-eight tubers, each of which was cut up into slices and closely examined for the internal spots, but not a trace of the disease could be detected.

Hence it would appear that, whatever may be the nature of the affection which gives rise to this internal spotting, it cannot be very readily transmitted to the young tubers by using diseased sets, and although this negative result is all that I was able to arrive at, yet it seemed to me of sufficient interest to lay before the Scientific Committee.

SCOTTISH GARDENING.

Fruit Bushes.—At this season of the year one rarely takes much notice of Currant and Gooseberry bushes beyond the protection of the crop from insects and birds—and this is often a somewhat formidable and difficult business. The dusting of Hellebore powder and Tobacco dust, applied after the trees have been syringed with water, are some of the practices common at this season. Good coatings of soot and lime mixed, when strewed thickly under the bushes, raise such a strong odour which sometimes ward off aphis and grubs. The fine rains which have fallen have washed the foliage well, and no signs of vermin are visible. It is, by a few, considered work thrown away to put through a course of summer disbudding and thinning of fruit bushes, but though we never have spent much time at such work, we never under-rate the value of such manipulations. The gross thickets which one often sees succeeded by scanty crops favour summer thinning, and in cold northern districts the quality of the fruit is much improved by exposure to light and air. Equality of growth and fine form of bushes are items not to be despised, and those who compete at horticultural exhibitions are alive to the importance of thinning their Currants and Gooseberries while the fruit are small. Amateurs are often far ahead of practical men in the growth of such fruits, their enthusiasm prompting them to thin and regulate growth, keeping the bush open in the centre, also by lifting the roots to the surface of surrounding soil, giving mulching and liquid manure, which (under such conditions) aids the swelling of the fruit without causing undue growth of wood.—*M. T.*

Fruit Trees.—Where localities are favourable to Apricot growing we have every reason to believe that a good set of fruit has been secured; and thinning them, destroying of insects, stopping gross shoots, reducing the number for next year's supply of bearing wood, and clearing off suckers, if any, are operations which now require attention. When trees are grown on systematic principles, they are very manageable, and much unnecessary labour is avoided. It is well to begin early, and do the work piecemeal, remembering that suddenly denuding the trees of foliage may give a serious check, and cause the tree to cast much of the crop. Doing the work of disbudding all at one time has never been a general practice, but we know where such is done, and the trees being old, do not suffer so much as those of vigorous growth. Protection is still required, and nature's covering is the best; but to allow shoots to become matted and interlaced is very objectionable. All out-growing shoots may be removed first, then those which are not well placed may follow, and at last the shoots left are just enough to cover vacant space, and take the place of those which are to be cut out next season. Natural spurs are generally fruitful, and when well placed, close to the walls, they should be retained.

The thinning of the fruit may be done at different periods, leaving a goodly number to drop off, which invariably is the case; if they remain on the trees, so much the better—hand thinning can do the rest. Insects in the way of Aphis may be got rid of by tobacco water, applied during a mild evening. The small grub and caterpillars, often very destructive to Apricots, can only be got rid of effectually by hand picking; one expert at the work can go over a large surface of foliage in a few hours. Young trees should have the best placed shoots laid in, and those leading off with an undue share of growth may be topped, which will weaken them, and give an extra number, which can be retained if required. The centres of the trees send up the strongest growth, and must be kept in check to assist the sides. This refers to span and vertical-trained trees.

Apples, Pears, Cherries (not Morello), and Plums do well when spurred, and can have attention when there has been growth of say half-a-dozen leaves. Outgrowing shoots from the main branches may be rubbed off, and those on the sides stopped to three or four leaves, leaving the branches, fruit, and foliage, so that sun and air can circulate freely; and the fruit should not be shut in from the sun, but have free exposure. Cordons of these on buildings are very profitable, they require little attention, and under good management produce large finely-coloured fruit; Plums, however, do well with similar treatment to apricots; and Morello Cherries should have the shoots well thinned and be

exposed to light and air. Black Aphis is generally an unwelcome visitor at this season; it is well to take steps to prevent the pest from making a lodgment on the young shoots by syringing the trees with a little soft soap put in some soft water, in which a quantity of tobacco powder has been mixed; this may be repeated, and to some extent it will act as a preventative.

Peaches and Nectaries will now be growing rapidly, and timely attention to disbudding, moderately thinning the fruit, and cleansing them with the engine are their chief wants; stop gross shoots or get rid of them altogether if they can be spared, and lead the main growths straight in their positions. Blistering may become prevalent (this I have seen less in the north than in the south), and hand-picking may be put into practice to get rid of the injured foliage. Young trees of all kinds should have plenty of water if they require it; a good soaking succeeded by mulching will keep them safe for a long time. While we read of the heavy rainfalls in so many parts of England, we have only had slight refreshing showers here, enough just to sustain healthy growth. Strawberry plants do well with a good drenching at this season, and if not already mulched, they should now have timely attention, and a good dusting of soot among the crowns to dislodge slugs; lime also answers well, and when the fruit is formed there is no fear of its being defiled when the dustings are done in good time. It is now time to be looking after Strawberry runners to grow for forcing; pot them early and rest them well.—*M. T.*

Grapes for Late Supplies.—In late northern districts where there is difficulty in ripening Grapes during the autumn (without a large proportion of fire-heat), it is well to push the Vines on during the next three months while the sun is powerful, shutting up early in the afternoon—husbanding as much sun-heat as possible; 85° or more of heat with an abundance of moisture, and airing early in the morning will facilitate the maturing of the fruit at a double rate compared with the objectionable practice of some "who rest on their oars" and then make a "spurt" with artificial heat when the sun is declining. The unripe Grapes of all kinds on our exhibition tables in September tell their own tale. The number of Vineries being put up everywhere on a small scale, to be managed by the proprietor or someone in the domestic circle, are very great, and such suggestions as this, will doubtless prove acceptable. Artificial borders should now have a thorough soaking of water; if the soil is not rich, liquid manure may be given. A mulching of short litter may then be applied over all the border.—*M. T.*

Presentation to a Gardener.—Mr. John M'Lean, gardener to John Watson, Esq., of Earnock, on the occasion of his leaving the district to fill the important position of head gardener to W. Pearce, Esq., M.P. for Govan, at his coast residence, Wemyss Bay, was recently presented with a valuable gold watch with inscription thereon, as a mark and token of the appreciation and esteem of his friends. In making the presentation, Mr. Strang said that during the number of years that Mr. M'Lean had been in the district, he had been thoroughly appreciated and respected for his many good qualities of heart and head, and that it was on rare occasions that one man had so many friends and well-wishers. No one, he said, who saw Earnock gardens and pleasure grounds before Mr. M'Lean's time, and who has seen them since, but must be struck by the immense improvement which had been made on them by Mr. M'Lean's skill and industry. He also referred in glowing terms to Mr. M'Lean's connection with the Hamilton Horticultural Society, of which he was, and had been for some years, the president, and of the good work he had done for that society. It then devolved on Mr. Barrie to present Mr. M'Lean, for acceptance on behalf of his wife, a beautiful gold brooch set with pearls, brilliants, and rubies. Mr. M'Lean suitably and feelingly replied. He said he would long cherish happy thoughts and feelings of Hamilton and his friends there, because in it he had spent some of the happiest of his days. He appreciated much the kindness shewn to himself and his wife in presenting them with such visible tokens of their friends' liking for them. In after years when looking at his watch, he would see in its face many kindly countenances he had been intimate with in Hamilton, and which he would remember while he lived.

COLLECTING ODONTOGLOSSUMS.

"Although the geographical range of Odontoglossum crispum is comparatively limited, there is a marked difference in the varieties found in various localities. The Pacho Mountains is the home of the finest forms, and here the plants grow on the lower branches of the forest trees in company with O. gloriosum and O. Lindleyanum, two inferior species in point of beauty, but which have, perhaps, in a great measure, been instrumental in producing the beautiful narrow-petaled supposed hybrids, such as Andersonianum, Ruckerianum, Jenningsianum, and others. It is peculiar that, whereas the starry-flowered forms, similar to Lindley's type specimen, abound exclusively on the north of Bogota, the woods on the south, about ten days' journey distant, are rich in the fine round-flowered varieties. Although this Orchid is imported in larger numbers than any other from South America, the risks and expenses are not slight even now. In our case, we purchase the exclusive right to collect plants in the woods in certain districts; natives are employed to gather them, for which purpose parties of from four to eight go into the woods, returning in about a fortnight with the result of their labours. After the plants have been cleaned and prepared, and kept on wooden stages for several weeks, they are ready for packing.

They are then fastened to stout sticks, and these are fixed in wooden boxes so as to leave air space around them. The cases are carried on mule-back to Bogota, a journey of about ten days, and here they are received by an agent, who sends them by mules to Honda, which is reached in another six days. This place is situate on the river Magdalena, and here the cases are put on board a river steamer, which takes them to the seaport town of Savanilla, a journey occupying about five days. Owing to the intense heat on the river journey the plants often perish. The cases then come, as a rule, by mail steamer, *viâ* Colon and St. Thomas, to England, the passage being made in about twenty-seven days. The risks, therefore, of importing this Orchid are great, and, owing to the peculiarly soft nature of the plants, they are so liable to decay, that in some instances seven-eights of the consigment are dead on arrival here. The havoc made in the native forests, too, must be considerable, for we calculate that for every three plants actually established in European gardens a tree has been felled."—*Reichenbachia.*

NEW SOUTH WALES.

Everything that can be grown in England can be grown in New South Wales, and I have known the Potato to give heavier crops than have ever come under my notice either in England or America. I have seen thirty tons, but twelve to fifteen tons to the acre are not at all an uncommon yield. Sorghum and the various sorts of imphee are grown chiefly as forage plants, and not the purpose for which they are usually cultivated in America, viz., the production of syrup, which is so largely used by the farmers and country people instead of sugar. Wheat, Barley, Oats, and Maize are, however, the principal crops. The latter is grown on the deep alluvial river flats, and produces heavily. Its cultivation is easy, and the yield is sometimes as high as 100 bushels to the acre for the first crop. Large quantities of Maize are exported to the other colonies.

The cultivation of the sugar-cane is limited to the north-eastern river banks and brush lands. The acreage under cane increases year by year, but the low price of sugar sadly retards the progress which would otherwise be made; but on the Clarence, Richmond, and Tweed rivers the industry shows that it must eventually become one of the most important. The Colonial Sugar Company, having recognised the facilities which the land above-mentioned afforded for cane-growing, offered liberal inducements to the farmers of the locality for growing cane, and to further this, erected mills and sugar works to crush the cane and for the conversion of the juice into sugar; the company thus providing a market for the smallest growers by purchasing the cane by weight. The variety known as "ribbon cane" is the one usually planted, but as this takes two years to mature, and is more costly to cultivate, the annual varieties are being experimented upon. The crop may be averaged at about thirty tons of the "ribbon cane" and twenty tons of the annual sorts.

The farmers contract to supply cane from a certain area for a stated number of years, the company taking delivery of the standing crop in the field and paying the farmers 10*s.* per ton for growing. The farmers can —if they wish to do so—make arrangements to cut and cart their own cane to the mills, for which they are allowed an adequate remuneration. Land suitable for cane cultivation is very valuable, and tenants give as much as from £2 to £3 per acre annual rent. Most of the farmers, however, own the land they cultivate. The crushing season commences in July or August and lasts until Christmas. The raw sugar is taken to the company's refinery in Sydney, where it is refined and rendered fit for the market. These sugar works are very extensive, and sugar is made equally good in colour and quality with the kinds imported from Europe.

Tobacco grows luxuriantly. All varieties thrive, from the high-priced Cuban, which I have grown myself on the Lachlan River, and had made into excellent cigars, to the coarse Virginian sorts, which are usually grown for the purpose of manufacturing the ordinary plug and cut tobacco. Its successful cultivation depends greatly upon the seasons, especially at the time when planting out takes place; the plants are raised in seed beds and planted out like young cabbage plants. Should the weather be very dry at this time, hand watering is absolutely necessary, or the crop is lost. At present tobacco growing is mostly in the hands of the Chinese, whose skill and patience in the matter of small cultivations are proverbial.—*Ed. Combes, in the Society of Arts Journal.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Where a few Roses are grown in pots their possessors will be well repaid now, for the plants can be had in flower at this time without any forcing, and they bloom much more freely and naturally. A good display can be maintained in the greenhouse until Roses come outside, and these charming flowers are always welcome at whatever period they are obtained. Pelargoniums are also very bright and free, varieties of the show, decorative and fancy types being much appreciated for such houses and general ornamental work. The former are, however, the best, as the fancies are somewhat delicate in habit, and not always satisfactory, while such floriferous varieties as the Duchess of Bedford and Volanté Nationale album are indispensable. The principal enemy of these and the Roses is green-fly, which increases extremely rapidly if not checked by fumigation. If it is not convenient to fumigate the whole of the house at one time, the infested plants should be removed to a frame or other suitable place to undergo the operation.

Calceolarias are now in first-rate condition, and though the old florist's fancy named varieties have disappeared, and the practice of naming has been discontinued, calceolarias are more popular now, and larger numbers are grown than has ever been the case before. They are found in nearly every garden where there is glass accommodation of any kind, and large quantities of seed are saved every year to meet the demand. It is most important to obtain a good strain of seed, for unless this is done, the efforts of the best cultivators will be useless. They may succeed in growing vigorous plants, but when the flowers are produced, they will be very disappointing in size and colour. Some time is required, and constant careful selection, to form and maintain a reliable strain of Calceolarias, and purchasers should, therefore, be particular where they procure the seed if they wish for the best results. Liliums are now coming forward rapidly, and plants of L. longiflorum and L. Harrisi are flowering beautifully now, these with L. speciosum and its varieties, are especial favourites with us for indoors, while most of the others that will succeed outdoors, are worth a place in any garden. L. Harrisi has proved superior to L. longiflorum in several respects, the principal being the larger number of flowers produced on the stems. Of L. speciosum, the white and red varieties are charming, and a succession of plants can be kept up for some time, by growing them in cool quarters or out of doors in a slightly shady position. We have an abundance of Mignonette and Musk in pots, these fragant plants being general favourites, and serve admirably, especially the latter, for front row plants on the stages or shelves

THE VEGETABLE GARDEN.

The condition of the soil and the weather still favour transplanting, all seedlings that require more space should be attended to at once, for it is very probable that the weather will soon become unsuitable for that purpose. Cabbages, Cauliflowers, Brussels Sprouts, Parsley, and other vegetables, should be planted immediately, and it is surprising how rapidly they take to the soil, and commence growth. Our Vegetable Marrows are advancing steadily, though they suffered somewhat in the recent heavy storms, but a little protection was afforded them and they have now recovered. Onions are not making very rapid progress, and a dressing of soot is applied occasionally, both as an assistant, and to check the Onion maggot, which too frequently appears at this time of year.

A number of sturdy young Tomato plants will soon be ready for placing out-of-doors, but it is never advisable to do this very early, as if they receive a check after being planted, it is a long time before they recover, and the crop is, in consequence, thrown so late in the season that the fruits rarely ripen thoroughly. Tomatos should grow on steadily from the time they are placed out, until fruit is forming, and then there will be a chance of success. Against walls or on warm slopes there is no difficulty in obtaining ripe fruit in July and August, and Tomatos have become such general favourites now, that they are well worth a trial in all gardens. A substantial soil, not too rich in manure is required, and the manurial assistance is preferably applied when the fruits are swelling, as before then it is apt to cause an excessively luxurious but unfruitful growth.—*Scolytus.*

THE VICTORIA LILY OF THE VALLEY.

Messrs. Hawkins & Bennett, of the Lily Nursery, Twickenham, have just sent me a bunch of very fine spikes of the giant Lily of the Valley, which they term the Victoria, and which they grow so largely for market purposes. They make a speciality of Lilies of the Valley, not forcing them. The beds are in the open ground, and they give them the protection of cold frames when they are coming into bloom. They are grown in beds that last for six or seven years. When a new bed is made the soil is dug out, and a good layer of rotten dung put in at about 18 ins. from the surface. Then some of the soil is put back, the Lilies are planted 5 ins. or 6 ins. deep at least, and the beds filled in in the ordinary way. No flowers are gathered from it the first year, the second year there is a good, and the third year a full crop. A good mulching is given annually, when the foliage has faded; a mixture of dung and leaves is found to be the best. This is washed into the beds by the summer and autumn rains, and found to be of great advantage. Very large numbers of flowers are grown at Twickenham. The fine form known as the Victoria is said to be a selection made by Messrs. Hawkins & Bennett.

The firm I have just named do not appear in the least to be deterred from prosecuting their ordinary business by reason of the superstition that prevails in Devonshire—namely, that it is unlucky to plant a bed of Lilies of the Valley, as the person doing so will probably die in the course of the ensuing twelve months. No explanation is given as to the origin of this superstition, but that it exists there can be no doubt.

It is some satisfaction to know that this charming Lily is a truly British plant. It is no exotic obtained from abroad, but indigenous to this country. It is named Convallaria from the Latin *convallis*, a valley, and *rica*, a mantle—in reference, it is said, to the dense covering formed by the leaves. Bauhin, in his *History of Plants*, says it is called *Lilium convallium*, because it is produced in shady places and groves, which is not a very satisfactory explanation, inasmuch as that *convallis*, in Latin, means a valley between two hills. Brumfells was a better namer in calling it *Lilium sylvestre*, or Lily of the wood. *Majalis* alludes to its blooming during May. In Gerarde's time it was popularly called the Cornwall Lily, the May Lily, and in some places *Lirianfancie*, the last name being evidently derived from two French words, *Lis*, a Lily, and *confiance*, hope—Hope's Lily.

There is a legend in Sussex, that in the forest of St. Leonard, where the hermit saint once dwelt, fierce encounters took place between the holy man and a dragon which infested the neighbourhood, the result being that the dragon was driven back into the inmost recesses of the forest, and at last disappeared. The scenes of their successive combats are revealed afresh every year, when beds of fragrant Lilies of the Valley spring up wherever the earth was sprinkled by the blood of the warrior saint (*Folkard's Plant Lore*).—*R. D.*

MOVEABLE FRAMES.

There are few gardeners that are overdone with these, which are so useful for hastening vegetable crops in the early part of the year, as well as for protecting different subjects during the winter. We find them far more serviceable than brick pits for some purposes, even when the latter are heated, as the heat from hot water pipes does not seem to suit young vegetables so well as that supplied by a mild hot-bed. We are never afraid of our hot-beds being too violent, as they are invariably composed of leaves, of which we have an abundance, but scarcely a sufficient supply of litter to support the sides. They have one special advantage over pits, that when the crops are first sown or planted, the soil or the tops of the plants may be within a few inches of the glass, and by raising the frame on bricks as the plants grow, stocky growth is secured. When glass protections are no longer necessary, the frame may be lifted off and devoted to some other purpose. By adopting this plan all of our two dozen lights are doing duty the second time this year, and many are covering their third crop. Never have we experienced their value so much as this season, when there was no chance of anything progressing in the open ground.

In the autumn we fill them with Violets, Lettuce, Radishes, Cauliflowers, Carrots, Parsley, and Strawberry pots, and those covering the latter are first set at liberty, and are used for successional Carrots, Lettuce, Cauliflower, and Radishes, also Brussel Sprouts, generally about the end of January. This year a three-light frame was utilised for Spinach, as we particularly required some at the end of March, and previous experience led me to conclude that it would be ready, and so it was, but I have seen it finer ten days earlier. More than half of the plants in the open of this esculent were destroyed in the winter in this garden. As soon as we became independent of our frame Spinach, off comes the frame to be fixed on another bed for Asters, Zinnias, and other tender seedlings. The same frame is again ready for Cinerarias or Primulas. Early in March the frames over the Violets are removed in order to secure a successional lot of Potatos; the produce from these is four times those in the heated brick pits. The early date of planting will partially account for the difference, and the distance they are from the glass in their early stage must be credited with the balance. When the Potatos are ready for use, as is the case now, we either move the frames on to other beds to protect Vegetable Marrows, or we take up a few Potatos in the centre of each light and put in a Marrow plant, and as the Potatos are required we continue to dig away from the Marrows so that their roots which travel rapidly may not be disturbed, which they most likely would if we began at one end of the frame, for before we reached some of the Marrows their roots would be amongst the Potatos.

The lights covering Lettuce are numerous, as the demand is great in December, January, and March, and half of our stock was used this year before Christmas, and half of those left were cankered, the Brown Bath Cos suffering more than the Paris Cos. The latter variety seems different from the one grown in the neighbourhood of London under that name—at any rate, I fancy so. Probably, it may be the Alexandra Cos. However, I send you a sample of the few left. They are nothing wonderful to visitors to Covent Garden or growers in the south; but with us, in the north, we shall not have anything like them for six weeks or two months to come from the open ground. [A better sample than any in the market just now.—Ed.] The gaps made by canker were filled up by sowing a few seeds and pricking out other Lettuce sown in a box; also Onions sown in a similar way, as nearly the whole of the autumn-sown ones perished in this garden like many others in the locality. Some parts have been more fortunate, for about the time we planted ours out three weeks ago, plenty four times as large could be bought in the local markets at 2*d.* per bunch. They had probably come from Cornwall by sea to Barrow, as I understand much of the produce of that county does now for supplying our northern markets. The frame-ground is of so much interest to me, that before recording all our doings I feel sure I should weary your readers.—*W. P. R.*

POLYANTHUS NARCISSI.

It seems only a few weeks ago that we were looking upon the collections of Hyacinths, Narcissi, Tulips, &c., in flower; and now we are reminded that the time is at hand for ordering from the Dutch growers, for already the wholesale lists are putting in an appearance. This means that orders should be made up during the next month and dispatched so as to ensure an early delivery in August.

Among the collections of Daffodils shown during the past spring were some representatives of the Polyanthus Narcissus section. Now this section is very useful indeed for bringing on early to flower in pots in the greenhouse with Hyacinths and a few other forced plants. They are easily grown, very free of bloom, sweetly fragrant, and with reasonable care last a good time in flower. I made a note of some of the many varieties shown, with a view to get the best, and I now set down the names of those I thought to be well worthy of cultivation. I commence with Milton, a fine variety having a large broad yellow perianth and orange cup; one of the best of the yellow varieties; Queen Victoria has a white perianth, with deep orange cup; Soleil d'Or is another fine yellow, broad deep yellow perianth and orange cup; Bizart orientalis is a very striking variety with a large white perianth, and yellow cup margined with dark, like the cup in Narcissus Poeticus; Prince of Wales has a primrose perianth and orange cup; British Queen is white and deep golden cup; it appeared to be distinct from Queen Victoria as shown, though partaking very much of the same character; La Favourite is white with a deep orange cup; Regle d'Or has a pale sulphur perianth and yellow cup; Imperator, yellow perianth, and rich golden cup; Juno is a taking variety—primrose in the deep golden cup; White Pearl has a pure white perianth and sulphur cup; chaste and pleasing; Jaune Supreme is another yellow—clear yellow perianth with orange cup; the Scilly White has small flowers, the petals pointed, but it is very free and common in the Scilly Islands where it is much grown for cutting.

The names of some of the foregoing are not found in ordinary bulb catalogues, but the descriptions of those I have given may assist some seedsmen who are desirous of adding a little novelty to their catalogues.

In addition to the double Roman, there are two other double forms of Polyanthus Narcissus, viz., Quantibus plenus, yellow, with deep golden centre; and Noblissimus, white with yellow centre.—*Quo.*

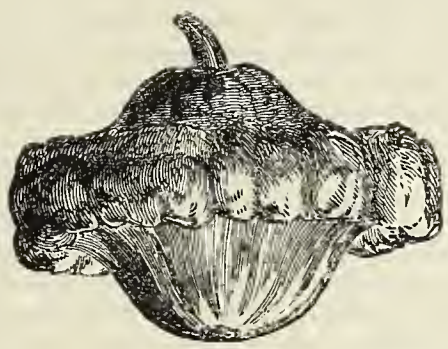
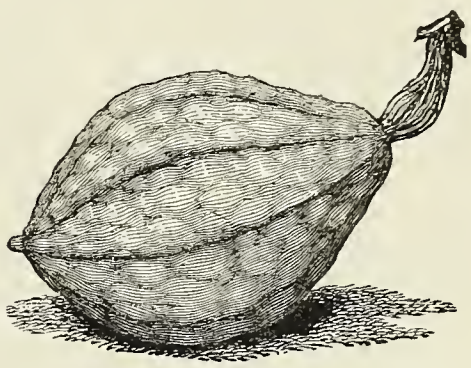
ORNAMENTAL GOURDS.

The same family that gives us the much valued Cucumber, and the delicious Melon, also includes a large number of remarkable plants that are occasionally employed in this country for ornamental purposes, and in their native lands are used as food or medicine according to their respective properties. In late years some additional attention has been drawn to these plants at the summer exhibitions of the London horticultural societies, who have provided classes and offered prizes for collections of the best. On the continent the Curcurbits and Gourds generally have been made specialities for some time, and from there we have procured most of the handsomely coloured varieties which often surprise visitors to shows where these fruits are staged. In the Royal Horticultural Society's Garden at Chiswick, for several seasons large and varied collections have been grown and exhibited. Mr. Glen, gardener to Mrs. Montefiore, Worth Park, Crawley, and Mr. C. Osman, South Metropolitan Schools, Sutton, have also become noted as cultivators of Gourds, and all have helped to bring the plants into greater prominence.

There is an astonishing diversity in size, form and colours of the fruit, from the miniature Gooseberry Gourd to the Pumpkin and "Great Gourd" as the Curcurbita maxima is termed, the fruits of which weigh from 100 lbs, to 200 lbs.; the gradations are numerous. In form they vary from the cylindrical fruits of the Cucumber type to huge globular or oval fruits of the species just named; they are Pear-shaped as in the squashes, like a turban as in the Turk's Cap, or bottle-shaped as in the Lagenarias, with innumerable intermediate forms as in the Custard Marrows, which are curiously flattened and regularly indented round the margin as if they had been placed in moulds. The colours are chiefly tints of yellow, orange and red, strangely combined in stripes, rings, spots or marbling, and various

shades of green, from the lightest to the darkest tints, almost black, and sometimes these are shown in streakings on the same fruits. When well ripened some of these are very bright, and if the plants are trained in a suitable manner, they are ornamental in no ordinary degree. The species or varieties with small or moderate-sized fruits are the best for general cultivation, and one of the prettiest is the Gooseberry Gourd, Cucumis prophetarum or grossularioides, for it is known under both names. This produces small oval fruits about the size and shape of a Gooseberry, striped regularly from end to end with green and yellow when ripe, but light and dark green in its immature state. It produces its fruit very freely, and is very attractive when grown in pots and trained to a trellis or suitable stakes. Queen Anne's Pocket Melon is also cultivated for decorative purposes, but bears a much larger fruit than the preceding, like a flattened Orange, and striped with deep yellow. It is usually employed to furnish an ornamental dish for the dessert, but its quality is not sufficiently good to recommend it for eating as compared with the finely flavoured varieties we now possess. The Turk's Cap Gourd is one of the most showy and brightest in colour, and with several other forms it is shown in our illustrations.

Most of these ornamental plants can now be obtained from the leading seedsmen or from others who make a speciality of them. They are either annuals or are best treated as such, and raised from seed every year in the same way as Cucumber or Melon seeds are germinated, the hardier sorts like the Pumpkin being treated similarly to Vegetable Marrow and planted out at the same time, when all danger of frost is past. The others mostly require the temperature of a warm house, except in the height of summer, when they will stand in conservatories or out of doors; they all need a substantial loamy soil and liberal supplies of water during growth, with top-dressings of manure or applications of liquid manure when the fruits are swelling as they are gross feeders, and the large-fruited sorts in particular require generous support. In large houses the plants are commonly grown in pots, the stems secured to upright stakes to the height of 4 ft. or more and then trained horizontally so that the fruits are pendant and can be readily seen. In smaller houses and for the smaller-fruited varieties, a trellis such as that illustrated in our engraving below, is the best as it occupies but little space and permits the growths and fruits being fully exposed to light. Quite apart from the merely decorative gourds, however, many a useful crop of Melons can be obtained from plants trained on similar trellises, which can be varied in height to suit the convenience of the cultivator. Liberal syringing will be necessary for all plants of the character named, thinning the growths where too crowded, removing those that are weakly and shortening those bearing fruits. The latter must, in the case of the larger-fruited sorts, also be thinned, but the small ones need very little of this attention. To ensure the fruits setting well it is better to fertilize them artificially, as some of the species are rather uncertain fruiters in cultivation without that assistance. Very few difficulties will, however, be found with the gourds, and wherever the curious forms of vegetation are prized a small collection might well be grown.

Ornamental Gourds.

ANDROMEDA.

Most of our readers versed in horticultural botany, know that Linnæus gave the name, Andromeda, to a plant he saw in his northern tour, because some circumstances connected with the situation in which he saw the plant, reminded him of the ancient story of Andromeda. As these plants are well-known in America, which is their chief home, we give a modern version of the ancient tale, as we find it in a floating "exchange."

"When Cepheus was king in Ethiopia, his wife, Cassiopeia, who was herself a famous belle, boasted that her daughter, Andromeda, was more beautiful than the Nereids. The gods of those days had precious little patience with human vanity, and the goddesses, particularly, were very jealous of the charms of their mortal sisters. Accordingly, when the fifty submarine beauties, who answered to the name of Nereids, heard of Cassiopeia's impious boast, they were indignant, and acting, it may be, upon the maxim, 'the greater the truth the greater the libel,' they besought Neptune, the ruler of the sea, to wreak vengeance upon Cassiopeia and her fair daughter. Neptune, who was always ready for a shindy, promptly proceeded to drown out the whole of Ethiopia. The despairing inhabitants, driven from one refuge to another by the advancing waters, went, after the fashion of the time, to the oracle of Jupiter Ammon, and the ungallant god told them the only hope they had was in chaining Andromeda to a rock, and leaving her there to be devoured by a sea monster. The fact that the unhappy girl was a princess did not avail to save her, and she was dragged to the edge of the sea, chains were riveted upon her wrists and ankles, and fastened to a rock, she was left to her awful fate.

"Presently the monster appeared advancing to enjoy his feast. Sparks of fire flew from his distended nostrils as he eagerly sniffed the air, and his eyes gleamed with ferocious delight when he beheld his fair victim afar off, straining at her cruel chains in an agony of terror. The monster swiftly clove the waves, leaving a track of boiling foam in his wake. Rigid with fear, and unable to withdraw her eyes from the frightful creature, the beautiful Andromeda stood, her arms extended by the chains, and her feet immersed in the waves that his approach had raised, while he paused a moment to contemplate his entrancing prey.

"But there were other eyes fixed upon Andromeda, and her charms had gone straight to the heart of a champion of whose very existence she was unaware. The high-born and valorous Perseus was just then returning through the air from his famous expedition against the Gorgons. In his hand he held the head of Medusa, the mere sight of which was capable of turning the beholder into stone, and which he had severed with a single stroke of the diamond dagger, lent to him by one of the gods. Perseus took in the situation at a glance, and he was not the sort of person to be intimidated by any kind of monster, especially when a captivating princess was to be rescued. According to

one account, Perseus, protected by Pluto's helmet, which rendered him invisible, and balancing himself for an instant like a hawk upon the wings he had borrowed from Mercury, swooped down upon the monster, and thrusting the dreadful Gorgon's head in front of his eyes, froze it into stone before it could close its jaws upon its shrieking victim.

"But the story we prefer to believe is, that Perseus met the enemy openly, in the sight of the princess, and attacked him with the dagger only. Then the sea was lashed into foam, and the noise of the conflict echoed along the coast. Poor Andromeda was almost drowned in the surges rolled up by the monster in his struggles. Finally Perseus got in a fatal thrust with his diamond blade and the battle was over.

"Perseus then broke Andromeda's shackles and bore her in triumph to her father's court. With the death of the sea monster the floods retired, and the Ethiopians prepared to celebrate the nuptials of their princess and the hero who had rescued her. But there was trouble at the wedding. Andromeda had been promised in marriage to her uncle Phineas, but she preferred the heroic Perseus to the man who had proved too cowardly a lover to try to rescue her when she was exposed to the jaws of the monster. Phineas went to the wedding with a gang of ruffianly followers bent on having a row. He got more than he bargained for. Perseus was a hero of the first magnitude in every respect, and with the aid of the Gorgon's head he overcame all his enemies. The gods were so well pleased with Perseus that they placed him and his bride, upon their death, among the stars, and gave them Andromeda's father and mother, and even the sea monster, to keep them company. And so they can all be seen shining there to this day, as they were in the time of Aratus.

"For there a woeful statue form is seen,
Andromeda parted from her mother's side.
Long I trow,
Thou wilt not seek her in the nightly sky,
So bright her head, so bright
Her shoulders, feet, and girdle
Yet even there she has her arms extended
And shackled even in heaven; uplifted,
Outspread eternally are those fair hands.

"It gives one a clear conception of the antiquity of these constellations when we know that they must have been familiar to St. Paul, for he quoted one of the opening lines of Aratus' great poem on the skies in his speech to the Athenians on Mars Hill. And they were as ancient as the hills in his day. This story of Andromeda, framed in the stars, is older than the history of Europe."—*American Gardeners' Monthly.*

TROLLIUS OR "GLOBE FLOWER."

THE Globe Flowers are among the most useful and valuable of spring flowering plants. Many persons are acquainted with the British species, Trollius Europæus, a kind of aristocratic relation to the Buttercup. Its petals are of a larger and paler hue, and more numerous than those of any of the Buttercups; they are all cupped and meet in the centre so as to enclose the stamens and sepals in a perfect globe. In the hilly districts of the south of England, the Globe Flower grows freely, and not a few fine natural varieties of it have been discovered. There is a white variety also, but it is not so numerous as the species, still a very useful and attractive flower. T. Asiaticus is, as its name implies, an imported species, but it is now common in gardens, and very showy and effective. The gem of the group is T. japonica flore pleno, one of Mr. Fortune's introductions from Japan, and known as T. Fortunii. It has large fully double deep orange flowers, and it makes a very showy border plant. All the Trollius do well in a moist sandy loam.

The botanical name of the Globe Flower, Trollius Europæus, is supposed to be of Scandinavian origin, and to signify a magic flower. The plant is also called Globe Ranunculus, and Globe Crowfoot, from the globular form of its calyx. The flower was formerly known as the Troll-flower, and in Scotland as the Luckan Gowan (Cabbage Daisy). The name of Troll was probably derived from the Swedish word *troll*, a malignant supernatural being, a name corresponding to the Scotch Witches Gowan, and given to the Trollius on account of its acrid poisonous qualities. It is a common flower on the Alps, and has been employed from time immemorial by the Swiss peasantry to make garlands of on rural festive celebrations. In the northern counties of England, at the beginning of June, the Globe Flower is sought with great festivity by the young people, who adorn their doors and cottages with wreaths and garlands composed of its blossoms.

It is a pity to attempt to divide the roots of Trollius until the plants have become well established in the soil, then side growths can be taken off without materially affecting the stability of the plants, and they flower so much better when they are thoroughly set in the soil. A hot dry position should be avoided; this is too trying for them, and the plants if allowed to suffer from dryness at the roots soon give out.—*Q.*

HAWTHORNS.

SUBURBAN and country gardens are now gay with the flowers of the Hawthorns, which come before we have quite lost the Lilac, and with the Laburnums render the shrubberies very beautiful. The common white Hawthorn, or "May," of our hedge-rows, which covers them with a snowy mantle of flowers, is one of the greatest favourites of the wild British flora; but in gardens we have now many handsome varieties with scarlet and rose flowers, both single and double, to select from. Cratægus oxyacantha has been under the care of cultivators for a long period, as though it is a native plant, it has been found so useful for hedges that it is now very generally used for this purpose.

It is readily increased by seeds, and, in consequence, many varieties have been so obtained, differing greatly in their habit of growth, in the colour of their flowers, the colour of their fruits, and the form of their leaves. Large collections are, however, seldom seen, and in ordinary planting, if the white, scarlet, and rose forms are associated in due proportion, it is all that is necessary. The single varieties are very handsome, and usually much brighter in colour than the doubles, though the flowers of the former do not last quite so long, either on the trees or when cut; but we prefer them, and a good specimen of the single scarlet, drooping at the corner of a shrubbery or in some similarly prominent place, cannot be surpassed, especially if a little taste has been exercised in planting a white-flowered shrub near it for contrast.—*H.*

FRUITS, FLOWERS & VEGETABLES.

Amherstia nobilis.—Ever since its introduction to this country, in 1837, but more especially since it flowered in 1849, the Amherstia has been an object of great interest and anticipation to the cultivator. It is, moreover, very capricious in the matter of flowering, and the individual blooms are almost ephemeral in their duration. These characters are borne out by some plants that have come under my notice, the largest of which makes a reasonable amount of growth annually, but has not flowered for some years. Small plants in pots, however, occasionally flower, and exhibit a brilliant and geogeous mixture of colours, that are as attractive as the duration of the flower is short and tantalizing. The petals exhibit a mixture of red, some say vermilion, yellow, and tipped with a large velvety golden green blotch, or some such colour, that is equally difficult to describe. They are very unequal in size, which adds greatly to the curiosity of the flower. The figure in the *Botanical Magazine*, t. 4453, hardly does justice to the peculiar and brilliant coloration.—*J. F.*

Calcolarias.—The first of these that I remember seeing was in 1833; it was named Kellieana, a very dwarf growing variety, with a small yellow flower with very dark spots upon it. I have seen this sort stand the winter out-of-doors, and bloom most profusely the following season. There were others which made their appearance shortly after, but they were very small and inferior in form. I think somewhere about 1837, I saw in Messrs. Dicksons & Co.'s nursery, a very fine variety named Standishii, a very large yellow striped and spotted with bronze all over. This was something far ahead of anything that had ever been seen in this quarter; then after this came Lady Constable and a host of others. Mr. Anderson-Henry took up the raising of Calcolarias about 1840; he was very successful for a time in raising some very fine things, which were distributed by Messrs. Dicksons & Co. Shortly after this the late Mr. John Carstairs, who then had the Warriston nursery, raised a very fine batch of seedlings. He made himself believe, and tried to persuade others, that he could see all the letters of the alphabet on them; when I saw that in the papers, I, like others, went to see them, but I must confess it was by a very strong effort of imagination that we could see the A B C on them at all. Now the days of named herbaceous Calceolarias have gone by, a pinch of seed is all that is required.—*John Downie, Edinburgh.*

Hoya imperialis.—This vigorous creeping stove plant is now in flower with us, and producing fine clusters of its large umbel-shaped flowers upon a growth some 8 yds. to 9 yds. long. It seems especially adapted as a creeper for large houses, and its habit of flowering resembles the old Hoya carnosa—*i.e.*, it produces a second tier of flowers from the same flower-stem, a fact that is worth knowing in cases where the flowers are required to be used in a cut state.—*W. C.*

Begonia discolor.—A plant that will flower almost anywhere and everywhere must not be despised because there are other varieties of its species more fashionable and perhaps better. The above variety will grow and flower at the base of a wall, by the side of a path, in a rockery, or if its roots are even squeezed into a little soil and lime rubbish under a stage, it will grow and flower as if the most ample preparation had been made for it. It is not recommended that the plant be treated so unkindly, but the facts are stated in order to show the fine constitution and adaptation of the plant to grow and flower under almost any circumstances and anywhere.—*W. H.*

Scillas.—We herewith enclose you a series of Squills (Scillas), which, you will observe, are all more or less beautiful, and which form some of the most pleasing plants among spring bulbs for naturalising, or for massing here and there in shrubbery borders or woodland walks, their long pyramidal racemes of bell-shaped flowers rendering them most attractive. In the Campanulata group we have light blue, pure white, rosy lilac with fine bold spike, while we find the giant in the variety maximus. The same colours occur in the nutans section, though of different aspect, the bells in this case being more cylindrical. The intense gentian blue of S. nutans violacea is remarkably distinct and most telling in a mass. S. hyacinthioides is a very pretty deep blue, and shaded with lighter blue towards the mouth. These make up a pleasing whole, and all are useful in a cut state.—*Collins Brothers & Gabriel.*

Anemone Polyantha.—A fine clump of this Himalayan species has been flowering freely for some time in the rockery at Kew. It seems perfectly hardy, having stood out for the last two winters without any protection. It is a native of the Ganges Valley, at elevations of 10-11,000 ft., and was raised from seeds sent home through the medium of the Saharanpur Botanic Garden. In habit and general appearance of the foliage, this species resembles that of A. obtusiloba, but has more numerous, whiter flowers, is hardier, and altogether a finer plant for cultivation in a rich, moist nook of the rockery. The foliage forms a dense mass, completely covering the soil in which it is planted, while the flower-scape is just sufficiently long to carry the pure white and graceful flowers clear of the foliage. The anthers, however, are darker coloured, but by no means detract from the beauty of the flower. The individual leaves are reniform or orbicular, with blunt, overlapping lobes and hairy, and altogether much larger than those we are wont to associate with more familiar and more frequently-cultivated species. There is a probability of this species proving much less troublesome to cultivate than the Primulas from the same country.—*J. F.*

Rose Insects.—I should feel much obliged if any of your correspondents could inform me through the medium of your columns, of the best means to adopt to get rid of the pest, popularly known as "cuckoo-spittle," which appears just now to be very prevalent. I have in my garden made several vigorous raids upon it with the "finger and thumb" process, apparently clearing it all away, only, however, to find it as bad as ever a few hours later. Is it due to drought or to excessive moisture; and does the "spittle" generate the insects, or do they produce the frothy substance? I observed appearances of it before the late heavy rains, but since these came, it seems to have become worse. This species of blight seems this year to have attacked every kind of plant indiscriminately. In former years I noticed that it usually bestowed its attentions upon certain growths only.—*Puzzled.*

Mildew on Peaches.—I have some Peach trees, the fruit of which is every year affected with mildew, causing it to turn white and hard. The trees are on a wall facing east. Can any of your numerous readers state the cause and a remedy.—*A. R., Lewes.*

Semi-double Primulas.—Herewith I beg to send you a few blooms of semi-double Chinese Primulas; they are from seed saved last year, and sown late in the season, consequently they are only just blooming. I have had the strain for some years, but have never troubled much about them. Are they worth trying to perpetuate, as I could manage to seed them well at this time of the year.—*W. G.* [Certainly; they are very pretty, and if easily raised from seed, would be most welcome as useful decorative plants.—Ed.]

Gilbert's Late White Broccoli "Victoria."—From Mr. Richard Gilbert, of Burghley, we have this week received some beautiful heads of this Broccoli, and which, when cooked for the table, were as tender and delicate in flavour as the most fastidious palate could desire. It is unfortunate that such a thoroughly good variety should have had so many names bestowed upon it, but we hope, for the sake of the raiser, that it has had its last baptism. It is said to be a cross between Chou de Burghley and Cattell's Eclipse Broccoli, and was first named Burghley Queen, then Late Queen, next Queen of the Broccoli, and now Victoria. It has been certificated by the Fruit Committee.

Tomatos in the Open Air.—I observed recently, when visiting Messrs. Sutton's Nursery, at Reading, that Tomatos were being planted out in the open ground. The plants were strong and well hardened, and I understood that all the preparation the soil received was simply a good working, no manure of any kind being used. Two plants were planted together, and straight stakes placed to each, and I was assured that they cropped enormously. The main object is to get the first blooms to set.—*Con.*

Acer Leopoldii.—All planters of ornamental borders and pleasure grounds should make a note of Acer Leopoldii. As seen in the ornamental border of the London Road Nursery, Reading, it is a most lovely variegated shrub.—*Con.*

Agathea cœlestis.—Those who have been smitten with the contagion for æsthetic flowers, will find in this Blue Marguerite something really chaste and useful, and probably one of the hardiest plants of its class. In a mild winter it keeps flowering out of doors in the open air, and its pretty blue flowers are very acceptable at this season. A friend of mine has a whole batch of it in flower, in small pots, in a temperate house, where it has been flowering for months. It is alike invaluable to the gardener and florist all through the winter and spring. The flowers are well adapted for bouquet-making, and are of such miniature size that their presence, while giving tone to a bouquet, supplies a colour not common in the dull season.—*W. H.*

The Gardeners' Calendar.

THE PLANT HOUSES.

Climbing plants such as Allamandas and Stephanotis, are, unless properly treated, seldom well flowered, and a few remarks as to their wants may be welcome. Should they be kept growing amongst other things requiring constant shade, the wood never becomes ripened and flower cannot be looked for under such conditions; but under ordinary treatment they may be freely flowered if the young growths are exposed to light as much as possible. One of the best plans is to tie small twine from the trellis on which the plants are trained upwards to the roof, and as growth proceeds train up the growths where by exposure they become ripened, and so flower freely enough; whereas if tied in constantly for neatness sake, you have no other reward than a ball or globe of foliage.

Calanthes are now making a good free growth, and are staged in a batch in the intermediate house, where they get an abundance of light and air, but still are not subject to the direct rays of the sun; staging by them selves allows of a better attention than if dotted amongst other plants, and the same may be said of Orchids where grown in a mixed collection, it is always advisable to stage them together through the summer. Foliage plants require and thrive with abundant syringing, but not so Orchids. See that the Poinsettias as soon as fairly started after their re-potting, are inured to more light and air, and let them be kept as near the glass as possible to prevent drawing, syringing freely of an afternoon to keep them free from red spider, which will speedily rob them of their foliage if once allowed to establish itself; under cool treatment and ordinary care, the foliage becomes so hard and leathery that little fear need be entertained.

Bedding out (let us now hope) may be proceeded with, and all hands should be put on to get it completed as quickly as possible. Nothing is more annoying than for work of this kind (generally carried on close to the mansion) to be kept lagging on; whereas if all hands are employed a few days suffices to complete it, and all alike are grateful when it is over.

THE FRUIT HOUSES.

In the early Vineries where the Grapes are "finished," and are required to hang for any length of time, it will be of the greatest benefit to give the Vines a partial shading, such as ½-in. netting tacked over the roof or a sprinkling of lime-wash. The strain is very great at colouring time, and there is always a danger of the foliage becoming dirty if relief of some kind is not given just at this time, and added to which, in the case of black Grapes, they retain their colour much better if subject to this partial shading. With white varieties it is different, as if shaded much they never "come up," and, therefore, the lightest parts of the house should be always given to them. This is a matter which must be looked to at planting time, or when grafting or inarching is done.

It is hardly necessary to say that where the Grapes are ripe air must be kept on continually, but should birds be troublesome, netting must be placed over the apertures. We are now planting out a succession batch of Melons, and the one which is the most critical of all, as it should afford us a good supply during the month of August, just when they are in most demand. The early batch are giving us some pretty well-netted fruits, and the next lot are swelling up rapidly. Cucumbers we have given a good thinning out, and so induce them to start afresh. By this means, and with a good surfacing, they will carry on until the house is required for a late batch of Melons. The Potato pits we have prepared and planted with Cucumbers. Be careful that the thinning of the late house of Grapes is not neglected, or they will give endless trouble, and then not be satisfactory.

THE KITCHEN GARDEN.

We completed the hoeing and cleaning of our seed-beds, and right glad we were that we spent the time in clearing off the weeds as the work proceeded, as rain came directly afterwards, and it must have been gone over again, whereas now they are perfectly clean, and will be thinned as time can be found for the operation. The spring-sown Parsley has been singled out, and so will be in time to follow on the July sowing; this we always make at the foot of the Peach and Apricot walls alternately. Let all squares, as soon as cleared of green crops—such as late Broccoli, which are now nearly over—be well manured and double dug if time can be spared. Attend to all the quarters of Potatos; as soon as the rows can well be traced, give a good hoeing, and earth-up as soon as sufficiently advanced.

The beds which we sowed with Asparagus seed are well furnished with plants, which must be hoed and afterwards singled-out; nothing further will be required this season than to keep the ground free from weeds. Another sowing of dwarf Beans may now be made; indeed, it is absolutely necessary that frequent sowings be made, as if we get a spell of dry weather they are very apt to become stringy. Towards the end of the week a successional sowing of Scarlet Runners should be made. Vegetable Marrows we have planted out on a prepared bed, putting a good stout peg to each plant to keep them secure. Take care that frequent sowings of Lettuce are made. "Green Unctuous" we find to stand well, but of Cabbage varieties none are so good with us as the "Neapolitan;" this, with Paris White, is what we rely upon. Let the hoe be kept constantly at work amongst all crops; thin-out the seedling herb-beds, as soon as large enough, to the requisite distance. —*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—The present is a good time to have one of those periodical reviews in the Orchid-houses, which should be had as often as possible, as it is only by passing each plant through the hands that it can be ascertained whether it be clean and right in itself, and comfortable in its pot or basket. Failing the evidence of insects or dirt, it is advisable, where possible, to carefully sponge the plant over before putting it back, and to see that the place where it is to be put is clean. If the plant is not sound in its pot or basket, no matter what the season or condition of growth may be, it is better to re-pot or re-basket it before passing it over, and in all cases to avoid over-potting, as a pot or basket of too large a size containing too much peat or other material is a source of weakness to a strong plant, and a certain means of preventing re-establishment in a weak and sickly one.

Very poor and badly-rooted pieces of Lælias, Cattleyas, and other epiphytal Orchids do best on rafts or blocks, provided they get good attention in the matter of placing them in suitable situations, and seeing that they get the necessary amount of moisture. When freely growing and rooting, they may easily be re-potted. From henceforth throughout the summer the study should be to keep all the houses cool, shady, and comfortable, each in degree adapted to its occupants, even the warmest section being, by the admission of air (particularly from below), kept from being oppressive, as few Orchids thrive for any length of time in a close atmosphere, which feels uncomfortable to us.

The Temperatures for the Month of June should be—Warm or East Indian house, 75° to 80° by day, 70° at night; Cattleya or Intermediate house, 70° to 75° by day, 65° at night; Cool or Odontoglossum house, 60° to 65° by day, 55° at night. Throughout the summer the solar heat will often necessitate higher temperatures, but it will be sufficient to use all means to keep them down to those recommended.—*James O'Brien.*

Orchids at the Woodlands, Streatham.—Two magnificent Cattleyas are now in flower at the Woodlands, viz.:—Cattleya Mendelii Measuresiana and C. labiata leucophæus. The first named is probably the handsomest variety ever seen, the glowing violet-crimson and bright yellow of the labellum contrasting admirably with the well-formed blush white sepals and petals—one of the petals has a dash of violet-crimson colour at its extremity, apparently absorbed from the labellum during æstivation. The C. labiata leucophæus is a unique variety with nearly white sepals and petals, and an orange and slaty-lilac coloured labellum with a white fringe, quite a novelty as regards colouring, and charmingly beautiful. Among a number of magnificent Cattleyas and Lælias I noted two specimens of the chaste and lovely Cattleya Skinnerii alba, also the superb Aërides Houlettianum with two fine spikes of bloom; several splendid varieties of Odontoglossum cordatum, O. Andersonianum, O. vexillarium, and the great numbers of O. citrosmum are quite an exhibition in themselves, the numerous long spikes of well developed flowers attesting the excellent mode of culture pursued. There is no doubt but that this collection contains a great number of the finest gems among Orchids, for at all times of the year Mr. Measures has something extraordinary to admire himself and show his visitors. Everything is in perfect order throughout, and the new range of houses lately erected for Odontoglossums and Masdevallias are models of what such structures ought to be, and will, I anticipate, give the best results with little or no anxiety to the owner, or his head gardener, Mr. Fraser.—*L. G.*

Notes from Edinburgh.—Among the suburban residences around Edinburgh there are few which have become so well known of late years to horticulturists as that of Mr. Buchannan, whose Orchids have attracted so much admiration at the exhibitions held in the Waverley Market. The specimens tabled by Mr. Buchannan's successful and enthusiastic gardener, Mr. Grossart, have been justly admired, as indicating the quality of this somewhat extensive and choice collection; the free-flowering proclivities and robust health of the exhibits have gained many honourable positions. The Cymbidium eburneum, and Lowianum especially, Denbrobiums, Vandas, and Lælias being among the choicest of the specimens. To see a specimen of Lælia

purpurata alba tempted us, a week ago, to go miles out of our way when on a business journey; and we felt well repaid by the sight. At the entrance to the Orchid range this fine example of high cultural skill is stood, free from the encumbrance of smaller and less attractive plants, which are too often crammed round specimen plants. The large Lælia was at its best, in robust health, and showing thirty well developed blooms, all open. In the same structure are a group of, perhaps a score of plants, Vandas, which are among the finest plants of their class in the country. It was sometimes a source of much enjoyment in years gone by to look upon the fine specimen Vandas at Chatsworth, and we think this choice lot of Mr. Buchannan's is not a whit behind them; V. suavis, tricolor, cœrulea, insignis, and planilabris were conspicuous as well-grown specimens. In the house adjoining were some fine examples of the useful Cattleya Mossiæ (one plant in bloom was said to be one of the finest varieties extant) and Mendelii, Cypripedium Stonei, and C. caudatum roseum were among the most attractive plants in flower in this structure. A yellow Anguloa had five blooms, which were attractive. Aërides Fieldingii, a fine exhibition plant, was in good condition, flowering freely—a species of much value during early summer.

Regretting the want of time to note more closely the numerous well-grown plants in this range of Orchid-houses, one thing worthy of note was the robust health of many plants growing in brown glazed pots. We have observed the same at Drumlanrig; and whatever may induce cultivators to avoid the use of glazed pots, cannot be from practical observation or experience. We have had none of the latter, but really intend to. The argument in favour of cleanliness and economy of labour is a strong one. Whether there is stronger evidence of the value of such pots we are not aware; or whether the glazed surfaces are conducive to the health of plant life we do not intend to discuss; but the plants referred to, and many others—especially a collection of Dracænas—were as healthy as plants well could be. Mr. Grossart showed us other structures, in which were many plants worthy of note—Palms especially; but the Orchids grown at this snug and pleasantly situated suburban residence were the features of the establishment which attracted us thither, and which afforded us much pleasure.—*M. T.*

Orchid Peat.—I have more than once in my Orchid notes, lamented the seeming impossibility of getting this of the quality we used to get—the thick spongy reddish brown turf of bracken root and with little earth in it. I despaired of ever seeing it again, but I find that that energetic caterer for horticultural soils and sundries, Mr. H. G. Smyth, 21, Goldsmith Street, Drury Lane, W. C., has secured a large quantity of the real thing, and equal to the very best Orchid peat I ever saw. I mention this, as in growing Cattleyas, Lælias, and indeed most Orchids, the use of such Orchid peat gives the grower an incalculable advantage, and I am sure many will be glad to hear of a real good sample.—*J. O'B.*

PÆONIES.

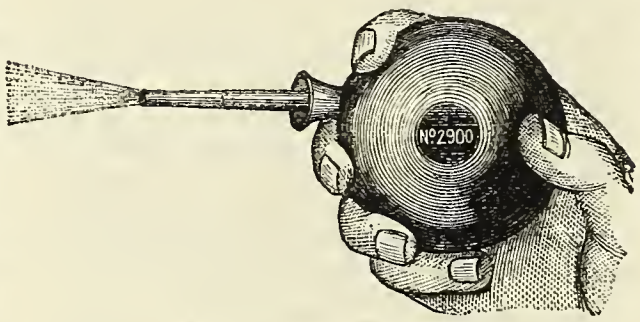
These charming plants are most worthily receiving public attention now, and we may expect that they will soon be much more generally seen in gardens than at present. It is true that the old and beautiful P. officinalis may be found in numerous old establishments where they have long been prized for their annual displays of richly coloured massive blooms, but the Tree Pæonies, varieties of P. moutan, are much more diversified, and form grand companions for the others. At South Kensington and other exhibitions lately, some charming collections of these plants have been shown, and many persons have for the first time become acquainted with their beauty. The varied tints of rose, blush, pale crimson, and purple are delightful, the blooms are of remarkable size, and mostly possess a very agreeable fragrance. Add to these recommendations that the plants will grow in any ordinarily good soil with very little trouble, and nothing more need be said in their favour. It may be remarked with regard to P. officinalis, that we have had it in capital condition in a damp and shaded border, where little else would thrive satisfactorily, and it has been undisturbed for many years, the only attention needed being an annual top-dressing of old manure.—*S.*

A POWDER DISTRIBUTOR.

Mr. Benjamin Field, Swan Place, Old Kent Road, S.E., has brought under our notice a new form of powder distributor, or rather, we should say, an old idea adapted to modern garden uses. As will be seen by the accompanying illustration, it is in the form of a hollow globe of stout rubber, with a perfectly fitting funnel and nozzle of box-wood, the latter portion of which is easily removed to allow of the bellows or globe being charged with snuff, tobacco-powder or other insecticides in a powdered form. It is a very handy little contrivance for use in small gardens.

THE PROGRESS OF ORCHID CULTURE IN AMERICA.

As comparatively few persons have a knowledge of the structure and habits of the wonderfully varied plants known as Orchids, it will be proper at the outset to state as briefly as possible some of their peculiar characteristics. The more marked and beautiful forms are chiefly centred in a belt of territory embracing the tropics, with scattering examples in the temperate zones. While the various species and vaireties are marked by the strongest peculiarities of growth, form and colour, its botanical classification is due to the peculiar formation of the reproductive organs, thus described by Lindley: First, the pistil, stameus, etc., are consolidated into one common mass called the column; second, all the anthers except one in the mass of the order, or two in the Cypripediæ, are suppressed; third, the pollen is in a peculiar condition, taking the form—instead of the typical powder—of (in most cases)



A New Powder Distributor.

a waxy mass; fourth, one of the petals is very generally developed to an excessive degree, or in an unusual form, as in the gay lip of the Cattleya, or the upright banner of the Cypripedium. Another notable fact connected with this family is the singular inability of the flowers to fertilise each other. Owing to their peculiar construction, they depend on the agency of insects for the transfer of pollen, and in some species, like the Coryanthes, the insect has a strange process to go through before he can be liberated with the pollen.

With the exception of some species, like certain of the Cypripediums, Phaius, and others which grow in the ground, or on rocks near the ground, a large proportion of the Orchids are epiphytal—that is, they grow upon the stems or branches of trees. The popular impression that Orchids are parasites is, however, incorrect, for they take no life from the trees on which they grow, but draw their sustenance from the air and surrounding moisture, taking some slight nourishment from the vegetable *débris* which generally accumulates upon the limbs of trees in the tropics, where decay is rapid.

In the tropics the finest Orchids are often found in the tops of the highest trees, at such an elevation that they can only be reached by cutting down the tree; while few are seen in the lower shades of the forest, which are singularly bare of bloom. Perched high in air, and shaded by the foliage of the tree upon which it grows, the Orchid makes its home, and the perilous experiences of collectors in their attempts to find some new and rare species would fill volumes. Instances are not uncommon of expert collectors having been sent thousands of miles across the ocean to some remote part of South America, India, or the Malayan Archipelago to secure some Orchid of which a specimen or two may have been previously brought home. Most of these expeditions have proved successful, while others have failed, and many valuable lives have been sacrificed in the unhealthy climates of the tropics. In addition to these perils, millions of plants have been lost in the efforts to bring them from the far-distant interior to the seaboard, and thence to their destination. Many localities in South America have been so thoroughly stripped of choice Orchids that few are now to be found in those places, though the supply of other species from other localities is not exhausted. Orchids fortunately form vast quantities of seed in their homes, and these germinate freely and produce a new supply, if the process of collection is not carried on too severely year after year in the same localities. In some portions of South America an export tax is hereafter to be levied upon all shipments of Orchids, and it remains to be seen whether this will in any way effect their indiscriminate destruction or their value.

The process of raising Orchids from seed in our glass-houses is too uncertain and tedious, and requires too great skill and patience, to warrant the belief that any large supply will result from it. When the flowers have been successfully hybridised it is a very delicate process to sow the seed and raise plants, for the seed is as fine as dust. The time required to raise flowering plants from seed varies from three to four years; in the case of Dendrobiums to from ten to fourteen years, or even longer with Lælias and Cattleyas. The first attempt at the artificial hybridisation of Orchids was made at Exeter, Eng., by John Dominy, in 1853. He continued his efforts for a long time, and produced some very remarkable hybrids, all bearing the characteristics of the parents in an improved degree, and marked by increased vigour. Twenty-six of them were deemed worthy of name. The first that flowered was Calanthe Dominii. Mr. Dominy closed his work some years ago, and it was taken up by Mr. Seden, who has produced some wonderfully fine forms. A few seedlings have been raised in this country, but were never perpetuated. The hybrid Orchids, which have been produced by artificial fecundation, and which have been named or put into commerce, thus far number about seventy-seven. One of the reasons given for failure to get good seed in England is the absence of strong sunlight, and as we have almost tropical sunlight in this country I see no reason why hybridisers on this side of the water should not succeed in making crosses which have hitherto not been obtained. It is doubtful whether Orchid-raising from seed will ever prove, in a popular sense, a profitable undertaking; and we must depend for our supplies on Nature's work in the forests of the tropics.

It is but a few years since the great family of Orchids were comparatively unknown among the flower-growers and flower-lovers of the United States, and even at the present time the great mass of intelligent people have but a vague and indefinite idea of their habits and wonderful variations, and their eccentricities of form and flower. This is not more remarkable, however, than the superficial knowledge of the mass of people concerning the more common flowers, which, indigenious to their own state or county, and springing up under their very feet, are not known by name or regarded with more than passing interest. It is pleasing to note an increased desire among intelligent and refined persons to know more about the names and habits of our native flowers, which may be accepted as one of the best evidences of growing civilization. It is only among the oldest as well as the most progressive nations that the highest type of horticultural taste may be found.

This growth of interest has extended to the Orchid family, and it is noticeable that crowds of persons are invariably attracted to the brilliant displays of these plants in flower at the various exhibitions of this society, to the neglect, it must be confessed, of many more common plants which have the advantage of at least being more graceful in leaf and stem, for, with a few exceptions, such as the stately Angræcums, Vandas, Cymbidiums and a few others, the Orchids are not attractive when out of flower, except to the connoisseur or expert. To these the Orchids are objects of fascination and deep interest, whether in flower or not, and immense sums of money are spent in forming collections of the rarest varieties obtainable. An example of this may be noted in the alleged sum of $3000 paid for a single plant of Vanda Sanderiana by the late Mrs. Mary Morgan of New York. There is some doubt expressed as to the truth of this, but if so, it was an exceptional case of what may be called extravagant expenditure, as Mrs. Morgan never hesitated to pay the price for any special Orchid which she desired to possess; but though her collection contained many magnificent specimens, her purchases were not marked

by wise judgment, and so when her immense collection came to the hammer, it did not bring anything like the original cost. In this country, where the cultivation of these plants is not so general as in England, prices for imported Orchids have not ruled high; but within the past year the rage for Orchid flowers has tended to increase the demand and enhance the value of plants. A large number of the Orchids in this country were imported from England, where there are large horticultural establishments, one of which has employed from ten to fourteen men at one time collecting Orchids in the tropics. The sale of Orchids by auction in New York has increased largely within the last five years, most of the plants sold in this way being newly imported, and thousands of these are sold by one firm, from April to November, about twelve or fifteen sales taking place in this period.

The growth of Orchids was attempted abroad years before any attention was given them in this country. In the records of the Cambridge Botanic Garden mention is made of a single Orchid which the garden possessed in 1818. It was the well-known Phaius grandifolius, still grown in many collections. The first Orchid exhibited in this country of which we have any record was Oncidium flexuosum, still a favourite. It was shown by Marshall P. Wilder before this society June 24, 1837. We find the first trace of any Orchid collection in America about 1837, John Wright Boott, whose garden occupied the ground where the Revere House now stands owning a small lot of Orchids sent from England. This collection was scattered, but in 1846 Caleb Cope, of Philadelphia (who still lives) had a house devoted to Orchids, and he was the first to flower the Victoria regia in this country. In September, 1849, James Dundas and Robert Buist were awarded the first and second premiums for Orchids exhibited before the Pennsylvania Horticultural Society at Philadelphia, but the species are not named.

In the meantime small collections had grown up around Boston, and in 1854 Edward S. Rand owned what was considered at the time a fair collection, and many of the plants were of considerable size. Previous to 1850 Erastus Corning, of Albany, N. Y., owned some Orchids, and about 1850 he brought from England thirty species, and thus laid the foundation of his wonderful collection, which is without doubt the finest in America, and one of the best in the world. Isaac Buchanan, of Astoria, Long Island, one of the oldest florists in this country, who still lives, and whose love for Orchids is as keen as ever, brought Cattleya Mossiæ from England, and gradually increased his collection until, about 1860, he had a large number of plants. He never lost an opportunity to add to them, and (though buying and selling continually) he had as many as two thousand Orchids in his collection at one time, and probably many more than this number. This collection was largely dispersed some time ago, though he still retains some of his plants. Thomas Hogg maintained a fine collection near New York about 1850, but this was dispersed some years ago. The collection of Cornelius Van Voorst, of Jersey city, was a noted one in its day, and doubtless the best in the country at that time. It existed from 1857 to 1870. Mr. Lieuau, of the same city, maintained, after the dispersion of Van Voorst's collection, the best lot of Orchids in this country, but in 1873 this also was broken up. There were several other Orchid growers in this country previous to 1860; among them General John F Rathbone, of Albany, N. Y., who founded his collection about 1853, and still maintains it in fine form. Louis Menand, of Albany, had a few species as early as 1846, and has kept pace with the progress of their culture; and he and Mr. Buchanan are considered the pioneers of Orchid culture in this country.

From about 1865 up to the present time, Orchid growing in America has become more general and widely diffused over the country; so that in place of the twelve or fifteen collections kept up twenty years ago, we now find good collections scattered all through the northern States and in Canada. Many of these collections number from a thousand to fifteen hundred plants, and are rich in fine varieties and large specimens. The most rapid growth of Orchid culture has, however, been within the last ten years. In that period, English nurserymen have enormously increased the importations from the tropics, and as a result of the activity of their trained agents, most of them experienced botanists, familiar with the Orchid family, unexplored sections have been penetrated, and previously unknown species brought to light. Many more exist which collectors have not found, or have not succeeded in introducing alive. An estimate has been made, by good authority, that not less than five thousand species exist, of which two thousand are, or have been, in cultivation. In the former statement there is much of conjecture, but of the latter there is no doubt.

The increase of trade collections in America has not been in proportion to the growth of amateur collections. American florists, with very few exceptions, have found it difficult to keep up a profitable trade in Orchid plants, owing to the competition of English nurserymen and the large auction sales in New York; so that at present there are but seven or eight trade collections worthy of mention, the largest being probably that of A. Breckenridge of Govanstown, Maryland.

In New York city, Orchid flowers have become so popular, that the few who grow them find it difficult to meet the demand. A year ago they were not in such request; and though the demand seems to be confined to New York, the rage for them, as they become better known and the supply increases, is likely to spread.

The number of private collections in this country which may be classed as large is about fifteen. As before stated, that of Mr. Corning, at Albany, is at present the finest in the country. Next to it in point of fine varieties is that of Frederick L. Ames, at North Easton, Mass., though that of William S. Kimball, at Rochester, N. Y., contains a larger number of plants. The collection of John Wallace, at Paterson, N. J., is an example of what an enthusiast in Orchid-growing can do; it contains twelve or thirteen hundred plants, and he takes care of them successfully himself, though he goes to business daily. In the Western States, as a rule, Orchids are not numerous, though many amateurs there are forming the *nuclei* of collections which, in all probability, ten years hence will closely rival those of the Eastern States. There is no trade or amateur collection south of Washington, except a small one at New Orleans.

There are but two botanical gardens in this country maintaining any collection of Orchids. That at Cambridge, Mass., where the first Orchid of which we have any record in this country was grown, now 828 plants, comprising 378 species and hybrids. The United States Botanic Garden, at Washington, dates its collection from 1852, and now embraces fifty-two genera, comprising 247 species and varieties.

The great obstacles to the successful growth of Orchids are, first, the lack of proper and constant atmospheric moisture during the season of active growth; second, the want of a constant supply of fresh air during growth, and particularly during the resting period, from November to April; third, the lack of cleanliness; fourth, overshading the houses during growth, as well as during the resting period. These four points are the cardinal ones in Orchid culture; all other requirements, such as potting material, proper receptacles for growth, &c., are of little moment beside them, and want of proper knowledge of some or all of them is the cause of all failures, to a greater or less extent. Our climate is naturally dry and arid, compared with that of England, from whence we have had most of the handbooks and rules for Orchid culture; and the inexperienced are prone to believe, after reading upon the subject, that too much atmospheric moisture and air can be given. In this respect, however, Orchid culture has made great progress. The most successful grower now does not hesitate to leave open both top and bottom ventilators of the Orchid house during the season of growth, and when the outside temperature ranges above 55°, except when there may occur a rapid fall of temperature of the outside air. In consequence, all kinds of Orchids may be freely syringed overhead even twice a day during growth, and the walks and benches thoroughly saturated. Thousands of "cool" Orchids from the high mountains of South America have been destroyed in this country, and in England, by the application of too much heat. Many of them come from altitudes ten or twelve thousand feet above the sea level; regions of perpetual moisture, and where ice forms; so that our tropical summers, combined with over-heated glass-houses in winter, have swept them off in large quantities.—*From a paper read before the Massachusets Horticultural Society, on March 6th, by Edward L. Beard.*

THE DEFENCES OF PLANTS.

Besides meeting the attacks of animals in different ways, plants have to cope with other dangers, and require for these another system of defences, which are more associated with peculiarities of environment. They are assailed continually by varying conditions of climate and temperature, and have in many cases very curious modifications of structure and habit to correspond with these. A danger that threatens most plants, except in a few regions of the world, is that of having their pollen injured by rain. To meet this many varieties of form of corolla have been developed. Many have a long narrow tubular shape, the claws of the petals cohering together, while the free limbs can curve outwards in fine weather, but arch over the tube when wet. Others have a campanulate form, with the base of the bell upwards, so that rain falling on the flower cannot get near the stamens, but is shot off as by a roof. In others the stamens are covered over by development of another part of the flower, as in the Iris; the filament of the stamen, too, may be broad, and bear the anther on its under surface, as in the Naiadaceæ. It is rather curious that flowers that produce large quantities of pollen have not such defences against this danger as those which form but little, while the most complete adaptations are found in the cases of plants that inhabit damp climates.

Many flowers are defended by habit rather than structure. In wet weather they do not open their corollas at all, and not a few, even in fine weather, keep open for a very little while, only a few hours in many cases.

Besides rain, other meteorological conditions are fraught with danger. One of the most commonly occurring is frost; and allied to this is the loss of heat by radiation during the night. The power of resistance to these conditions varies very much, but in many whose constitution makes them peculiarly susceptible to damage thereby there has been developed the so-called power of sleep. The term is no doubt a misnomer, but it has been adopted and associated with certain well-defined movements which the leaves of the plants perform at the close and at the beginning of day. The movements differ very greatly with different plants, but they bring about such a position of the leaves as will protect the upper surface from radiation. Some of them are of a very complex nature, particularly those shown by certain of the Leguminosæ, which have pinnate leaves. It is in this natural order that the property of sleep is most prevalent, certain of the Oxalidaceæ and their allies coming next to them.

A similar mechanism protects very many plants from excess of sunlight, which is injurious to the chlorophyll. In bright sunshine the leaves assume a position which has been called "diurnal sleep." In it they present their edges and not their faces to the light. In other leaves the chlorophyll corpuscles themselves move, taking up a position on the lateral walls of the cells rather than on the front ones, or so placing themselves that their profile and not their surface is exposed to the sun. In some of the Algæ, as Mesocarpus and Vaucheria, this sensitiveness is seen.

Other protective devices may be seen by studying the adaptations of plants to their conditions of life. Thus the leaves of submerged plants are preserved from being broken by the currents of water by being minutely sub-divided, so that they adapt themselves easily to the motion, and do not oppose a resistance. Desert plants are protected from drought by the development of a succulent habit. Aërial parts of plants, again, are protected in many cases from becoming moistened by water by a deposition in the cuticular layers of the epidermis of varying amounts of wax or resin.—*Nature.*

FLORICULTURE.

Herbaceous Calceolarias at Reading.—Being on business in this old Berkshire town recently, and having a little spare time on hand, I took the opportunity of visiting Messrs. Sutton's London Road Nursery. I knew the Calceolarias would be in bloom, and as the firm has a great reputation for this among other things, I naturally expected to see them in good dress; but I must say that they far exceeded my expectations, although their beauty was just on the wane. At the time of my visit a man was going over them with the brush, setting every bloom, and in a large house of big

plants of every shade of colour that can be expected in this class of plants I picked out two or three distinct shades. The plants were as even in size as could possibly be, and I was told that out of this lot no separate colours were saved, but that all the seeds were mixed together as gathered, so that there could be no doubt about anyone who had the seeds getting a good assortment of varieties.

But an even more remarkable sight than this house afforded was to be seen in another, in which, by themselves, were specimens of a strain of yellow-flowered plants. It is named the Cloth of Gold, and I thought I saw before me the veritable field of the cloth of gold, so even was the sheet of colour. The plants were in 8-in. pots, and many of them must have been 2 ft. through and 1 ft. high, with enormous blooms, and the plants as compact as could possibly be. Although I had seen Cloth of Gold in various other places, I had never seen it before in such fine form. It should be extensively grown by all who are seeking a grand strain of yellow Calceolarias.—*Con.*

Auricula Grand Turk. — Will some authority among your numerous readers be good enough to inform me what are the characteristics of the Auricula called Grand Turk, as there is a variety here that has been grown under that name for a number of years, and I am aware that quite a different sort is being sold in this locality under the same name? Also, may I ask if the finer varieties of stage Auriculas will grow fairly well outside with protection during the time of flowering? We have a few that flower well with that kind of treatment.—*Auricula, Aberdeen.* [Will our correspondent oblige with the names of the sorts.—Ed.]

Floral Fashions in New York.—Some magnificent Orchid embellishments are made each week for quiet dinners where no expense is spared. The most lovely and artistic effects are accomplished with the candelabra now so fashionable. The branches of these are garlanded with Asparagus, or are sometimes fantastically trimmed with grey moss. Oncidiums are so placed as to seem like insects buzzing around the candles. A superb Orchid arrangement was made at a restaurant for a fashionable dinner of twelve this week. The table-cover was of a water-blue satin, and on this lay an exquisite tracery down the centre of Adiantums and Cattleyæ Trianæ. The ladies favors were clusters of Forget-me-nots, and the boutonieres were ten blue daisies. Boutonieres are not any smaller, and the flowers are always of one variety. Freesia refracta alba is the most stylish flower for the bridegroom's boutoniere at present. The tendency in bouquets is to make them pyramidal in shape when composed of flowers other than Roses. Violet bunches are all formed in this way, without any foliage, except at the edge when Ferns are the finish. They are tied with satin sashes to match their colour. White Violets are never carried in hand, unless introduced among heavier flowers. Bridal bouquets of the highest fashion are composed of Lily of the Valley massed without their foliage; occasionally there is a patch on one side, near the centre, of orange flowers. They are tied with wide sashes of ivory-satin ribbon or uncut velvet. Bouquet-holders of silver and gold filigree are again revived. When these are used the sash is omitted.—*American Florist.*

QUESTIONS AND ANSWERS.

Names of Plants.—*Ignoramus, Banbury:* 1, Oxalis acetosella; 2, Selaginella Krausiana, commonly called deuticulata in gardens; 3, Nephrolepis Duffii; 4, Bambusa gracilis; 5, Pteris argyrea; 6, Adiantum formosum; 7, Coccoloba platyclada; 8, Polystichum angulare proliferum.—*J. Saunderson:* 1, Anonis, species not recognisable; 2, Ceanothus prostratus; 3, Ceanothus crassifolius; 4, Retinospora leptoclada; 5, Retinospora lycopodioides; 6, Thuja plicata. Could you oblige us with a few cuttings of Nos. 2 and 3? We should be much obliged for them.—*Mrs. M.:* Ledum latifolinm.—*H. K.:* Cytisus purgans.—*T. Gray:* 1, an Acer which we do not recognise in the sport form; 2, the Bird Cherry, Prunus Padus; 3, Caltha palustris flore pleno; 4, not recognised. Please send another specimen; 5, Doronicum austriacum, poor specimen.—*D. L.:* 1, Cattleya Schilleriana; 2, Oncidium pulvinatum; 3, Pholidota imbricata; 4, Warrea cyanea.

The Gardener an Extraordinary Man.—*Experientia:* The following is the paragraph you enquire about, taken from *The Gardener and Practical Florist*, 1844:—Why is a Gardener the most extraordinary man in the world? Because no man has more business on *earth;* he has good *ground* for what he does. He commands his *thyme*, and is *master* of the *mint*; he fingers the *penny-royal;* he can raise his *celery* every year, and it's a bad year that does not bring him a *plum;* he meets with more *boughs* than a minister of state; he makes *raking* more his business than his pleasure, rendering it of advantage to his health and fortune, which no other man does; he can boast of more *bleeding* hearts than any other man, and of more *laurels* than the great Duke of Wellington; he has more *painted ladies* than the grand Seignor; but his greatest praise, and the world's greatest envy is, that he can have *yew* when he pleases.

Fumigating.—*A. W.:* It is possible that you failed from diluting the tobacco too much; from not using enough to fill the house, or from not having the pipes hot enough. Mr. Adcock used to put half a pint of pure juice in each trough, and added water, more or less, according to circumstances. If a strong dose was wanted, no water was added; if it was used only as a preventative, water was added to lower the strength, but the pipes were kept hot. Since the French method was given in our columns, Mr. Adcock has adopted that, as being more effective and more quickly done. As in ordinary fumigation, you must be guided by circumstances as to the strength required, as while two or three half-pints will fill a small house with the vapour, the effect would be lost in another of double the size. No hard and fast rules can be laid down for its use. Try the French plan, and write us again.

Books.—*J. M.:* Hooker's *Student's Flora of the British Islands* (Macmillan & Co.)

Dendrobium Falconeri.—*B. D. K.:* A very nice variety; lip specially good, but not exceptionally large as a whole. We have seen them nearer 5 ins. across.

Carnation Souvenir de la Malmaison.—*J. Mair:* The drought of last summer, and the attack of green fly, of which the plants still bear traces, are quite sufficient to account for their yellow spotted condition. With care they will grow out of it.

Communications received.—W. H. E.—J. D.—E. J.—C. J. P.—R. P. K.—L. U. G.—J. U.—J. C. C.—H. G.—Rostrevor.—D. C. B.—T. K.—L. C. I.

LONDON SEED TRADE.

June 2nd, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a very quiet market, the sowing demand for agricultural seeds being now almost over for the season. Values of all kinds of Clovers remain firm, and stocks on hand are held in anticipation of an improvement later on should the growing crops turn out unsatisfactory. There are already rumours on the Continent that the present weather is having a deleterious effect upon the Clover crops in Germany, and if these prove true there may be a speculative demand, which will tend to revive the trade. Grasses are still cheap, and supplies exceed the demand; stocks, however, are less on the whole than last year. Mustard and Rape maintain last quotations, and both meet with moderate enquiry. Bird seeds in plentiful supply, and values unchanged.

COVENT GARDEN MARKET.

June 3rd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes.....per lb.	2 6	6 0	Pears .....per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries ..per lb.	2 0	5 0
Peaches, per doz.	8 0	21 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	2 6	3 6			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ....per doz.	2 0	2 6	Onions, per bushel ..	5 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket..	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike ..	2 0	
Herbs, per bunch....	0 2	0 4	Tomatos, per lb.	2 0	2 6
			New Turnips, per bun.	1 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun...	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	15 0	20 0
Blue Bells	0 9	1 0	Pansies, 12 bunches..	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Camellias, 12 blooms.	1 6	4 0	— scarlet, 12 sprays..	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen..	4 0	6 0	Primroses	0 6	1 0
Forget-me-not or Myosotis, 12 bunches ..	2 0	4 0	Pyrethrum, 12 buchs.	2 0	6 0
Gardenias, 12 blooms.	1 0	4 0	Ranunculus, 12 bches.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Rhododendrons, 12 bunches	3 0	6 0
Iris, various, 12 blms.	1 0	3 0	Roses (coloured)	2 0	4 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilac, English, 12 bunches	4 0	8 0	Stephanotis, 12 sprays	1 6	3 0
Lilac (French), bunch	5 0	7 0	Spiræa, doz. bunches	6 0	9 0
Lilies, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tuberoses, per dozen.	0 6	1 6
Marguerites, 12 bun...	3 0	6 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz. .	6 0	18 0	Fuchsia, per doz.	6 0	12 0
Bedding Plants, various, per doz. ..	1 0	2 0	Genista, per dozen ..	4 0	6 0
Begonias, per dozen..	6 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Cineraria, per dozen..			Lilies of the Valley, pots, per dozen....	12 0	24 0
Cyperus, per dozen ..	4 0	12 0	Marguerites, per doz.	8 0	12 0
Dracæna term., doz. .	30 0	60 0	Mignonette, per doz.	6 0	8 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz .	6 0	18 0
Ferns, in var., doz. ..	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each..	1 6	7 0	Petunias, per doz. ...	5 0	8 0
Foliage Plants, various, each.....	2 0	10 6	Spiræa, per dozen....	9 0	15 0

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Being without Sugar, Spice, or other admixture, it suits all palates, keeps for years in all climates, and is four times the strength of Cocoas *thickened*, yet *weakened*, with Arrowroot, Starch, &c., and in reality cheaper than such mixtures.

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3,000 Surplus Stock of Palms in 3-in. pots, clean and healthy, in four best varieties, 2*s.* 6*d.* per doz.; 16*s.* per 100.

Primulas, finest fringed white and coppery scarlet, and semi-double white and red; ready shortly. Each of the above, 1*s.* 3*d.* per dozen.

Cinerarias, warranted from a prize strain, splendid, 1*s.* 6*d.* per doz.

Gloxinias, strong seedlings, including all the splendid varieties, 2*s.* 6*d.* per doz.

Ferns in four varieties for greenhouse, 2*s.* 6*d.* per doz.

Asters, finest strain or white, separate, 2*s.* 6*d.* per 100; Golden Feather, 2*s.* 6*d.* per 100; Lobelia, dwarf blue, 2*s.* 6*d.* per 100; Verbenas, choicest hybrids, 1*s.* per doz.; Stocks, best double strain, 2*s.* 6*d.* per 100; Ageratum, Imperial Dwarf, double blue, special offer, 9*d.* per doz., 4*s.* per 100; Single Dahlias, from prize flowers, strong, 1*s.* 6*d.* per doz.; Everlasting Flowers, finest strain, 9*d.* per doz.; Sweet Sultan, fine mixed, 9*d.* per doz.; African Marigold, fine mixed, 9*d.* per doz..

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NOTICE.—Entries close JUNE 21st.

ROYAL HORTICULTURAL SOCIETY,
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29th to JULY 5th, 1886.

GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.

Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.

NOTICE.—Entries close JUNE 12th.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 12, 1886.

THE BULB TRADE.—Those small gardeners, and specially bulb growers, who purchase their little quantities of Dutch bulbs in the autumn, probably little imagine, such is the irrepressible activity of the Hollanders, that the whole of the country is now being flooded with trade lists, and that as early as the end of May and beginning of June purchasers are invited to buy. Of course, these early lists are of the wholesale order, and come first to the trade; but the most insignificant member of that trade seems not to be overlooked, and by thousands florists and seedsmen are invited to rush to Holland and purchase. It is true that the roots, as a rule, are not yet ripened and ready for disposal; but the extraordinary competition seen in the Dutch bulb trade bids fair presently to become a very Nemesis, and, as it were, by reason of its voracity, eat itself up. It may be that home growers derive the chief benefit from this remarkable competition, as bulbs and similar Dutch roots are now far more abundant and cheap than ever; but, on the other hand, the home trade has been greatly cut about, so that it is hardly safe, much less profitable, for any but those houses which have a commanding trade here to embark in bulb transactions.

Should these purchase largely—and, of course, the need for maintaining sound reputations compels them to obtain the best and also the dearest bulbs—they have the unpleasant experience of finding every one of their private customers a little later, specially invited by the irrepressible Dutchmen to purchase direct from them at prices so tempting as to inevitably abstract from the home trader much of his former custom. When such is the case, it is not possible that home traders can hope to get successful and profitable results out of their enterprises, and hence it is not to be wondered at if those who in this way have burnt their fingers are becoming shy. But the Dutchmen are not now content with sending us their roots, for we hear grave complaints among home flower-growers for market that the vast quantities of Dutch Hyacinth-spikes which have been put into the market, has greatly injured the home trade in these and other flowers. Of course, the Dutchmen have the most absolute right to do this, even though it may end in killing the goose which lays the golden eggs, for it is obvious that were the British bulb trade to be destroyed, Holland would find its prosperity in that trade terribly shaken. On the other hand, there can be no doubt but that purchasers of flowers, who are practically the home consumers, find in these Dutch flowers much of beauty and sweetness, and the flooding of the market is their gain. Still, it may presently prove that if it be no longer found profitable to grow Hyacinths at home for the production of flowers for sale, the Dutch will find their bulb trade gone, and have the flower trade alone upon which to exist.

London, and, indeed, we may say Great Britain, has literally become the market of the world; hence there is not a flower-grower all over Europe but who does not hope and really endeavours to get his produce into that market. To many a distant producer England doubtless presents itself to his excited fancy as a sort of Eldorado, where we may shovel up gold in heaps. Very probably many a poor man at home thinks the same thing of the colonies, and believes that if he could only get there the hard crust of home may be transferred into a dainty feast. Life is a terrible struggle for existence everywhere, and its transformation from poverty to wealth and happiness exist only on the mimic stage. In real life the change is the other way; but it is well worthy the attention of home bulb traders and flower producers whether we have not largely helped to create a state of things which is becoming a grave danger. Does anyone doubt for a moment that the English demand for bulbs has not been the chief instrument in making the bulb-growing trade what it is, and now in return for that procreation the child is striving to strangle the parent? Without the child we could hardly have thriven, because we, too, have found the bulb trade indispensable to horticulture; but our error has been that we have fostered another's child rather than our own—a very common error, not only in trade, but in our social life—and now that child strives to repay that consideration by pulling the habitation of the parents about their ears.

We have heard of late something about the need for growing our own bulbs; it sounds very much like a voice crying in the wilderness, falling upon ears that are deaf. Here, at home, we are lamenting the decadence of the vocations allied to land culture; gardening is going down the hill, whilst agriculture is already at the bottom, and so on. Some of these jeremiades are, of course, fancy pictures, but the depression is without doubt painfully existent; and yet the moment it is suggested that we should and can grow at home as good bulbs as the Dutch produce, the clever ones "pooh!" "pooh!" and that is all the help they give to assist in getting out of a tremendous difficulty, whilst they will be the first to grumble about foreign competition. That we can grow Narcissi at home as freely as in the world anywhere is certain. Who doubts but that if we tried with similar energy and industry to that applied in Holland we could grow Hyacinths, Tulips, &c., at home also, and fully satisfy the demands of our own bulb trade?

The plea has been set up that even if bulbs of fine quality were grown at home the trade here would not purchase; but on that point it is possible that public opinion could exercise some

influence. Without doubt the impression which has been created that only foreigners can produce these and some other things, militates against the popularising of home-grown produce. Once we grapple with the matter, and create our own bulb farms, that impression must be broken down, for our own people and home trade must have the first consideration. It may be said that if we pay the Dutch less they will have the less to spend with us; but, on the other hand, if we spend more at home our own people will be enabled to promote home trade. Certainly we must use the land profitably somehow if we are to exist as a nation, and every effort to that end, however small, merits our most careful consideration.

GARDENING MISCELLANY.

Meetings for Next Week.—*Monday:* Continuation of the National Horticultural Exhibition at Manchester. *Thursday and Friday:* Horticultural Exhibition at Brentwood, Essex.

Rose Prospects.—The prospects of the Rose season, especially as regards the earlier shows, does not appear very encouraging, at least, as far as we can judge from our own plants, and from those we have seen during the last week. There are a few buds opening, but they are not coming kindly, and the majority are very late. We have an abundance of blooms under glass, but the main Rosery outside is far from satisfactory, though there has been a decided improvement within the past week. We should be glad to hear the experience of other Rosarians on this important matter, for it would surely not be too much to expect that the committees might postpone any shows that are obviously too early for the respective districts.

"Cottage Gardening."—We have received from the publishers, Messrs. Houlston & Sons, a copy of Mr. E. W. Badger's admirable little manual on cottage gardening, in the form of a revised and much enlarged edition, in which, while keeping the special wants of the cottager always in view, the author has also endeavoured to meet the requirements of small amateurs by giving lists of fruits, flowers, shrubs, &c. Many of our readers will remember that this was the essay to which the Royal Horticultural Society awarded the prize offered by Mr. W. Egerton Hubbard, in 1870, and a most useful guide to outdoor cultivation it is, just the sort of little work that landed proprietors should distribute among their cottage tenantry.

Ivy-leaved Pelargoniums.—In the very complete collection of Ivy-leaved Pelargoniums now under cultivation at Chiswick, Mr. Barron has a very attractive variety in Emile Lemoine, a semi-double flower of a bright scarlet colour, which is novel and distinct.

Gloxinias at Chelsea.—Much attention has been paid to Gloxinias in Messrs. J. Veitch & Sons' Chelsea Nursery for a number of years, and the result is that a choice and beautiful strain has been formed, and some handsome varieties have been obtained, that have been found worthy of names and certificates. One house is now very gay with a collection of these plants in flower, very gracefully arranged with Ferns; and as the colours have been carefully selected, the contrast and general effect is extremely fine. Of the brightly coloured varieties, Flambeau is far the best; and its value for decoration, in contrast with lighter coloured flowers, cannot be over-estimated. The flowers are of medium size, erect, and of an intensely rich glowing scarlet—a glorious tint that, with the pure white variety, is most telling. Boule de Feu is also a richly coloured variety, but it is not so brilliant as the other. Cybele, white, with a purple ring; Monarch, purple and spotted; Coronet, spotted with purple; Marchioness of Abergavenny, beautifully spotted with rosy crimson; and several others, might be mentioned as being scarcely less attractive.

Imantophyllums.—The beauty and utility of these plants is not fully appreciated in British gardens at present, although a few plants are found in many collections, yet in few cases has any attempt been made to grow a number sufficient to produce a good general effect. The continental nurserymen have amply proved the ornamental value of Imantophyllums, for besides being easily grown plants, a consideration of some importance, they are evergreen, and their broad strap-like dark green leaves render the plants very suitable for arranging with other plants in conservatories or elsewhere. When in flower they have a grand effect, the huge umbels of orange-scarlet blooms having a noble appearance, quite unlike anything else cultivated under glass. A few of our nurserymen such as Mr. B. S. Williams, Messrs. James Veitch & Sons, and Messrs. J. Laing & Co., have made specialities of the Imantophyllums in recent years, and collections may be seen in their nurseries now, many plants being in flower at this time of year. There can be no doubt that as the merits of the plants become more widely known, they will be more generally grown than is the case at present, and they are certainly worthy of a place in any garden.

Fuchsia Madame Thibaut.—A large collection of Fuchsias is being grown this season for the Floral Committee at Chiswick, and among them is one which at present has not been thought worthy of a Certificate, but which will become a popular variety when better known. It is Madame Thibaut, a wonderfully robust grower, with large handsome foliage, and a still more wonderful bloomer, so remarkably freely does it produce its large single blossoms, the tube and sepals of which are crimson and the corolla violet-purple.

Market Flowers.—Enormous quantities of flowering plants are now sent into Covent Garden every market morning, and an early visitor, who is a stranger to the ways of the place, might imagine that some grand national floral fête is about to take place. Scores of waggons, carts and barrows will be seen waiting in the streets around the market, and all loaded with the gaily flowered plants which are grown, to meet public demands, by hundreds of thousands. Just now the showy decorative Pelargoniums are in strong force—beautiful dwarf "stocky" plants such as would be valued anywhere, but which are seldom seen in private gardens. They have strong growths, clothed with fine leaves down to the rims of the pots, and are, in fact, models of what plants for decoration should be, as far as appearance goes. The same remark applies to all the other plants—beautiful little Fuchsias, in 48-size pots, and loaded with flowers; lovely little specimens of Rhodanthes, Hydrangeas, Calceolarias, and many others, are sent into the market by the best growers, in capital condition; but purchasers are sometimes disappointed because, if they take them home, and place them in hot dry exposed windows, the flowers and beauty are soon gone. They will not endure such treatment; and if it is desired to preserve their attractions for a reasonable time, they should be placed in a house, and carefully attended until they are somewhat hardened.

THE FERTILIZATION OF ORCHIDS.*

The great Orchid family is computed to contain about 5,000 species, ranged under 334 genera. Many are extremely variable, both in a state of nature and under cultivation, so that the above numbers are altogether arbitrary, as all calculations of this nature must ever be. They are widely distributed throughout all parts of the world, except the Arctic and Antarctic regions, ascending the mountains in the tropics till the higher Alps are reached, where they become comparatively rare. All are perennial herbs, neither attaining a woody character nor relapsing to the condition of annuals, and the habit, life history, and slow rate of growth are strong characteristic features of the whole family.

As far as habit is concerned, a rough division may be made into those that are terrestrial and have creeping stems like the deciduous Cypripediums, the Goodyeras, or a fleshy fibrous rootstock like the Neottia, or a tuberous one like Orchis; and again into those that are epiphytical and cling to trees, rocks, or other objects merely for support in their position, using their fleshy roots as holdfasts. The former generally inhabit extra-tropical or temperate countries and alpine regions, although not strictly confined to them, while the latter are more dominent in tropical regions, though liable to overlap the habitats of the terrestrial genera. Singular as are the above mentioned characters, they are altogether surpassed by the modifications and adaptations exhibited by the flowers of Orchids. There must needs be a vast amount of variation to distinguish all these 5,000 distinct species, and numerous instances of extreme specialisation occur. The order itself is unique in the vegetable kingdom, and so disguised are the essential organs of the flower, namely, stamens and pistil, that the homology of parts, with that of other natural orders, is with difficulty recognisable. All these extraordinary changes from the primitive ancestors of the family, have been brought about chiefly through the instrumentality of insects.

Parts of the Flower.

The perianth consists of six pieces, in two series of three each. Usually, all are more or less highly coloured, and serve at once as a protection to the essential organs and as a flag of attraction to insects at a distance. The three outer are generally described as sepals, the two lateral and inner as petals, while the third of this series is known as the labellum. The sepals are frequently narrower or less conspicuous than the petals, but no definite rule can be laid down, not even in the same genus, as they are in many cases similar to the petals in Vanda, Dendrobium, Odontoglossum, Lælia, and Sophronitis. They are, moreover, the most conspicuous feature in Masdevallia, Cirrhopetalum, and some species of Bulbophyllum, where the petals and labellum dwarf into insignificance. The petals attain a maximum development in Cattleya labiata and its allies, such as C. Mossiæ and C. gigas, in Sobralia, and some Cypripediums, as C. caudata and C. lævigata. They are much smaller than the sepals in Stanhopea, Lycaste, and some species of Cœlogyne, while they often resemble the antennæ of an insect in Ophrys, Restrepia antennifera and others. The labellum is usually or nearly always the most highly differentiated of the floral envelopes, and frequently serves a manifold purpose, the most important of which is that of a landing-stage for insects. In a typical flower it is posterior, but in most instances it is made anterior by one or another arrangement. Darwin and other authors seem to be of opinion that it is always brought about by a twisting of the ovary or its pedicel; but this is altogether unnecessary if a normally erect flower-spike is bent downwards, so as to be pendent or arching. The labellum is then, or appears to be, anterior, and the arrangement is complete if the flowers are directed to the upper side of the flower-stalk, so as to have their faces upward. This is precisely what occurs in Angræcum citratum, Odontoglossum crispum, O. Pescatorei, several species of Phalænopsis, and many others. A large number have their long pedicels slightly twisted in arching racemes, so as to make the labellum lateral to the peduncle but anterior to the flower.

The labellum often assumes the most fantastic shapes, resembling birds, beasts, insects, or even human beings, and the likeness is generally greatly augmented by the other floral envelopes. These resemblances are borne out in Peristeria elata, Palumbina candida, Cycnoches, Gongora buffonia, Ophrys, and Aceras anthropophera. No less than thirteen or fourteen species of Ophrys are named as resembling some animal. The labellum, furthermore, is, in the majority of species, the largest and most conspicuous part of the flower; but in Masdevallia, Disa, Cirrhopetalum, and others it is subordinate in size to the sepals.

In the pristine condition of Orchids we have good reasons to believe that there were six stamens and three styles, which are now amalgamated into one piece, the column bearing normally only one fertile anther, belonging to an outer series of three, in all Orchids, except a small tribe, the Cypripediæ, where there are two fertile anthers belonging to an inner series of three. The three stigmas we should expect to find, are visibly present in the Cypripediums, but confluent in one, while in all other Orchids, two are invariably present and distinct or confluent in one. The third is modified into a rostellum, concerned only in securing the transportal of the pollinia or pollen masses from one flower to the stigmas or the stigmatic disks of another. The stigmatic disk is hollow and viscid to retain the pollinia except in the Cypripedeæ where it is convex and entirely without viscid matter, except, perhaps, in Cypripedium acaule. The complex arrangement of contrivances for effecting the sure and safe transportal of the pollinia will be best understood by reference to a few examples from each of the five tribes into which Orchids are divided. These great primary divisions depend chiefly on the structure of the pollinia and their appendages.

* A paper read by Mr. J. Frazer before the Birkbeck Students Scientific Association.

Epidendreæ.

The pollinia here are either free or united by short caudicles. Dendrobium is typical of the first state and has generally four waxy pollen masses, in two closely applied parallel pairs. The labellum of Dendrobium nobile, Falconeri, Aureum, Pierardi, infundibulum, and numerous others, is curved round the column so as to form a tube for the reception of correspondingly large insects, which when retreating, push off the anther-cap and at the same time have the pollinia glued to their bodies, by means of the viscid matter forming part of the rostellum. The pollinia instantly fall down flat on the insect, a little nearer or towards its head, so that a visit to the next flower brings the pollinia in contract with the viscid stigma, where they are retained. This action is further assisted when the filament of the anther is elastic, as frequently happens, and serves to scoop out the pollinia by reversing the anther cap.

Vandeæ.

The members of this tribe are characterised by a very high development of parts, and many beautiful and perfect co-adaptations between them and the insects. The pollinia possess caudicles, attached to pedicels and those again to a viscid gland reesmbling or comparable to a foot. The pedicel is an unmodified layer of the rostellum, and the gland also belongs to the same organ. By an extraordinary twisting of the ovary, the labellum in Angræcum eburneum is uppermost, at least, during the period of fertilisation. This is necessary owing to the length and direction of the nectary in order to keep its mouth upwards and prevent loss. The short stout column with its broad bifid rostellum offers the most convenient landing place for insects. The pollinia would attach themselves to the underside of an insect's head, and dangling down, by their own weight would be retained by the viscid disk of the next flower visited, or actually wrenched away from the insect by the clefts of the rostellum.

Lilium Harrisi: Plant with 145 Flowers on a Single Stem (see p. 650).

The other type of this tribe is represented by Cœlogyne cristata, where the four pollen masses cohere in pairs subtended by short appendages or caudicles that connect them with the viscid matter of the rostellum. As far as fertilisation is concerned this differs immaterially from the former case. In this particular species the pollinia are much shorter than the rostellum, and cannot be removed by an insect entering the flower. A large insect when retreating would lift up the rostellum, which in its turn would press against the anther, and that meeting with resistance from a broad membraneous hood-like expansion behind it, the pollinia are shot or pushed against the retreating insect, to which they are glued and transferred to the stigma of the next flower visited. The five lacerated lamellæ or coarse fringes along the middle or floor of the labellum offer considerable obstruction to retreating insects, causing them to brush against the rostellum in the manner described.

The process is very different in A. citratum, in which the pollinia possess very long slender pedicels. A smaller insect fertilises this species, and the slightest touch removes the pollinia from the anther, when the elastic pedicels contract or double up instantly in an irregular manner, fixing the pollinia themselves close to the gland on the head of an insect in the immediate vicinity of the stigmatic disk. The labellum forms the landing stage in this species. The pollinia in Phalænopsis, Odontoglossum and Oncidium when attached to the head or proboscis of an insect are brought into the proper position, to fertilise the next flower visited by a hygrometric depression of the lower half of the pedicel, and a curvature of the upper. This takes place with remarkable precision in from thirty to forty seconds. The pollinia after this movement project upwards at an angle calculated to catch the stigma of the next flower visited.

Neottieæ.

The pollinia in this tribe consist of granular or powdery easily broken masses fastened together by elastic threads attached to the back of the rostellum, part of which in front is modified into a linear gland. The caudicle and pedicle present in the last tribe is here absent. Spiranthes autumnalis, a British species, may serve as a type. The small labellum stands erect against the column forming a narrow tube. Its upper part is recurved and crisp at the margin, affording a foothold to insects, in this case humble bees. These inserting their proboscis in the narrow tube, effect the removal of the pollinia with beautiful regularity, by means of the linear gland on the face of the rostellum. Older flowers only are fit to receive the pollinia, and the bee in visiting the next plant finds it convenient to begin at the lower part of the spike where the flowers are oldest, and working upwards.

Ophrydeæ.

The greater number of British species belong to this tribe; but all the tribes are represented by British types except the Vandæ. The pollinia in Ophrydeæ consist of large compound masses made up in coarsely granular packets, and held together by elastic threads united to a viscid gland or glands by more or less elongated caudicles. Several species of Orchis, such as O. morio, mascula, latifolia, and maculata, are fertilised in a similar way, and any will serve as a type of the tribe, although it must be understood that none of the above types represent in detail what takes place in other members of the same tribe. They merely represent in general terms the bearing that the different kinds of pollinia have on the process of fertilisation. The glands of the pollinia in Orchis maculata are contained in a pouch shaped rostellum projecting into the orifice of the nectary. The structure of the flowers compel the insects (generally bees) that frequent them to insert their proboscis in a particular way, depressing the pouch when the adhesive glands fix the pollinia to the head of the insects, and ensure their removal with remarkable precision. The hygrometric movement of depression noticed in the pedical of some members of the Vandæ, is here confined to the upper surface of the gland itself, and is completed in the course of half-a-minute, bringing it down parallel with its point of attachment, and in a position to strike the stigma of another flower. Lepidoptera fertilise the British species of this tribe with long nectaries.

Cypripedieæ.

The pollen of this tribe, unlike any yet mentioned, is perfectly free, representing a former and much simpler condition of the order. It is produced in two lateral anthers belonging to an inner series of three, and the separate grains are coated with viscid matter by which they are retained on the convex stigma. The pouch-shaped labellum is constructed so as to compel insects that enter by the large trap-like opening, to leave by two small lateral and basal openings, thus leading them over the concealed stigmatic disc and afterwards the anthers. The extreme base of the labellum internally and the base of the petals skirting the narrow openings are in many species densely bearded or beset with hairs, offering further obstruction to the egress of insects, except over the stigmas and anthers. In Cypripedium venustum the convex surface of the dry stigmatic disc is obsoletely papillose, but a fringe of distinct papillæ round the margin, doubtless, aids the retention of the viscid pollen grains. This condition applies very closely to many other if not all the species belonging to tropical Asia and the East Indies, as C. concolor, Godfroyæ, insigne, javanicum, Spicerianum and others of the same group. The same organ of the South American subgenus Selenipedium, including Uropedium, is distinctly papillose all over, in S. longiflorum, conchiferum, Roezlii, and many others, thus furnishing another mark of distinction between them and Cypripedium proper, besides the three celled ovary and native country. The lateral sepals are completely united in these genera, forming a support to the labellum, except in Cypripedium arietinum, where they are almost free, representing a more primitive condition of the tribe.

Objects of Insect Visits.

We have no reason to suppose that insects are in the slightest degree conscious of the great benefit they bestow on Orchids by effecting cross fertilisation. The sole object of their visits is for their own material benefit, namely, food or a means of subsistence. The beautiful co-adaptations that exist between them and

the flowers, not only satisfies temporal wants, but ensures the perpetuation of the Orchids, and future supplies of food to the progeny of insects. This food is of various kinds, the most obvious of which is nectar, generally produced at the base of the labellum, or in a spur forming part of that organ. It is also produced by the sepals as in Disa and others, in all of which cases it may be free; but in other cases, insects have to pierce the inner lining of the nectary to obtain it. The fleshy protuberances on the labellum of many Orchids are eaten by insects, and doubtless serve also as obstructions on elevated platforms, causing visitors to brush against the rostellum. The idea of insects piercing or eating fleshy parts has been much discredited, but actual observation of the action sets the matter at rest, and a paper read before the Royal Microscopical Society, in April, 1874, describes the hardened and pointed proboscis of a moth from West Africa adapted for piercing and abstracting the juices of plants. The pollen is too precious, and nature too rigidly economical in this instance to favour the development by natural selection of pollen eating insects, seeing that not merely part of the pollen would be lost in this manner, but the beautiful mechanism to ensure the transportal of the rest would generally be destroyed. Insects also meet with serious difficulties n obtaining a livelihood, and must frequently be encumbered by pollinia, or the adhesive glands fixed to their proboscides, eyes, and other parts of the head. The polliuia of Catasetum are shot with considerable violence at visitors. In our hothouses, ants get glued to the stigmatic disk and die there.

Colour and Odour.

Colour is one if not the leading attraction that serves to allure insects from a distance, and in cases of high specialisation must lend material assistance in finding or recognising the species from which they expect to obtain food. In no other order, probably, do we find such a variety of colour, ranging from the primitive green through yellow, white, pink, red, scarlet, purple, and ultimately blue, as in Vanda cærulea (cærulescens), Calanthe natalensis and others. These by no means exhaust the number of shades and tints, while an enormous proportion are exquisitely variegated with several distinct colours—another instance of high colour development. The higher colours were developed from the primitive and simpler ones by natural selection. Insects in searching for food were attracted by those flowers that varied and rendered themselves more conspicuous. This colour variation merely served to direct insects to the flowers, and distinguish them from the ordinary vegetative portion of the plant. Excretory products being more generally produced by the floral organs than other parts, these colours became associated with a store of rich food for insects. Excretory substances outside the floral organs, being of little or no service to the process of fertilisation, and consequently reproduction would have little or no chance of preservation by selection.

The odour of flowers has a direct bearing on their fertilization, and acts either in conjunction with or independently of attractive colours in drawing the attention of insects. Many species possess an odour, the exact counterfeit of that of some other plant, such as the Primrose, Violet, Cloves, Cinnamon, and others. No doubt all these are intimately associated with the insect or class of insects that visit the respective kinds, or, in other words, serve as a distinctive mark by which they may be recognised. Pleasing odours are mostly associated with more or less highly attractive colours; but Odontoglossum hastilabium and Cœlogyne fuliginosa have a positively disagreeable smell, and are, therefore, exceptions. Odontoglossum gloriosum, Cattleya aurea Dowiana, Epidendrum macrochilum, Stanhopea grandiflora, Maxillaria venusta, and a host of others have conspicuous, showy and deliciously fragrant flowers, so that they possess a double attraction. Species with fragrant and pale or white flowers would lay themselves open to fertilisation by night-flying moths. On the other hand, Acropera concolor, Oncidium bifrons, Eria flava, and some others are typical of a number with moderately conspicuous flowers, and a somewhat disagreeable odour, especially when the flowers are past their best. Bulbophyllum Careyanum has inconspicuous and positively fœtid flowers, which doubtless attract carrion flies, as the Sauromatums do in our hothouses, deceiving the flies, and causing them to lay their eggs there.

Pathfinders and Adaptations.

All parts of the flower are subservient to the process of fertilisation, and all adaptations that are in any way beneficial to the plant in this respect are developed by natural selection. By pathfinders is meant anything that serves to guide insects to the nectary, or the place where nectar is secreted, resulting, generally, in effecting cross-fertilisation. Colour is a prominent feature in this respect, and when the floral envelopes are particoloured or variegated, a concentration of colour takes place often on the upper half of the labellum (constituting the landing-place), and from thence it extends towards the nectary in bands, streaks, or fine pencilled lines. Cattleyas of the C. labiata group are examples of this, and no better instance could be given than C. aurea Dowiana. Numerous instances of spots, blotches, or lines occur amongst Dendrobiums, Odontoglossums, Epidendrums, and others which would be too numerous to mention. The labellum of the highly-developed Vandas is either darker or altogether differently coloured to the sepals and petals. In Vanda cærulea it is a deeper blue than the sepals and petals, with three raised lines or ridges leading to the nectary, behind the orifice of which is a bright yellow spot surrounded with blue, and that again with white. There are seven distinct shades of colour in Oncidium leucochilum, five of which are concentrated on the labellum and column. The shape of the labellum itself probably serves as a guide in the largest number of species, speaking generally, and this shape is frequently assisted by ridges and furrows or raised plates, as in Cœlogyne, Lissochilus, Orchis pyramidalis, several species of Lælia, Bletia, and others. Ridges like these are very serviceable to the guidance of night-flying moths in white flowers. Elevated disks and other peculiar obstructions are placed on the labellum of Phalænopsis, and a tongue-like process on that of Maxillaria, Lycaste, Scuticaria, Prominœa, and others. I cannot look upon all these as meaningless and useless processes, but as contrivances and adaptations for assisting or compelling visitors to effect fertilisation in a certain definite way.

The floral organs, or any one or more of them, may become adapted to suit the convenience of a class or kind of insects, or of one species only. This latter case is one of extreme specialisation, and is significant from the fact that such a species is on the high road to extinction. This is evident, seeing that if any species of Orchid is dependent on one species of insect for fertilisation, and, consequently, reproduction by seeds, its welfare is linked with that insect; and should circumstances become so unfavourable for the latter as to cause its extinction, the Orchid must either take to self-fertilisation or, failing that, become extinct also. The species of Angræcum, judging from the length of the nectary, are all more or less highly specialised, requiring insects with a long proboscis to fertilise them. This is carried to an extreme in A. sesquipedale, and although the existence of a moth in Madagascar has not yet been discovered, and may never be discovered, with a proboscis long enough to reach the bottom of the nectary of 11 ins. or 12 ins., it need never disprove the existence now or at a former time of such a moth. The question arises how long the Angræcum could maintain itself by purely vegetative growth without reproduction by seeds, provided the moth were already extinct.

Catasetum offers another case of extreme specialisation, where many species are sexually differentiated, with a perfect stigma and perfect pollinia on distinct individuals. They are so different in appearance that the older botanists described them under different genera. This being so insects are indispensable for the transference of the pollinia from the staminate to the pistillate flower. The rostellum is greatly elongated, bifurcate, and highly sensitive, and when touched releases the viscid gland, when the elastic pedicel ejects the pollina with great force, a phenomenon which occurs in no other genus. Large and strong insects only are able to effect fertilisation, offering a remarkable instance of co-adaptation between the animal and vegetable kingdoms. Insects have suffered the same modification as the Orchid; but time forbids its discussion here.

(*To be continued*).

CULTURE OF THE HERBACEOUS CALCEOLARIA.

As the season has come round for making arrangements for a supply of plants of this indispensable flower for next year's use in the greenhouse and conservatory, a few notes on its general treatment may be timely to some of your readers. It may be said truly that the Calceolaria has no rival in its season in the brilliant colours and the massive splendour of abundant inflorescence it is capable of producing; but in order to attain the most perfect results, it is necessary to cultivate with great care at every stage. Every operation must be done at the right time, and prevention of evil rather than the cure of the consequences of evil should be the rule of management in every detail.

Sowing the seed is the first operation requiring attention. This may be done any time from May to July, but we prefer June for our own sowings, as we find plants raised from the beginning to the middle of that month generally turn out more robust in growth than those sown at an earlier or later period. The compost for the seed-pots cannot be formed of anything better than light fibrous loam and leaf-mould—the latter not absolutely decayed, but rubbed through a ¼-in. riddle—in about equal parts, with as much sharp sand as will render the mass visibly sandy and porous. The seed being very fine and dust-like, must be sown with great care, so as to distribute it evenly and thinly over the surface of the pot or pan, the latter being preferable because more easily drained in a thorough manner, which is an important point as bearing on the success of the operation.

The even distribution of the seed will be more easily attained if the surface of the soil is smoothed firmly over by means of pressing with a board, or the bottom of a flower pot. The merest dusting of the finest particles of the earth will be sufficient covering, after applying which, lightly water with the finest rose watering pot, and place a square of glass over the pot, large enough to quite cover the rim. The pot may then be placed in a frame, or any position where it may enjoy moderate shade till germination is completed, which will be in from nine to twelve days after sowing. During this time, if the position is a moist and somewhat shady one, little or no water will be required; the square of glass will moderate evaporation, however, no matter what the position may be; but it should be turned daily or wiped dry, in order to prevent drip, which would be injurious to the seeds in process of germination.

When the plants are fully brairded, remove the square of glass, and place the pot in a light position close to the glass, and where a free current of air without draught will reach them; but they must, while being fully exposed to ordinary light, be shaded from the midday sun, and a little before and after that period of the day. During this stage of their growth, the plants will require a moderate amount of moisture, but it should not be applied overhead, else damping may result, which is very difficult to correct after it is once induced. The safest way to supply water to such tiny plants is to immerse the pot nearly to the level of the soil in a tank or tub of water for a minute or two. In this way the roots and the soil about them will be sufficiently saturated with moisture, without any wetting of the foliage or the surface of the soil in immediate contact with it—a condition of things under which damping can never occur.

Pricking-off the seedlings should be promptly attended to, so soon as the first rough leaf is formed. To the inexperienced this may appear much too early, as at that stage the plants are very small indeed; but it is dangerous to delay, as damping may set in and carry the whole off in a very short time. The handling of the plants is impossible so early without mechanical aid; a small forked stick with which to lift each plant separately, and a fine-pointed dibber are, however, the only tools requisite. The fork must obviously be very fine, and is easily formed out of a strip of lath or a wooden label. Pans, for the reason before stated, are preferable to pots at this stage, and the compost may be the same as that prescribed for the seed pots. The plants should be even more carefully shaded from direct sun light than before, and kept close for a few days afterwards. The tedium of pricking off the very smallest seedlings should not be allowed to deter from securing a considerable portion of them, even supposing there is a surplus of stock over and above what may be required to grow on. The weakest at the commencement may and do often turn out the most robust plants in the end, but a certain proportion of them invariably produce the finest colours, so that in throwing them away wholly the choicest varieties of the batch may be unwittingly sacrificed. The distance between the plants may be about an inch each way.

A month or six weeks after being pricked off, the plants should, if all goes well, be large enough to place in small 60 pots, which must be well drained. The

compost at this stage may be made more substantial, by doubling the proportion of loam to that of the leaf mould, using also about a sixth part of the bulk of dry horse or cow dung, and a lesser quantity of sand than has been prescribed for the seed pots. Avoid the use of the riddle, now and at subsequent pottings, in making up the compost, merely breaking it up and rubbing it freely with the hands, leaving it rather lumpy and porous than fine and close in texture. Lift the plants from the pans with care, so as to secure as much soil along with the roots as possible; drain the pots well and fill in the soil firmly but without so much pressure as to render it hard and impenetrable to the roots. The plants will do best, after this potting, standing in a cold frame on a bed of coal ashes, giving them plenty of room, keeping them close to the glass and freely ventilated. Here they may stand till the end of September, when it will become necessary to remove them to somewhat drier quarters, and where they may be kept safe from frost. Meantime, they should be attended to as to potting as required by the progress made. They must never be allowed to become pot-bound, but large shifts are equally to be avoided as injurious. A good size of pot in which to winter them is the 5-inch, and the best place is a front stage in the greenhouse near the glass, standing on gravel or ashes in preference to an open stage. As much air should be given as possible, consistent with the exclusion of harsh draughts and frost. The temperature need not be higher than from 40° to 50°, and if this can be maintained without the aid of fire-heat, so much the better.

When growth commences in spring, place the plants in their flowering-pots, which may be 8 ins. or more, according to the promise in regard to the strength of the individuals at this time, and also the purpose in view; but a 10-in. pot may be regarded as ample in which to flower the largest specimens. The plants will now make rapid progress, and will require careful attention in regard to watering after they have filled their flowering-pots with roots. Their strength should be kept up after they have fully occupied the last shift by means of liquid manure, which may be given thrice a week—taking care that it is not too strong—till they begin opening their flowers, when pure water only should be supplied to them.

The cardinal points in the culture of the Calceolaria are sowing at the medium period—that is June; early pricking-off after brairding; shade from strong sunlight during the summer, yet free exposure to moderate light; a light but rich compost; an abundant supply of moisture along with perfect drainage; scrupulous attention to keeping insects in check, especially aphis, which is the most common enemy of the plant; and in winter protection from frost, with the least possible aid from fire-heat.—*Z.*

Scottish Gardening.

The Vegetable Garden.—With the weakness of one's faith, when a season seems to be adverse, fears innumerable arise, and from what we hear from our friends, anxiety has been greater this year than usual. The long cold winter period left the ground less manageable, until we had a few mild days, genial showers, and really strong sunshine, which have given a good start to vegetation in general. Many seeds have remained long in the earth without vegetating, French Beans, Beetroot, Parsnips, and Turnips, especially, but all now seems to go well, and probably a fair return for our labour—and may be a rebuke to our "weak faith"—may be in store for us. We notice Potatos coming up well in most fields and gardens; those planted late are by no means the latest now. On the strong lands of this district, Broad Beans are looking well, much better from the late planted seed on the dry and warm soil, than from the smaller lots planted early, no doubt when the ground was so cold, which weakened the vitality of the seeds. The same theory seems to be sound in regard to Scotch Potatos growing in the fields, as in the middle of May, and even into June, quantities were planted; and late Potatos planted thus last year, are expected to be plentiful for six weeks, or more, to come.

The bedding out being mostly finished, prompt attention to many items in the vegetable garden is now of primary importance. Artichokes (Globe) which have come up in thickets should be well thinned to two or three of the strongest crowns. It is better to have a small number of good heads than large quantities not worth their room. Good suckers put in now are likely to bear well late in the autumn, thus keeping up a good succession of heads. Liberal mulching and manure-water is of much advantage, on poor lands especially. Jerusalem Artichokes, now growing freely, require little more attention than a free use of the hoe to keep the surface healthy and free from weeds. Broad Beans inclined to grow tall require timely topping, and in low or damp-lying ground "earthing-up" of these crops is of advantage, but it is many years since we practised it. If late green Beans are wanted, there is still time to secure them by planting at once, and the same may be said of Peas; but well-manured land, and the crops sown a week or two ago not having been sown too thickly, will keep on fruiting and growing into October, always provided that early frost does not put an end to them, as it did last year, before the end of September, while they bore abundantly the year before till the end of October.

French Beans planted from small pots into good ground, after the plants were specially prepared, will now be making headway, and those in frames and cold pits, sown after Potatos and Turnips were lifted, will now keep up abundant supplies. A sowing may be made now and be protected later. This crop is decidedly a difficult one to manage in northern and cold districts. Runners are more hardy, and may be protected by stakes; but we grow them as dwarfs, topping-back the runners and picking the Beans clean before they become too large. Beet now growing rapidly may be thinned; but if it has come up patchy, like ours, the thinnings should be carefully lifted and transplanted. If the soil is strong, a handful of finely-sifted earth, placed with the plants and watered in process of planting, will give them a rapid start, and good roots may be expected.

Borecole, Broccoli, Cauliflower, Brussels Sprouts, Savoys, and Cabbage, which have been pricked out from the seed rows and now become sturdy may be planted without delay. Careful lifting, watering quickly after the plants are placed in their permanent quarters, are some of the amenities which prevent disappointment. Drills drawn, which are afterwards closed up by the hoe when the plants are well established, is all the "earthing up" they require. A dusting of soot mixed with fine ashes is a good preventive against slugs and grubs—the dose may be repeated. The washing of the soot down to the roots is a reward for the labour itself. Cabbage may be sown soon for autumn supplies of young heads, but on extra manured ground the sprouts are much valued, and can also be allowed to heart. The Rosette Colwort is a good kind to sow just now. Carrots may be sown every few weeks for drawing young, it being useless attempting to grow large roots in many gardens. In Scotland this difficulty is almost general; sooting, liming, mulching with grass, trenching deeply on land where Carrots have never been grown we have often done with indifferent success. Last autumn, when we were deluged with Apples, we exchanged a lot with a salesman who gave us a fine lot of English, French, and, latterly, Aberdeen Carrots in exchange. An understanding of this kind may suit advantageously all parties concerned.

Celery planting is now in full force, and where land is not abundant we prefer the old system of three or four rows in a trench, and the latter not made deeply; indeed, manure dug in thickly (a good practice by many market men), suits cold hard land well.

Lettuce may be sown now in quantity (on good, rich, deeply dug soil), where the crop is to remain till lifted. Imperial White Cos and Bath Cos are favourites with us at the present time. Crops requiring thinning should have timely attention, and a quantity of the best of the thinnings should be planted in a cool position to give a succession. Leeks require very rich land—a hint unnecessary to the most obscure northern cultivator—and may be planted in rows 1 ft. apart, and 8 ins. from plant to plant. Some give much greater room, and treat the same like Celery; but the demand alone must decide in such cases. For ordinary useful Leeks we do not go much wider than advised. Onions now require thinning; we would prefer doing this twice where there is danger of grubs, filling up gaps as the work proceeds. After each thinning, place soot along the drills, and repeat it after rains or during showery weather. Keep the surfaces clean and nicely hoed.

Onions require firm and rich soil to make them bulb well. We have seen competing cottagers tread all over the ground, the tops being flattened (apparently untoward treatment) and appeared injured, but it was not so. Early bulbs (though not very large) were had, while others, untrampled, had larger growth which did not end in "keepers." Shallots and Potato Onions are well worth the growing, and often give good supplies where the maggot cannot be combated among sown Onions. These, along with refuse of our stock of Onions (planted out in March), are doing good service at the present time; frequent dustings of soot have done much to give luxuriant growth and keep vermin off. Radishes, Rampion, Lamb's Lettuce, Turnips, Land and Golden Cress, may now be sown in larger quantities. Wire frames put over small weekly sowings answer well to ward off birds. A pinch of Endive, Batavian and Green Curled, may be sown soon. Choose a cool spot on well dug ground; moisten the soil well at first; this may secure an early lot should such be wanted, but sowings before the end of the month are very liable to "bolt" to seed. Our sowings of last August, kept under protection of hand-lights all the winter, are just finished, and had there been more Batavian Endive, we believe it would have lasted useful to the end of this month. Watering has not been required in this district, but a free use of the hoe to keep open the surface of the soil has been of great benefit to the crops.—*M. T.*

Calceolarias at Beech Hill Nursery, Edinburgh.—The great improvement that has been effected in the herbaceous or greenhouse Calceolaria in recent years is very remarkable; how it has been brought about we need not here stop to enquire. It is sufficient to all lovers of this deservedly popular greenhouse flower, to know that there has been immense improvements effected in several important respects, and that they may enjoy the result in growing the best only, at the same cost in cash and trouble as the worst. One of the finest strains I have yet met with, I recently saw in Mr. John Downie's nursery above named. The plants were well grown, and in prime condition every way, being in the full flush of flowering, fresh and gorgeous in the brightness and rich variety of colours they presented. A very notable feature of the strain is its compact dwarf sturdy habit which is uniform, not in the sense that the plants are uniformly all of one height, for they vary from 9 ins. to 2 ft. in height from the pot, but there is a uniformity of balance between the height and the width of the individual plants, that is striking and apparently peculiar to the race. The taller plants present no legginess, but a broad massiveness of foliage and flowers that is very pleasing, and the dwarfer ones in like proportions of height and width, supply capital gradations for grouping along with the others, that will be appreciated for many purposes in the conservatory and rooms. The colours are charming, many self-coloured flowers being novel in tint; the flowers are large and of unusual density of substance.—*S. G. W.*

The Amateurs' Garden.

THE FLOWER GARDEN

Bedding out may now be completed and the tender Alternantheras or other plants intended for carpet-beds should be ready for placing out, strong and well hardened, so that they are not likely to be checked by exposure. In all cases of summer bedding it is preferable to place the plants rather closely together, as if thin planting is practised a considerable time elapses before the beds are properly filled, and if the season should prove unfavourable they never present a favourable appearance. Liberality in this respect is judicious, especially since it is easy to keep the plants in bounds by pinching the growths, if necessary. For carpet-beds adopt simple elegant geometrical designs, the very elaborate intricate designs are difficult to plant in a proper manner, and after all have a complicated aspect that is often far from pleasing. Circular or oval beds are seen to best advantage when the designs consist of curved figures; the square or oblong beds may include the straight-line figures.

Most careful planting is requisite for carpet-beds or the best designs will be spoiled, and subsequently close attention must be given to keeping the lines clear and distinct, for such beds must have precision of design and neatness or they lose all their beauty.

The herbaceous-plant border is now very attractive,

and many plants require tying to stakes, or otherwise, rendering secure from injury by winds and rains, also enabling their flowers to be readily seen. Pyrethrums of the roseum type are very handsome and we have a fine display of them, both single and double. They give little trouble beyond tying them up; and having been undisturbed for some years they have formed large handsome clumps which flower profusely every season. Early in the spring, just before growth commences, we give them a top-dressing of old manure over the roots and round the crowns, and this seems to suit them far better than lifting or re-planting. As the stems become tall and shew their flowers, one stout stake is placed to each large root, at the back, or where it cannot be readily seen, and then one tie of matting about the centre is usually sufficient to keep them up without giving a too formal bunched appearance.

Pæonies and many other plants can be treated in a similar manner, but do not let the stakes project above the plants nor be in any way conspicuous, or the freedom of such borders, one of their essential characters, is destroyed. If choice strains of Primulas, Polyanthuses, or Auriculas are grown out of doors and it is desired to save seed, they should be very carefully watched and the capsules gathered immediately they are ripe for the seed is quickly shed. Seed of all these plants should be sown as soon as it is ripe for it soon loses its vitality. Grass on lawns is growing rapidly and should be frequently mowed to keep it neat, and it also has a tendency to improve the turf in thickness, increasing the growth of the fine grasses, which give to the best lawns their beautiful velvet-like surface.

Many annuals can be sown out of doors now, and if well attended to in watering after the young plants appear, they will flower in late summer and autumn. Our early sowings this season have been very unsatisfactory, although the seed was the best that could be obtained, not one half has germinated, which is undoubtedly due to cold weather and heavy rains we have had; similar results have been experienced before, and until the weather is really settled, and the soil is getting warmed it is much better to sow seeds of this kind under glass, planting these seedlings out when they are large enough or the conditions are suitable. Everything should now be placed out that is intended for such positions, as it will give them an opportunity to become established before the weather is hot and the soil parched.

THE VEGETABLE GARDEN.

Earth up the earliest and most forward Potatos now, drawing the soil well up to the haulm with a broad hoe. These important vegetables are making capital progress, and most other occupants of this garden are showing considerable improvement. Celery may be planted out in the trenches that have been already prepared, placing them 6 in. to 8 in. apart. All vegetables in seed pans or beds may be planted out for succession as soon as possible while the weather is favourable.—*Scolytus.*

TILLAGE OPERATIONS OF THE GARDEN.

(*Continued from p.* 629).

The Working of Clayey and Stiff Soils.—In dry districts, soils which have the power of absorbing and retaining the greatest quantity of water, may be considered as of the highest value to the gardener; whereas, in localities when rains are frequent, the "*lighter*" descriptions of soil are, for the opposite reason, the more esteemed.

Generally speaking, those soils which are capable of arresting the largest proportion of the rain and dew that falls, retain it also with the greatest obstinacy, and take the longest time to dry.

Some idea of the retentive power of different classes of soil may be gathered from the following table:—

Descriptions of Soil.	Water absorbed by 100 parts.
Sand	25
Loamy soil	40
Stiff clay	50
Heavy clay	61
Pure clay	70
Rich garden soil	96
Humus matter	190

These figures show that 100 lbs. of sand will absorb and be able to retain for the use of plants growing in it 25 lbs. of water; 100 lbs. of a loamy soil 40 lbs. of water; clays according to their degree of stiffness from 50 lbs. to 70 lbs. of water for each 100 lbs. of soil; and good rich garden mould 96 lbs. of water; while humus matter and peaty soils, from the fact of their spongy nature, will absorb and retain nearly double their own weight of water; hence they are peculiarly adapted to water-loving plants, Ferns and Mosses.

A full consideration of these important facts makes it quite evident that in all soils there are mechanical agencies constantly in force, with more or less vigour, according to the nature of different soils and the character of the season, which assists in compacting the mass; and one of the most important offices of tillage is to counteract these influences, and to give the soil the proper granulation and loosening most advantageous to the roots of plants.

The most obvious mode of increasing the produce of our gardens is by improving the fertility of those which are of inferior quality; and the more perfect cultivation of every kind of soil, from the richest to the poorest—this is tillage.

We see how vegetables in a garden, which are drooping for want of rain, are invigorated and refreshed by merely digging or forking the ground around their roots; the fibrils thus find a readier passage to the moisture of the sub-soil below, and very soon transmit it to the stems and leaves of the plant by capillary attraction.

Properly pulverised soil is rendered more permeable to air and moisture, and the inert materials contained in it, both organic and inorganic, are thereby converted into more quickly digestible plant-food.

In a deeply pulverised soil, however light its character, plants are seldom burnt by the effects of drought; clays no doubt retain moisture in their solid clods or lumps, but the roots or plants cannot penetrate these until the particles are broken up. If plants are enabled to keep alive in very stiff clays during a scorching summer, they seldom make much progress, unless the roots find a well-pulverised or comminuted soil below the immediate surface.

The purpose of the gardener should be, therefore, so to till and prepare this land, and so to manure and crop it, that every year it may improve in texture and productive power; that his porous soils may become more consolidated and retentive of moisture, and his heavy clays mellowed and dried by breaking up, exposure and the weathering by sun, wind and frost.

What really loosens stiff clay soils by detaching the particles from each other is the act of drying. As the water dries out of the soil, the sticky clay-mass, shrinking around the sand-grains, either pulls these particles closer together or else itself cracks and breaks; it does both in fact. For this reason we find alternate freezings and thawings of wet clay that has been turned up rough by digging loosens its texture as no other agency can, and this drying and breaking up of wet sticky clay is an essential preliminary to warming it up to a point most favourable for the germination of seeds, and for the growth of young plants.

The greatest care should be taken in dealing with stiff clayey soils to avoid the injurious influence of treading, or undue pressing by the use of garden implements, which may cause its adhesion. Few can estimate the full amount of injury occasioned for instance to a Potato crop, if the soil is at all inclined to be stiff and tenacious, and it is worked when in a soft and plastic condition. For in the case of heavy rain immediately succeeding the planting of the tubers, a muddy coating forms on the top, which when dry, acts as a hard cement. This covering greatly interrupts the free entrance of atmospheric air into the soil, and thereby checks the sprouting of the tubers and renders the crop irregular, and the produce small. We saw a very pointed example of this last season. In the same manner, but in a greater degree, is this the case with small seeds when by undue pressure the soil envelopes the seeds as it were in a hard shell, thereby depriving them of the necessary access of air, which retards germination and prevents the young plants from making satisfactory easy growth.

The Hull, East Riding, and North Lincolnshire Horticultural Society's Exhibition will be held in the Hull Botanic Gardens on July 14th, 15th and 16th, when two gold and two or more silver medals will be awarded.

DUNEDIN, STREATHAM HILL,

The Residence of N. Sherwood, Esq.

How it is possible to live so near the City as to be within an easy drive of one's place of business, and yet, when in one's garden, be amid so much quiet and repose as to feel quite in the country, is shown when the visitor enters the grounds attached to Mr. Sherwood's residence at Streatham Hill. In all, there is about three acres of ground. There is a well-kept lawn, some fine clumps of Rhododendrons, now in full bloom, a good bit or two of American Azaleas, various Evergreens, shade and flowering trees, specimen Conifers, side walks under leafy trees parallel with lines of shrubbery, where one comes upon a bit of rustic Fernery, a pleasant arbour, a dove-cot, a house for tame rabbits and pet dogs; then a Rose garden, then seven plant-houses, with the necessary offices; beyond these, a kitchen garden and frame-ground, a small paddock with a cow, and a portion railed-off as a tennis-ground, a fowl-yard with a piggery, and a few other domestic surprises, that one wonders how so much can have been got into so confined a space. At the extreme back, where not long since quiet fields and green lanes could be looked upon, the builder has put up a line of villa residences, marking the rapid out-growth of the greater London that advances with such giant strides. But for this, one might be miles away in the country and completely out of the sound of the roar and bustle of London life. Such repose and quiet is necessary for the refreshment of mind and body of a man who has to conduct all the details of a large business establishment.

Passing through the entrance-hall of a dwelling that presents to view indications of the home of a man of taste and culture, the visitor enters an octagonal conservatory, just erected at the back, and having a westerly exposure. This is to be filled with Camellias and other flowering plants, suitable creepers will spread about the interior and fall down in graceful festoon and gay blossom, and a portion of the floor will be made to serve the purpose of a smoking-room. Leaving this, an abrupt grassy slope leads to a stretch of grass-plot, admirably kept and singularly free from weeds, for they have been destroyed by dressings of "Bellicide," a new Daisy and weed-killer, just introduced by Messrs. Hurst & Son, of 152, Houndsditch, and to which a fuller reference will shortly be made. One peculiarity about this "Bellicide" is that while it destroys the weeds, it also fertilises the Grass around them, which thus stimulating, causes the vacant spaces to be soon carpeted with living verdure.

Standing on the lawn, one speculates when the garden was planned and planted. The size of some of the trees suggest an age extending back sixty and seventy years at least. There are Thorns of mature years, a Cedar of Lebanon or two by no means youthful. The serpentine paths indicate something anterior to the straight lines that characterise modern suburban gardens. No recent houses and gardens are these—they are related to two or three generations back. The Rose garden illustrates the increasing difficulty experienced in growing Roses with anything like success in the near suburbs of London. With the wind in the east so many weeks in spring, fog and smoke are driven westwards, and with but one result—that the tender growths of the Roses are checked and injured. Trees and shrubs alike show the same signs. If it were pure fog one would not so much care; but it brings with it particles and gases that wage war against healthy vegetation, and all the resources of the gardener are called into play in order to battle against so deadly a foe.

With the exception of Tomatos, no other fruit is grown under glass; Mr. Sherwood loves plants, and has a varied collection. A new plant house in two divisions, recently erected by Mr. B. S. Williams, has some specimen stove and greenhouse plants in its warmest portion, and some excellent Tuberoses fast coming into bloom; the cooler portion is devoted to Javanese Rhododendrons, Pelargoniums, &c., with a fringe of Thunbergias in pots to the central stage, the shoots hang down, and the varieties—alata, alata alba, Bakeri, lutea, aurantiaca, and Fryeri—flower freely in small pots, and are very pretty. There are miscellaneous collections of plants in some of the houses, a few Orchids in one, another is devoted to propagating purposes, and there is a pleasant little Fernery, fitted up with walls of tufa and mimic waterfalls here and there; the Ferns are doing well, a good specimen of Todea superba being in admirable condition.

The kitchen garden contains a good collection of fine young fruit trees getting well into bearing, and there are the usual kitchen garden crops coming on for use. On a north border can be seen fine patches of the double and single forms of Anemone fulgens just coming into full bloom; a line of the pretty bright lilac Camassia esculenta; a good quantity of Narcissus Bulbocodium in flower; various forms of Scilla Belgica, the rose and white varieties being very charming; lines of Trumpet Daffodils, Emperor and Empress being prominent; and a few other pets of this kind.

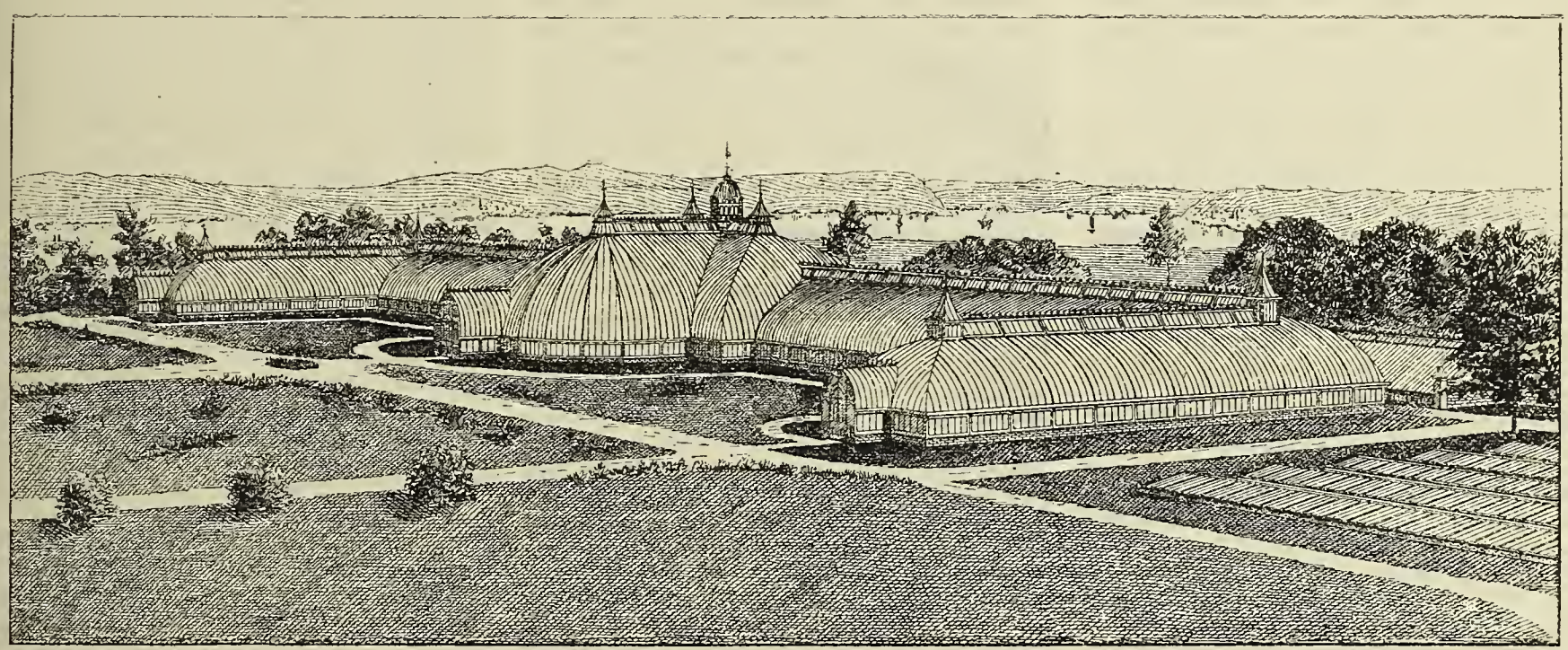
Of wall fruit there is but little; the soil appears to be too light for Peaches and Nectarines, the trees soon decay, and in their place Mr. Sherwood cultivates Tomatos largely. He has an early supply under glass, and maintains it in the open air until late in the season.

Such are the details gleaned by a rapid survey of the garden at Dunedin. A great amount of pleasure and interest is derived from it, for Mr. Sherwood takes cognizance of the smallest operations. The hours snatched from business have to be given in part to the requirements of social life and other engagements, but the garden refreshes the spirit of its owner, as it should of every one who has a kindly regard for flowers, and loves to see them presented in attractive forms.

enormous prices are paid for floral designs as well as for loose flowers, for Roses, Carnations, Pansies, Lily of the Valley, Narcissus, and such like are extravagantly worn by the ladies. It is a very common occurrence to see ladies with a dozen enormous Roses in the belts around their waists, or a bunch of three or four dozen Pansy blooms worn in the same way. When in Baltimore and Washington, I frequently saw coloured ladies with from a dozen to eighteen Daffodils worn in the same way. The festive seasons are rare harvests for the florists. At Easter the prices for the following were:—Cut Violets, 4*s.* per 100; Roses, best, 2*s.* 6*d.* to 3*s.* 6*d.* each; Callas, 1*s.* 6*d.* each; Mignonette, twenty-four sprays, 2*s.* 6*d.*; Narcissus, 4*s.* per dozen; Lilium longiflorum, 2*s.* each; Pansies, about 1*d.* each, and so on in proportion.

At weddings and funerals large and expensive designs are made up in the form of floral tributes, and enormous quantities of flowers are used. For instance, the saloon of the splendid Cunard steamer in which I returned was completely filled with floral offerings to friends leaving for Europe, some of which must have cost at least £20 to £30 each, being made of the choicest flowers, and designs of ships 8 ft. long and so on were amongst them. Just now a great amount of rivalry cut flowers. I must admit it does away with the stiff and formal way in which we show them—viz., in boxes.

The quality of the Roses was very fine; indeed, never have I seen a finer or brighter lot of flowers, not even at Midsummer, than those shown here. Amongst the Hybrid Perpetuals, Magna Charta, Baroness de Rothschild, Anna de Diesbach, General Jacqueminot, commonly called "Jacks" by the florists: and amongst the new hybrid teas, American Beauty and W. F. Bennett stood their ground well. Niphetos, Perle des Jardins, Cornelius Cook, and Catherine Mermet were admirably shown, and the new Rose, Her Majesty, was exhibited for the first time—a magnificent flower, resembling a gigantic bloom of Baroness Rothschild; it was the admiration of all. Carnations, Lily of the Valley, Violets, and Pansies were well and very extensively shown. In the plant classes, Azaleas and zonal Pelargoniums were well done and staged in considerable numbers. This society is working hard to establish itself upon a firm basis, and has an enthusiastic secretary in Mr. James Murkland, whose object is to make the society second to none, and great praise is due to him for the admirable manner in which he carries out his duties under not over-favourable conditions, for I am sorry to say the wealthy, who might



View of the Glass Range in Mr. Jay Gould's Garden at Irvington-on-Hudson, U.S.A.

NOTES OF A TRIP TO AMERICA.

By Alfred Outram.

The journey from London to New York is now easily accomplished, the new country being reached in eight days, and frequently in a week, as was the case on my last trip. Horticulture has made great progress in the States during the last few years. It is just ten years ago since I made my first trip in company with Mr. Harry Williams, of Holloway, when we took a choice collection of stove and greenhouse plants, Orchids, &c., to the Centennial Exhibition, which rather astonished the horticultural visitors, and which gained the highest honours. This collection of plants, I believe, stimulated many American gentlemen to import plants who at one time thought it impossible to get them over in good condition, for since then large importations have been received from various English firms. The plants have been received in splendid condition, and have given great satisfaction to the exporter as well as to the importer. New York is, as everyone knows, a busy commercial centre; and so it is as regards the nursery and seed trade. There are many very large horticultural establishments, and the cut-flower trade especially is carried on in a very extensive way.

There are hundreds of florists shops, a great number of which are worked in conjunction with country establishments, but the majority are supplied with flowers from the growers who make specialities of various things. The demand is very extensive, and seems to exist among the leading florists. One or two of them have taken large halls, and converted them into promenade flower shows, and beautifully done they were, far surpassing anything of the sort ever seen before; a fairy palace could not possibly be more beautiful than these were.

Horticulture in New York.

New York has an influential horticultural society, and I was present at one of its shows, and being invited to act as one of the judges, I had a good opportunity of examining the various exhibits. The exhibition was held early in April, and the liberal prizes offered brought out some good collections of plants in the various classes. The principal features were the cut flowers, Orchids, Roses, and Carnations, which were well and extensively shown. Among the former a grand collection was sent by W. S. Kimball, Esq., of Rochester (gardener, Mr. George Savage), and which consisted of about fifty varieties, represented by many flowers of each sort, which were nicely put up, being dressed with Fern and Asparagus plumosus, and shown in dwarf glasses. Collections were also shown by De Witt Smith, Esq., and Mr. Taplin, but they were not so large. A fine specimen of Cattleya Lawrenceana, with nineteen flowers, was also shown by Mr. Kimball, as fine a variety as any I have seen. Roses are shown in threes and sixes, cut with long stems, showing plenty of foliage, and put in glasses of the same description to those used with the support such an institution as this, do very little to assist it.

Plant sales are held in New York twice or three times a week, and the city can boast of numbering among its citizens, one of the best horticultural auctioneers I have ever heard in a rostrum. This gentleman is familiarly known as "Billy Elliot," and is a member of the firm of Young & Elliot, seedsmen, formerly of Courtland Street, but now removed to more commodious premises in Dey Street. All valuable collections of plants from far and near are sent to him for disposal, and it was stated when the valuable collection of Orchids formed by the late Mrs. Morgan was being sold, that "Billy Elliot" could roll out more words in one minute than any other man in America; I think so too, for his volubility is wonderful. In April and May the great spring sales of bedding plants take place. These are made up in boxes of 25 to 50 nice clean healthy stuff fit to plant out, and they realise very much about the same prices as they would here in the market. At a sale of Orchids from Mr. Fred Sander, the pieces commanded good prices, buyers coming from far and near.

The parks, squares, and cemeteries of New York are well laid out and planted. The fine Central Park is very extensive, handsomely laid out, and ornamented with fine trees; it has good roads, and costly bridges, but lacks age to make it equal in beauty to ours. Greenwood Cemetery is one of the largest and handsomest in the world; it has fine lakes, and an

undulating surface, plenty of shade, and costly monuments, and all the other melancholy attractions possible to find in any place of sepulture. The various squares are greatly patronized; they are well planted, and at the time of my visit the beds were gay with Hyacinths and Tulips, and other spring flowers. There is a plentiful supply of seats for the weary, and fountains for the thirsty. There are many lovers of plants amongst the amateurs in the vicinity of New York, but the finest private establishments are away out of the city. For miles on the banks of the Hudson you can see fine well-kept places, such meu as Jay Gould, Hon. S. J. Tilden, and many others, having very fine and extensive ranges of glass.

Up the Hudson River.

At Irvington, Mr. Jay Gould's palatial residence, there is a noble range of houses, of which I enclose you a sketch (see p. 649). The central house in the range is filled with Palms, fine foliage plants, &c.; one house is full of Nepenthes, very fine, and several contain Orchids only, including a magnificent lot of Cattleyas iu flower, many hundreds of which are grown. Crotons and Dracænas and other fine foliage plants occupy another house, and in several good Vineries I noticed good crops of fruit. I also passed through houses of Roses, planted out, Heliotropes, and Carnations, &c. The grounds are beautifully kept, and contain a fine collection of hardy trees and shrubs, and splendid Conifers. Bedding-out is also well done, the place is beautifully kept, and great credit is due to Mr. Mansfold, Mr. Gould's clever gardener, who has had charge of the establishment a great many years.

At the Hon. S. J. Tilden's, Greystone, Jonkers, the houses are new, and not completely planted. The centre house contains Palms and other fine foliaged plauts; others will be devoted to Vines and other fruits; one is devoted to Roses, and others again are intended for Orchids and stove plants. These when filled will be very fine, as it is the intention of Mr. Tilden to have nothing but what is first class, and he is well supported by Mr. Miller, his gardener. The grounds are very extensive, and fine views of the Hudson River are obtained from various points.

The principal horticultural buildings in America have been erected by Messrs. Lord & Burnham, of Irvington, and are models of skill in construction. They are now eugaged in erecting many fine ranges of houses in various parts of America, which speaks well for the future prospects of horticulture. The range above alluded to as just having been erected for the Hon. S. J. Tilden, Jonkers, New Jersey, is fit for any place, and capable of producing plants, cut flowers, &c., equal to any nobleman's requirements. A trip up the Hudson River should not by any means be missed by the visitor to New York, the splendid boats and fine scenery rendering it a most enjoyable outing It is said by travellers that there is no river or lake iu the world so beautiful as that portion of the Hudson between Peekshill and West Point; it is as fine as any scenery on the Rhine. The Catskill Mountain ranges scarcely leave the eye, so graceful is the outline, and for a long time the views over the Hudson Valley are very fine.

Catskill to Albany.

After leaving Catskill one comes to Hudson, a large and thriving town, but were there are no good private places worthy of note; and the same may be said of Poughkeepsie. Arriving at Albany, the capital of the state of New York, oue is struck with the magnificent new buildings, such as the State House and Government offices. A famous collection of Orchids, second to none in America, is to be seen here at the country residence of Erastus Corning, Esq. It contains many novelties of sterling merit, many of which cannot be duplicated. There is a grand collection of all the leading and most rare Orchids, aud they are in splendid condition. Cool Orchids are here done well, the numerous spikes and fine varieties which are so familiar to us all are to be seen in perfection. Cattleyas, Lælias, Vandas, Aërides, Saccolabiums, Phalænopsis, Dendrobiums, &c., are all represented in many fine plants of the most popular sorts. Stove and greenhouse plants are also well done; likewise Vines. Mr. Gray, Mr. Corning's gardener, has had charge of the place a great many years, and his long experience has taught him the suitable requirements for carrying out practically all-round gardening in a perfect and artistic manner. Mr. Corning is a great lover of plants, and is to be congratulated upon having the finest collection of Orchids in America, and which is a source of great pleasure to him. There are houses here devoted to each class, viz., Dendrobiums, Cattleyas, Odontoglossums, Vandas, &c., &c. Another fine collection, but not so large, is that of General Rathbone, which also contains many good plants.

There are several florists here, of whom the most noted is Louis Menand, whose nursery contains many novelties not often to be met with. There are also one or two collections of Orchids at Troy. At one of these places I saw Odontoglossum citrosmum roseum, with over two dozen spikes. The cemeteries at Albany and Troy are very extensive and well kept, as are the public squares and gardens. Leaving Albany on the way to Rochester, one passes through a magnificently undulated and well-wooded country, containing many features of interest, but too numerous to mention here—fine ravines, waterfalls, &c., everything that one can wish for. You pass Utica, the capital of Oneida; Rome, a thriving town on the Mohawk River; Syracuse, where the extensive salt wells are situated; Auburn, capital of Cayuga County, where one of the large New York prisons is located; and Palmyra before reaching the beautiful town of Rochester. There are several horticulturists at the places mentioned who are beginning and promise to become patrons of gardening.

Rochester.

Rochester, one of the largest towns in North New York State, is situated on the Genesee River. Here are some very fine seed establishments, where a most extensive and lucrative business is carried on, but to give a description of them would occupy too much space, so I must confine myself to plant establishments. Here has been established within the last two years what promises in the future to be one of the largest and best collections of plants in America. W. S. Kimball, Esq., is the enthusiast; he has started well, and what is more, the plants are doing well. He fortunately procured the services of Mr. George Savage, whose English traiuing and Americau experience stamps him as one of the best gardeners in the States; both master and man work well together, and it is pleasing always to meet such enthusiasts. The houses here are first-rate for the purpose; some new ones were being erected at the time of my visit for Orchids, and fine ones too. Several fine Cattleyas and Lælias were in flower, including a huge mass of C. Skinneri with over 250 flowers, several good Dendrobes, Cypripediums, Vandas, Aërides, Angræcums, Phalænopsis, and many others were in flower, making a very fine display. In addition to the Orchid-house, there is a grand Aquatic-house, where all the Nympheas and Victor Regia do well. Mr. Kimball most liberally throws open his houses to the public, a treat which is greatly appreciated by rich and poor, and which would be a great benefit to the same classes in other towns if some of those in possession of plants would follow his example. In a few years this collection will outdo some of the older-established ones.

The Falls of Niagara.

From Rochester, Niagara is easily reached, and here are the celebrated falls which are known all over the world. It is said that 25,000 tons of water pass over the ridge every second; it is a grand and imposing sight. There are several interesting features here, viz., the Rapids, Goal Island, the Whirlpool, the Burning Spring, and for those who like to adventure, as I did, under the falls, when you must be provided with waterproof clothing, and a cool collected man as guide. Here is also the celebrated Suspension Bridge which connects America with Canada. Buffalo is easily reached from here, but there is nothing interesting in gardening there worthy of mention. Cleveland, Ohio, the Forest City is situated on Lake Erie, and is so called because the wide streets are lined with fine Elms, which give it a very interesting and grand appearance; there are a few Orchid growers beginning here also. There is also a good park, with a fine monument erected to the memory of Commodore Perry, also a grand cemetery, Wood Lawn.

Chicago and Cincinnati.

At Toledo and Fort Mayne there is nothing particularly interesting, but at Chicago and Cincinnati, there are several flourishing florists, and some good private places are springing up. Chicago is one of the most flourishing cities in the world, beautifully situated on Lake Michigan, on ground sloping up from the lake, and with the Chicago river dividing into two branches running through the entire city, adds to its beauty and commercial convenience. The city is full of interest; it has fine buildings of enormous size, and one would little think that so recent as 1874, such a calamity existed as the great fire which completely prostrated the place for a while. There are several fine parks here, well laid out, also cemeteries, but they want time to give them an established appearance in most cases; the Union Park is the most complete.

Here I must conclude the first portion of my notes, with a few words on the Easter Lily of Bermuda, of which I send you a photograph of a remarkable specimen, which flowered with Messrs. F. R. Pierson & Co., Tanytown, New York (see p. 645). It bore no less than 145 blooms in 1884. Lilium Harrisi is forced for winter and spring flowering in enormous quantities, so great a favourite has it become.

(To be continued.)

STIGMAPHYLLUM CILIATUM.

I had not seen this plant in flower, and had very little idea what it was like till it flowered here, and I am now surprised at this, because from its behaviour here I am of opinion that it must rank amongst the first of our stove climbers, and with us it has not been affected with any insect pests so as to give us much trouble. I received a plant of it five years ago in a 5-inch pot, which was transferred into one 2 ins. larger, and early the following year into a 10-in., which is the largest size we care to see on the narrow stage it had to stand upon. In April of that year it flowered as well as could be expected, and it was satisfactory the following one, but it began to lose its leaves and look shabby before the end of it, and as there was no improvement, the fourth year I decided to plant it out in what might be regarded as an unfavourable position, and I had no great hopes of its succeeding, as the shoots would inevitably be within 3 ins. of the hot-water pipes and for 2 ft. of their length in comparative darkness, which would interfere with young shoots coming from the bottom. A hole was, however, dug for it underneath the four hot-water pipes and the shoots were carefully drawn through the narrow space at the back of the stage whilst the ball of the plant was being conducted as desired till the hole was reached. A few inches of peat and loam in equal portions with a dash of sand was placed underneath, and 3 ins. of the same rammed round.

After passing through this mixture, the roots would share in common with Ferns, Begonias (foliage and flowering), a border 2 ft. wide, 50 ft. long, and 4 ft. deep, composed of various materials from a shaving to half a brick, in fact all the rubbish left by the builder from that and other houses was collected to fill up, as it was not intended at the time to plant anything in it. When we planted the Ferns for a trial, we placed some of the best mixture from underneath the potting bench round the roots of each plant, and have top-dressed with the same in the spring. There is no doubt that the Stigmaphyllum roots have extended some distance into this border, for it covers as much more space as it did before it was planted, and its inflorescence has proportionately increased. The whole space covered by flowering shoots is 12 ft. by 2 ft., with an occasional spray suspending such as the one I forward. It appears that the Stigmaphyllum, like many other plants, is not particular as to the nature of the compost, provided it has plenty of it. Our plant has been in flower since the 10th of April, and is tolerably well-covered with bloom at the present time.—*W. P. R.*

P.S.—You will notice that some of the flowers have dropped from the specimen, four and five are the usual number at each joint. [This is one of the most handsome of yellow-flowered stove climbers; but though introduced from Brazil many years ago, is very little grown. We believe it first flowered at Sion House, about forty-five years ago.—Ed.]

FRUITS, FLOWERS & VEGETABLES.

Wistaria sinensis.—Many dwelling-houses are now adorned with this lovely climbing plaut, and common though it be, it is unequalled when in flower. The fiue pendulous racemes of pale purplish lilac are most delicate iu colour and form, and they are produced so freely that walls are covered with them, hiding the stems, the few fresh young leaves peeping out from amongst them. The Wistaria is quite hardy in the south of England, except that when we have late frosts the flowers are very liable to be injured, and I have a plant which has suffered this year from the same cause.

This sometimes rather shortens the time during which they continue attractive; but in favourable seasons this disadvantage is avoided. It is surprising how rapidly the Wistaria increases. Its branches extend to a great length in one season's growth, if the plant be thriving well, and it is not uncommon to see specimens with stems exceeding 100 ft. in length. Young plants can be purchased so cheaply that it is scarcely worth the trouble of propagating; but anyone who wishes to try the experiment can easily do so by layering the young branches, covering the whole of the stems except the growths at the nodes, and roots are then freely formed. A relative of this, named W. frutescens, is rarely seen. It is a much smaller grower than W. sinensis, and has it flowers tinged with blue. W. consequana and Glycine chinensis are only synonyms of W. sinensis.—*G.*

Strawberry, Grove End Scarlet.—This old variety is seldom seen in cultivation now, but though it is only of second class quality, it is an excellent preserving variety, and being very productive is well suited for small gardens. It will also succeed in soils in which some of the higher class kinds fail to give constant satisfaction. It is a very old sort, and in some places is the only one used for jam making.—*J. R.*

Cuckoo Spittle.—This so-called insect deposit is thus named evidently because it prevails during the Cuckoo season. It is very prevalent this year, and it may be taken for granted that the drought of last year very materially helped the production of the fly which generates these spittle insects. Entomologically, the name of the insect is Tettigoria spumaria. Eggs are probably deposited by the tiny flies early in the year, and in the junctions of leaves which spring from the stems. When the egg is hatched, the larvæ, or hopper, as some prefer to call it—for it is a perfectly-formed insect with a beetle-shaped body, and endowed with six tiny legs—is said to perforate the stem of the plant or bush upon which it is hatched, and extracting the sap, forms the frothy envelope in which we see it so abundantly now. That such is the case I cannot doubt, as having gathered a Mule Pink-stem upon which was an insect, I cleansed it from the spittle, and could then discern, close to the base of the sheath or leaf projecting from the stem where the insect was, a tiny perforation, just as if made by the point of a fine needle; that was, in my estimation, proof positive. Still, others, and "Puzzled" included, may examine for themselves. During the month of August the insects are found in pairs on the plants they frequent, and being then fully grown, are also found to be endowed with long back legs, by which they are enabled to leap freely; hence the appellation "hoppers." Without doubt, the best method of dealing with the pest is to gather or wash the spittle and insect from off the plants as far as possible. It seems odd, however, that our soft-billed birds do not do this work for us; but they are not quite so grateful or useful in good work as they might be.—*A. D.*

Late Broccolis.—I am indebted to Mr. R. Gilbert of Burghley Gardens, for a good intention, and to some one else for the failure of its realisations. Mr. Gilbert has kindly sent me to cook and taste a head of his late Victoria Broccoli. The kind seems to have been of such delicious quality, that even uncooked it excited the palate of some person through whose hand it should have passed, and thus found its way into other pots than mine. The loss is great, because there are, of course, no other such delicious late Broccolis as the Victoria, and no gardens in which these valuable members of the Brassica family can be produced in such perfection as Burghley. There are not a few of these late Broccolis in existence, more or less good, and nearly all seem to have grown out of that fine old late kind, Cattell's Eclipse. It would have been a matter of exceeding interest could we have traced in any way the origin of that old variety, and possibly with some knowledge of the parentage of Late Queen, Model, Victoria, and others, have evolved a very pretty pedigree. It is obvious, however, that we have a long Broccoli season now, for if we start with the Autumn Giant, really a tender Broccoli, we have about eight months of the year open to a Broccoli supply, and Cauliflowers can easily make good the summer interregnum. But this eight months supply, it must be admitted, reads better upon paper than it looks in the garden. Many a gardener would gladly give almost anything to have a Broccoli that did really take up the season as soon as Autumn Giant and protecting kinds are past, but if he trusts to Snow's Winter White, too often he finds that it is unreliable, is either untrue, or fails him at the most trying part of the garden year. As we have Broccolis enough and to spare through the usual season, and even of later ones, cannot some enterprising raiser, such as Mr. Gilbert, endeavour to provide us with one or two good hardy kinds, which shall fill up the void too commonly found between Christmas and the end of February? All late Broccolis are long on the ground, hence it is only in gardens where there is ample space that gardeners can afford to grow them. It is a long season from March to the end of May or beginning of June. Cannot some one also give us a kind that may be sown at midsummer, and need only to be planted out in August? The heads may be small, perhaps, but thicker planting can correct that defect.—*A. D.*

Old Asparagus Beds.—It may not be a matter of common knowledge amongst the majority of your readers, that this estimable vegetable will continue in a good bearing condition for a great many years; much longer, in fact, than is generally supposed. In going through the gardens at Norton House, Warminster, some few days ago, I was struck with the quantity of Asparagus fit to be cut on three long beds, each 4 ft. wide, and on inquiring as to their age—at the same time thinking in my own mind that they had not been planted very long—was surprised to hear that they were forty years old, and this I was assured was no haphazard statement, but a positive fact. The crop was certainly a good one, and led to further inquiries as to treatment which briefly stated is as follows:—The beds receive an annual dressing in the autumn of half rotten manure, and an occasional top-dressing in the spring of salt, the plants are allowed to shed their seed on the beds, and no trouble is ever taken, so I am told, about pulling up or thinning out the young plants. Assuming such to be the case, it goes without saying, that the original plants with which the bed was planted, must have long since been turned into manure for successive generations of plants. Truly then, this, we may say with Spencer, is a case of the "survival of the fittest," and of the weakest going to the wall.—*J. H.*

Bossiæa linophylla.—A distinct and beautiful member of the pod-bearing family is Bossiæa linophylla, a native of Western Australia, which yields us many interesting plants, including some others of the same genus. In a small state these are pretty, but when of good age and size, say from 8 ft. to 10 ft. high, well clothed with growth and flowers they are extremely handsome. A specimen of this kind can be seen in the temperate house at Kew, which has for some time, in my opinion, been one of the chief ornaments of that structure. The plant is over 9 ft. high and 5 ft. in diameter, with slender drooping branches and linear dark green leaves 1½ in. long. The flowers are produced freely in the axils of these, thus clothing the branches for the greater part of their length; the colour is a bright yellow with a blotch of bright red at the base of the standard and wings, and though the flowers are small individually, they have a good appearance owing to their numbers and brightness.—*Visitor.*

Camellia japonica, var. Red Waratah.—In the same house as the above is a grand example of this old Camellia, which is 12 ft. high and nearly 20 ft. in diameter; it has been flowering superbly this season, the huge bush being covered with its bright red double flowers. These are somewhat curious in possessing large outer guard petals and a number of very small ones clustered in the centre. Being of strong free growth it appears to be suited for large conservatories.—*Visitor.*

The Common Radish.—Of the vegetables cultivated for salads, few are so generally grown as the Radish, and none are more wholesome, for it shares largely in the special properties of the Cabbage family to which it belongs. It has now been grown in this country for a great length of time, being described by the old herbalists to whom also the long and the round varieties were known. As to the origin of these two forms, or indeed, respecting the origin of the garden Radish generally, the evidence is scanty and by no means conclusive. Botanical writers tell us that it is from Raphanus sativus, but so long has it been cultivated in European and Asiatic gardens, that it is scarcely to be found in a wild state, and then in many cases it is probably an escape from cultivation. We have in our own country an undoubtedly wild species, Raphanus raphanistrum and some experiments have been undertaken at various times to prove that the garden Radish is merely a cultivated form of this. Those of M. Carriére, of Paris, showed very clearly what changes can be effected in a short time, for by growing R. raphanistrum from seeds in various soils he succeeded in obtaining fleshy roots possessing the same pungent taste as the ordinary forms. There is also a slight difference in the capsules of the two supposed species, but it has been observed that in many instances where the garden Radish has reproduced itself from self-sown seed these peculiarities have been lost to some extent, and the capsules approached those of R. sativus. These matters are interesting as indicating the changes effected by culture, and how difficult it is to determine the precise origin of plants that have been in gardens for a considerable time.—*K.*

FLORICULTURE.

The Royal National Tulip Society.—The Tulip has been to the fore at Manchester during the past week, for the annual exhibition of the above society took place in the Botanical Gardens, at Old Trafford, on Saturday, the 5th inst., and notwithstanding that the season has been a trying one, there were a great many more flowers than we had expected to see. A few were large, the majority small, not having reached their full size. At Carnforth, in North Yorkshire, the Rev. F. D. Horner is much earlier in getting into bloom than Mr. Samuel Barlow, at Stake Hill, who was able to show a few flowers only, and had to be content with small ones. His beds are unusually late, and will scarcely be more than at their best a week hence. The few cool days previous to the show had retarded the flowers considerably; still, taking into consideration the disadvantages of the season, the show, was, on the whole, satisfactory, and the number of exhibitors unusually large.

As is usual, a line of tables was placed along the centre of the large show-house, and there the flowers were arranged. Judging is always a somewhat slow process, and judging Tulips especially is a serious business in the estimation of the northern florists that are selected for the purpose. The flowers are carefully scanned, their defects as well as their good qualities considered, and if mistakes occur, they do not arise for want of due consideration on the part of the censors.

The Rev. F. D. Horner, Lowfells, Carnforth, was in excellent form, showing flowers of large size, and, with but few exceptions, in excellent character. There were eight stands of twelve blooms, two feathered and two flamed in each class, and Mr. Horner's premier dozen consisted of—bizarres, feathered, Commander and Dr. Dalton; bizarres, flamed, Sir J. Paxton and Orion; roses, feathered, Nancy Gibson and Annie McGregor; roses, flamed, Annie McGregor and Mabel; byblœmens, feathered, Mr. Cooper and Talisman; byblœmens, flamed, Talisman and Duchess of Sutherland. Second, Mr. James Thurstan, Merricdale, Wolverhampton, with bizarres, feathered, Asclepius and Sulphur; bizarres, flamed, Dr. Hardy and Sir Joseph Paxton; roses, feathered, Mrs. Thurstan, and Modesty; roses, flamed, Mabel and Lady C. Gordon; byblœmens, feathered, seedling 39/3 and Adonis; byblœmens, flamed, Talisman and Constance. Mr. D. Woolley, Millgate, Stockport, was third; Mr. W. Kitchen, Marple, fourth; and Mr. John Wood, Royton, near Oldham, fifth. There were eight stands of six varieties, one feathered and one flamed in each class, and here Mr. Horner was again to the fore with bizarre, feathered, Masterpiece; bizarre, flamed, Orion; rose, feathered, Modesty; rose, flamed, Mabel; byblœmen, feathered, Mrs. Cooper; byblœmen, flamed, Duchess of Sutherland. Mr. D. Wooley was second, with bizarre, feathered, Sir J. Paxton; bizarre, flamed, the same; rose, feathered, Julia Farnese, with a very heavy feather, and Mabel; byblœmen, feathered, seedling; byblœmen flamed, Adonis. Third, Mr. J. Thurstan; fourth, Mr. J. Wood; fifth, Mr. W. Kitchen. There was a similar class for half-guinea subscribers, and seven stands competed. Mr. H. Housley, Stockport, was first, with bizarre, feathered, Royal Sovereign; bizarre, flamed, Sir J. Paxton; rose, feathered, Leah; rose, flamed, Triomphe Royale; byblœmen, feathered, Violet Amiable; byblœmen, flamed, Lord Denman. Second, Mr. R. Wolfenden, Royton, near Oldham, with bizarre, feathered, Masterpiece; bizarre, flamed, Excelsior; rose, feathered, Heroine; rose, flamed, Mabel; byblœmen, feathered, Violet Amiable; byblœmen, flamed, Lord Denman. Third, Mr. A. Fearnley, and fourth, Mr. A. Prescott, both of Lowton, near Leigh.

Feathered Tulips, shown in threes, one of each class, made a charming display, and fourteen trebles were staged. Again was the Rev. F. D. Horner to the fore with—bizarre, Dr. Dalton; rose, Modesty; byblœmen, Mrs. Cooper. Second, Mr. D. Woolley, with—bizarre, Mrs. Miller; rose, Mrs. Lea; and byblœmen, seedling. Third, Mr. W. Dymock, Stockport, with—bizarre, Lord Randolph, a new seedling of decided promise; rose, Mabel; and byblœmen, seedling. Fourth, name of winner not stated. Fifth, Mr. Thomas Wood. A class for three flamed Tulips brought eleven stands. Here Mr. Thurstan was first with—bizarre, Sir J. Paxton; rose, Mabel; and byblœmen, Adonis. Second, Mr. H. Housley, with—bizarre, Sir J. Paxton; rose, Annie McGregor; and byblœmen, Lord Denman. Third, Mr. John Wood, with—bizarre, Sir J. Paxton; rose, bizarre, Aglaia; byblœmen, Lord Denman. Fourth, Mr. D. Woolley.

Then followed a class for two Tulips, one feathered and one flamed, for maiden growers only, Mr. Barlow generously adding a collection of choice Tulips for all who entered. But two competitors appeared, and Mr. Thomas Wood, Royton, was first with—bizarre feathered, Maid of Orleans; and flamed, Dr. Hardy. Second, Mr. T. Holden, with a feathered and a flamed rose, marked unknown. In the open class for the same number there were fifteen competitors, the Rev. F. D. Horner being placed first with—bizarre flamed, Orion; and byblœmen feathered, Mrs. Cooper. Second, Mr. H. Housley, with—bizarre flamed, Sir J. Paxton; bizarre feathered, Royal Sovereign. Third, Mr. Joseph Boyden, with—bizarre flamed, Sir J. Paxton; and a feathered rose, unknown. Fourth, Mr. W. Prescott. Fifth, Mr. Jas. Thurstan.

A very large number of flowers were staged in the classes for single blooms, considerably over a thousand having to be overlooked by the judges. Bizarres, feathered, first, Mr. S. Barlow, with George Hayward, large in size and finely feathered; second, Mr. W. Prescott, with Lord Lilford; third, Mr. James Knowles, with Charles X., (Royal Sovereign); Mr. S. Barlow, being fourth with Sir J. Paxton. Ten prizes were awarded in each class, and the flowers following in order of merit were Duke of Devonshire, Masterpiece, Hepworth's Agamemnon, Royal Sovereign, General Grant, and William Wilson. Bizarre, flamed, first, Mr. J. Boydell, with Royal Sovereign; second, Mr. Thurstan, with Dr. Hardy; third, Mr. S. Barlow, with Excelsior; fourth, Mr. R. Wolfenden, with Mrs. Wilson; following in order of merit were Dr. Dalton, Sir J. Paxton, Duke of Devonshire, and Royal Sovereign. Roses, feathered, first, Mr. D. Woolley, with Heroine; second, Mr. S. Barlow, with a striking flower of an unknown parentage, that appeared in one of his beds at Llandudno; third, Mr. Fearnley, with Industry: fourth, Rev. F. D. Horner, with Charmer; following in order of merit were Mabel, Heroine, Alice, and Industry. Roses, flamed, first, Mr. Housley, with Triomphe Royale; second, Mr. S. Barlow, with Mabel, and third with Lady C. Gordon; fourth, Mr. Stanley, with Leah; followed by Bertha, Aglaia, Madame St. Arnaud, Lady Crewe, Mrs. Lea, and Andromeda. Byblœmen, feathered, first, Mr. D. Woolley, with seedling; second, Mr. Knowles, with Adonis, and third with Bessie; Mr. Prescott being fourth with Guido; followed by Lady Denman, John Hart, Violet Amiable, Mrs. Rothwell, and Talisman. Byblœmen, flamed, first, Mr. S. Barlow, with Adonis; second, Mr. D. Woolley, with Lord Denman; third, Rev. F. D. Horner, with Talisman; fourth, Mr. W. Kitchen, with Adonis; followed by Duchess of Sutherland, Chancellor, and Westpoint.

The premier feathered flower was George Hayward, shown by Mr. S. Barlow, and the premier flamed flower Orion, shown by the Rev. F. D. Horner.

A large number of breeder or unbroken Tulips were staged in the classes set apart for them, the Rev. F. D. Horner again coming first with—bizarres, Sir J. Paxton and Dr. Hardy; roses, Thomas Parker and Miss B. Coutts; byblœmens, Glory of Stakehill and Alice Grey. Second, Mr. J. Wood, with—bizarres, Excelsior and Sir J. Paxton; roses, Industry and Mabel; byblœmens, Surpasse Grande and Alice Grey. Third, Mr. S. Barlow. Fourth, Mr. Kitchen. Fifth, Mr. J. Thurston. The best three, one of each class, came from Mr. Barlow, who had—bizarre, Horatio; rose, Annie McGregor; byblœmen, Glory of Stakehill. Second, Mr. J. Thurston, with—bizarre, Horatio; rose, Annie McGregor; and byblœmen, unnamed. Third, the Rev. F. D. Horner, with—bizarre, Sir J. Paxton; rose, Thomas Parker; and byblœmen, Alice Grey. Fourth, Mr. A. Fearnley. In the classes for single blooms of breeders the awards were as follows:—Bizarres, first, Mr. S. Barlow, with Sir J. Paxton, Mr. Kitchen being second with the same, and Mr. Thurstan third with a seedling. Then followed—sulphur, Ariosto, King, and Excelsior; rose breeders, first, Mr. Thurstan, with Olivia; second, Mr. W. Afenden, with one unnamed; third, Rev. F. D. Horner, with Hepworth Seedling; followed by Lady Grosvenor, Miss B. Coutts, Mrs. Barlow, Mabel, and Annie McGregor; byblœmen breeders, first, the Rev. F. D. Horner, with Beauty of Whitchurch, and second with Glory of Stakehill; Mr. Barlow being third with the same; then followed Talisman, Miss Hardy, and seedlings.

The premier breeder Tulip was Sir Joseph Paxton, shown by Mr. S. Barlow. A Certificate of Merit was awarded to feathered bizarre Lord Randolph, a bold and striking flower, said to have originated from a cross between two byblœmens, Adonis and Maid of Orleans.

ORCHID NOTES AND GLEANINGS.

Glazed Pots for Orchids.—Your correspondent "M. T.," mentions at p. 636, the robust health of the plants in Mr. Buchanan's collection of Orchids, which are growing in glazed pots. I could not help noticing how well they were doing when I saw the collection a short time ago. Several instances have come under my notice, where this kind of pot has been used with very satisfactory results; among others at Coltbridge Hall, near Edinburgh, where there is a small but well grown collection of Orchids. A dozen or two of Phalænopsis were growing in glazed pots in a shady corner of one of the houses, looking the very picture of health. I did not think at the time to ask the gardener, Mr. Cockburn, how long they had been growing in them, but I thought at the time how opposite the conditions were to the epiphytal character of the plants. Still the fact remained that it was scarcely possible for them to be doing better. I have also seen Lælias, Cattleyas, Odontoglossums, doing quite as well in these as in ordinary pots, and there is this advantage not to be overlooked, that they seldom or never need the scrubbing brush. On the score of economy alone, this may be urged in their favour.—*J. S. Brown.*

Odontoglossum Vuylstekeanum.—Unfortunately too late to be brought under the notice of the Floral Committee, Messrs. Vervaet & Co., of Ghent, sent to the meeting on Tuesday the first flowering plant that has been seen in this country, of the new yellow-flowered Odontoglossum Vuylstekeanum, which first made its appearance in Mr. Ch. Vuylstek's nursery at Loochristy, near Ghent. In a general way it may be described as a yellow O. luteo-purpureum, the whole flower, excepting the lip, being of a sulphur-yellow colour, the lip being paler, almost white.

Odontoglossum crispum.—A magnificent variety, the sepals, petals, and lip of which are heavily spotted with crimson, and the whole flower closely resembling the variety named apiatum, which was recently sold by auction for 165 guineas, made its appearance last week in Mr. Cobb's collection at Sydenham, and on being put up for sale at Messrs. Protheroe & Morris's rooms on June 3rd, realised the handsome price of 150 guineas.

Orchid Portraits.—At South Kensington, on Tuesday, Orchid lovers had an opportunity of inspecting a fine series of water-colour portraits of about a dozen species of Orchids, which have been drawn, natural size, for A. H. Smee, Esq., by Mr. A. Foord-Hughes, of Wallington, Surrey. The portraits are all of plants which have flowered in Mr. Smee's collection, and though some of them could not be said to be the best varieties, that in no way detracted from the artistic merit of the sketches themselves, which was generally recognised to be of a high order. The best examples were those of Oncidium Jonesianum and Vanda Sanderiana, the points of which have been very happily caught. At the same time and place, Messrs. Jones & Firmin, 120, Blackfriars Road, S.E., showed how the portraits of Orchids may effectively be brought into use for household decoration. Their system is to paint the portraits on the backs of mirrors before they are silvered, and so delineating them in a practically imperishable form. The subject which had been thus treated was an Odontoglossum crispum, the habit of growth, arching spike, and the individual flowers being much more faithfully represented than we usually see in such work.

Maxillaria Sanderiana.—This very striking new species is now in flower in the collection of C. Dorman, Esq., at Laurie Park, Sydenham, we believe for the second time only in this country. It was shown at South Kensington on Tuesday, and on account of its extraordinary size for a Maxillaria, and the heavy dull crimson colour of the lip and base of the sepals and petals attracted much notice. It has not inaptly been said to resemble a gigantic form of M. grandiflora.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The stock of Fuchsias will now need looking to, for by this time they will require another shift, as if left pot-bound for any length of time before potting-on they never flower satisfactorily or as long as they should do. Should, however, any of the plants not make a free growth, it will be much better to harden them off and place them out of doors in the full sun to ripen, after which shake them out and re-pot as at the first, and by this means they may be restored to a satisfactory state, and also come in extremely useful after the main batch are cleared out; in fact, where the Fuchsias are started very early, it will be found of the greatest advantage to subject the plants to this mid-season rest. We are to-day giving our Impatiens Sultani a shift into 7-in. pots. They have been growing in a heated pit and kept near the glass, and are consequently good, sturdy stuff. As soon as they have taken to the soil they will be put into the intermediate-house, where they stand well, added to which the bright clear colouring of the flowers makes them very effective for staging purposes.

The Browallias, if treated as advised, will now require a shift, and also to be removed to the cold pits, where they can be more freely ventilated. Should they show signs of flowering and are not required just now, pinch them back, and in this way they will bloom later on. A pinch of seed sown occasionally will give a stock all through the season, and they will last until December and be found most useful for cutting purposes in conjunction with Chrysanthemums. This reminds me, also, that the last-named will now require attention. By this time the pots should be well filled with roots, and be quite ready for the final shift. The soil for this purpose should be rather stronger than was previously used, and if a good sprinkling of ½-in. bones be added to the soil, the plants will be greatly benefitted thereby. After potting it will be advisable to half-plunge the pots in coal ashes in single rows, giving a good watering to settle the soil round the old ball, after which, for a few days, sprinklings overhead morning and evening will be all that is required. I will only add that after this no more stopping must be done.

THE FRUIT HOUSES.

The weather having now apparently broken up, it will be best to avoid firing as much as possible, and rely upon the sun to furnish sufficient heat; particularly do not let the fires be started in the morning, except just to clear themselves, and then bank down again. At the same time the Muscat and Lady Downe's houses will be benefitted if the pipes are warmed of an evening, so that when you pass through all feels comfortable; Hamburghs are better if kept cooler, being of a much stronger constitution. Be careful that the thinning of the late house is not neglected, even though other matters apparently as urgent remain in abeyance, or when Grapes are required next May, the stock may be found to be exhausted; extra vigilance in attention to this house is, I am quite convinced, of the greatest importance where a lengthened supply is required.

Muscats should now be kept easy, as they are stoning; treat the house as evenly as possible, admit air freely when sun prevails, on the contrary avoid draughts as much as possible, that is if north or easterly winds prevail, it will be better to open the doors between the different structures to admit of a free circulation of air, than to open the lights to too great an extent, and by this means rust will be avoided. See that the fruit in the early Peach house is gone over every morning before the sun takes effect upon the house, as if the fruits are left on the trees until they fall off, they will not keep,

and the length of supply is curtailed, whereas if gathered before becoming dead ripe, they can be safely kept without impairing the flavour for several days, sometimes a matter of importance.

Be particularly careful that an abundance of air is admitted to all the Peach houses at all times. Continue to plant out the Strawberries that have been forced, as they are hardened off, the late rains which we have enjoyed will be the means of quickly establishing them. It is also advisable, perhaps, to say take care of the earliest batch of runners, for layering as soon as large enough, for no time must be lost if a good supply is hoped for.

THE KITCHEN GARDEN.

Work in this department is now abundant, and some care is necessary in apportioning it. Let the thinning of Onions, Carrots, Parsnips, and such-like crops be completed as early as possible, after which the Dutch hoe should be run between the rows. This will, in a great measure, prevent the drought entering, and also will furnish a loose surface, which will greatly help in future operations. If not already finished, push on with the hoeing of all Potato quarters, and within a few days moulding-up should be done.

The late sowing of Peas now require sticking, and we have to-day had the sticks carried to them. Be careful to have the hoe run frequently through the quarter to keep quite free from weeds; and should any lengthened spell of dry weather follow, it will be advisable to mulch liberally with half-decayed manure, or mildew will be apt to make its appearance, when the crop is quickly spoiled. As an early variety, William I. is still well able to hold its own; sown on the same date, and side by side with American Wonder, it is this season fully a week earlier, and this, with so unfavourable a season, means a great deal.

Trenches for the late or main batch of Celery should now be prepared. Do not have a hard smooth surface at the bottom of the trench, but rather thoroughly incorporate the manure with the soil, and the plants will thrive more satisfactorily. Let the early planting be liberally treated, giving an occasional dose of liquid manure, and during hot weather a good sprinkling overhead through the "rose" of an evening.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*June 8th.*—It was intended that Orchids should be the special feature of this meeting, several classes being inserted in the schedule with that object, but the response on the part of exhibitors did not come up to expectations, and but for a goodly number of good specimens staged by Mr. Cypher, of Cheltenham, the display would have been meagre indeed. As it was, the feature of the show was, undoubtedly, the wealthy display of herbaceous Pæonies, the massive, semi-globular and highly coloured flowers of which were staged in great numbers by Mr. T. S. Ware, Messrs. Barr & Son, Messrs. Hooper & Co., Messrs. Kelway & Son, &c.

In the amateurs' class for 12 Orchids, there was only one exhibitor, Mr. C. J. Salter, gardener to J. Southgate, Esq., Streatham, who secured the first prize with an admirable group, conspicuous in which were good examples of Oncidium macranthum, Masdevallia Harryana, a grand mass of flowers; Anguloa Ruckeriana, Dendrobium suavissimum, with fifteen spikes, and Aërides Fieldingii, with six spikes. Mr. Cypher was first with twelve Orchids (distinct), and also for six; staging, amongst others, Cattleya Mossiæ, with thirty-four blooms; Anguloa Clowesii, with fifteen flowers; a splendid mass of Epidendrum vitellinum majus; Dendrobium thyrsiflorum, a yard through; a mass of Odontoglossum citrosmum, with eleven spikes; the richly coloured Cattleya Mossiæ var. Rothschildiana; Lælia purpurata alba; and a fine pan of Cypripedium Lawrenceanum. Mr. Hill, gardener to H. Little, Esq., Twickenham, was second in the former class, and Mr. H. James in the latter. Mr. Cypher was also first for six Cattleyas or Lælias, in which class Mr. Cooke, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks, came in second, and Mr. H. James third. Mr. Crawshay's gardener took the first prize in another class for six; and Mr. H. James also secured a first with a group of Odontoglossums. Messrs. Hugh Low & Co., Clapton, exhibited (not for competition) a nice assortment of Odontoglossum crispum varieties, tastefully grouped with Maidenhair Ferns; and a similar batch of Cattleya Mossiæ varieties—broad-petalled and nicely coloured forms.

The new plants certificated were as follows:—To Admiral Fairfax, Ravenswood, Melrose, for Cattleya speciosissima, Fairfax variety, a richly-coloured variety with the veins of the sepals, petals, and lip of a pronounced crimson hue. To Mr. T. S. Ware, for Pyrethrum Mrs. B. Brown, a very large and well-formed single flower of an intense maroon-scarlet shade of colour; and Pæonia festiva maxima, a splendid white herbaceous variety, with the tips of a few of the petals shot with crimson. To Messrs. H. Cannell & Sons, for Gloxinia Ormonde, a medium-sized, rich deep crimson, erect-flowered variety. To Messrs. Kelway & Son, for herbaceous Pæony Eclaire, a large, full, double flower, flesh-pink, feathered with satin-rose; for Pyrethrum Celia, a very fine double, rich rose-pink, with a light centre; for Pyrethrum Ormonde, another fine double, rosy crimson with a light centre; for Pyrethrum Princess of Wales, a large single flower, bright rose in colour; and for Iris Victorine, with white standards and bluish purple falls. To F. G. Tauntz, Esq., Goldhawk Road, Hammersmith, for Moutan Pæonies Lilacina, semi-double white, feathered with rosy crimson in the centre; and to Mr. W. Stracey, nurseryman, Dunmow, for Verbena Lady Charles Beresford, a fine large soft scarlet flower with a large white eye.

A Cultural Commendation was awarded to Mr. A. Wright, gardener to Sydney Courtauld, Esq., Bocking Place, Braintree, for a lovely specimen of Masdevallia rosea, the flowers of which formed a perfect fringe round the centre of bright green leaves. It is not too much to say that a finer example has never been seen. Messrs. John Laing & Co. showed a very fine new double Begonia named Triumph, with flowers perfectly double, quite 3 ins. in circumference, and pale flesh coloured. Messrs. W. Paul & Son, Waltham Cross, contributed a large and pretty assortment of cut blooms of Rhododendrons and two baskets of cut Roses, one of Scotch varieties, and the other of the seldom seen old Austrian Copper Rose. The New Plant & Bulb Co., Colchester, showed one of the most distinct varieties of Cattleya Mossiæ that we have seen lately, and which is identified as the Colchester variety. It has grand sepals and petals, but it is in the lip that its most distinguishing feature is seen, the purple colouring being distinctly and clearly localised in the centre, with a broad margin of rose, while the yellow in the throat of the lip is very bright. In Mr. T. S. Ware's very fine display of hardy plants we noted a good novelty in Papaver bracteata præcox, a variety collected by Herr Max Leichtlin, which is dwarfer and more compact, earlier flowering, and a little deeper in colour than P. bracteata.

At the Fruit Committee meeting, the South Australian Commission showed good examples of various dried fruits, Winter Nelis, Pears, Potatos, Onions, &c. Messrs. T. Rivers & Son, received a Cultural Commendation for specimens of the Early Favourite Plum; and Mr. T. Lockie, gardener, Oakley Court, Windsor, sent a seedling green-fleshed Melon, the result of a cross between the Dr. Hogg Melon, and the old Egyptian Green-flesh, a variety of the good old-fashioned Egyptian Green-flesh type, but hardly at its best. Mr. E. S. Wiles, The Gardens, Edgcote, Banbury, also sent a seedling Melon, named Edgcote Beauty, a white-fleshed variety, which did not come up to the Committee's standard of quality.

Royal Botanic Society.—*June 9th.*—At the show on Wednesday last, there was a very pleasing display of plants in most of the classes, and it need scarcely be said that they were arranged to the best advantage, for this point always receives Mr. Coomber's careful attention. Habitual visitors are always delighted with the *tout ensemble*, while strangers are astonished; for the general effect is so different from that at most horticultural exhibitions. There is a naturalness that is too often wanting in such displays, and with a due proportion of flowering and fine foliage plants, there is nothing to overpower the attention; though, perhaps, those who prefer masses of colour might think the general appearance somewhat dull. Another great inducement to visitors at this time of year, is the beauty of the grounds, which are at their best now, and it was not surprising, therefore, that with an exceptionally fine June day, and the attractions of handsome flowers and select music, a large company of visitors assembled during the afternoon.

Orchids were capitally represented, and it is quite evident that they are rapidly advancing in favour as exhibition plants. Many of them were seen at South Kensington on the previous day, and as they are noticed in our report of that show, they need not be specially referred to again. Mr. J. Cypher, Cheltenham, was the leading exhibitor in the nurserymen's classes; Mr. H. James, Norwood, and Messrs. Jackson & Son, Kingston, taking the second and third places with smaller specimens, but including some healthy plants, flowering capitally. Mr. J. Douglas was the premier exhibitor amongst the amateurs, taking the first place in both classes; his plants of Odontoglossum vexillarium were remarkably fine, particularly one which had 280 flowers, a single specimen in a small pot, a splendid example of skilful culture. Odontoglossum Roezli was also shown well by the same exhibitor. The other amateurs competing were De B. Crawshay, Esq., Rosefield, Sevenoaks; F. C. Jacomb, Esq., Stamford Hill; Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham; and H. Little, Esq., Twickenham.

Mr. J. Cypher was well to the fore with stove and greenhouse plants, his magnificent specimens being in superb condition; Messrs. Mould and H. James were the other prizetakers. Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was the leader in the amateurs' class, Messrs. Wheeler and Butler following with small and rather poor plants. Mr. C. Turner's Pelargoniums, both shows and fancies, were very fine; those from R. W. Mann, Esq., and H. Little, Esq., being very few points behind them. Messrs. J. Laing & Co's. group of Tuberous Begonias, which took the first prize in their class, comprised a selection of their best single varieties, with immense flowers of extremely bright colours. The fine foliage plants and Ferns were well represented by healthy specimens from Messrs. Cypher, James, Mould, Butler, Rann, and Douglas.

Considerable space was occupied with cut flowers, the hardy flowers and Irises from Messrs. Ware, Paul & Son, Cheshunt, and Barr & Son forming a most interesting and beautiful display. Messrs. Paul & Son's Roses, arranged in a large basket, and Mr. J. Douglas' Orchid flowers, which were inserted in pots of Ferns, had a most graceful effect, this method of showing flowers being one worthy of more general adoption.

Fruit was not shown by so many competitors, nor in such good condition, as is usual at this show, the falling off being mainly attributable to the unfavourable season. Mr. Robbins, gardener to E. Dyke Lee, Esq., Hartwell House, Aylesbury, won the prize offered by the Fruiterers' Company for the best collection of fruit, his best dishes being Alexandra and Early Louise Peaches, Elruge Nectarines, Melons, Foster's Seedling Grapes, and Vicomtesse Héricart de Thury Strawberries. Black Grapes were fairly good. Mr. T. Osman, gardener to W. L. Baker, Esq., Ottershaw Park, Chertsey, had Black Hamburgh, rather small but of good colour. Mr. W. Mowbray, gardener to the Earl of Leven and Melville, Fulmer, Slough, had Buckland's Sweetwater in first-rate condition, taking first in the white Grape classes, and he also had three fine bunches of Black Prince, which secured him the first prize in the black Grape class. Peaches were capitally shown by Mr. H. Hepworth, gardener to H. T. Goodwin, Esq., Maidstone, Mr. Osman, and Mr. Nash; Nectarines by Mr. J. Harris, gardener to Mrs. J. H. Vivian, Singleton, Swansea, Mr. Nash, Mr. A. Miller, Rood Ashton Park, Trowbridge; and Melons by Mr. G. R. Allis and Mr. J. Douglas.

The non-competing groups comprised the following: Tuberous Begonias, Orchids and Caladiums from Messrs. J. Laing & Co., Forest Hill (small silver gilt medal); Choice Orchids from Mr. B. S. Williams, Upper Holloway (large silver medal); fine foliage plants from Messrs. E. G. Henderson, Pine-Apple Nursery, Maida Vale (silver medal); groups of flowering and foliage plants and Irises from Messrs. Hooper & Co., Covent Garden (large silver medal); and a collection of hardy flowers from Mr. T. S. Ware, Tottenham.

Some very beautiful named Pansies were shown by Mr. John Forbes, Hawick, the flowers being of excellent quality, and bright clear colours (certificate). A group of Orchids from Messrs. Hugh Low & Co., Clapton (small silver medal); Pelargoniums from W. Clay, Esq. (certificate); collection of Ixias from Messrs. J. Carter & Co. (certificate); and some handsome plants of Hydrangeas from Mr. C. J. Salter, Selborne, Streatham (certificate).

New plants were numerous, especially from Messrs. J. Veitch & Sons, who were awarded a small silver medal, and several certificates. Gloxinias were shown by Messrs. H. Cannell & Sons; Leschenaultia biloba major by Messrs. Balchin & Sons, Brighton; Pelargoniums by Mr. D. Phillips; Fuchsias by Mr. Wheeler and others; greenhouse plants by Messrs. Cutbush & Sons, Highgate (small silver medal); and Orchids by Mr. May.

Reading Horticultural.—*June 2nd.*—This annual exhibition took place a week later than usual, and was held in conformity with usage in the prepared ground within the Abbey walls, with its winding gravelled paths and turf banks. There is a large space to fill, and owing to a few exhibitors having failed at the last moment to put in an appearance, the subjects were a little thin, still it was a bright and effective exhibition, and the weather being fine, attracted a good company. The exhibits were arranged as usual with excellent judgment by Mr. Baskett, gardener to W. J. Palmer, Esq., Reading. In the Forbury gardens adjoining, the band was stationed, and after taking a tour round the exhibition the visitors could walk into the gardens enjoying music and shade and the flower-beds and turf so well kept by Mr. Phippen, nurseryman of Reading, under the corporation of that borough.

The leading feature of the show was the magnificent Gloxinias staged by Mr. Baskett, we have never before seen anything to equal them. By spreading out the huge leaves of a massive olive-green, and measuring from tip to tip, the diameter was about 40 ins.; the heads of bloom were fully 18 ins. over, and they averaged twenty-five to thirty flowers each, flowers of large size and splendid quality. They should have received the gold medal of the Royal Horticultural Society. These Gloxinias afforded another proof, if one were needed, of how often a pains-taking gardener in a small place can, by doing a few subjects well, raise himself head and shoulders above his fellows in the cultivation of a particular plant. We imagine these fine Gloxinias represented the fine strain for which Messrs. Sutton & Sons are so celebrated. Equal second prizes were awarded to Mr. Farey, gardener to C. Stephens, Esq., Woodley Hill, near Reading; and to Mr. Parham, gardener to H. J. Simonds, Esq., Caversham, Reading, both of whom had plants falling below those of Mr. Baskett's it is true, but superbly fine. There will be nothing better in the way of Gloxinias

seen this year. And Mr. Baskett's six Calceolarias were charming also, not exactly specimen plants, but of good size, admirably grown, and of the very best quality, and doing credit to Reading. Mr. Dockerill, gardener to G. H. Palmer, Esq., Reading, was second; and it was pleasant to see how Reading is progressing in the way of Orchid culture. Prizes were offered for three plants and four lots competed. Mr. Brand, gardener to G. May, Esq., Caversham, Reading, was first with a fine piece of Ærides Fieldingii, with four spikes; Vanda suavis with two spikes of fine flowers; and a charming specimen of Dendrobium suavissimum laden with flowers. Mr. H. James, Castle Hill Nursery, Lower Norwood, came second with a fine piece of Angulosa Clowesii, Cattleya Mendelii, and Odontoglossum Pescatorei; Mr. Baskett was third with Cymbidium Lowianum, Cattleya Mossiæ, and Cypripedium barbatum. The best specimen Orchid was a capital piece of Vanda teres from Mr. Parham, well grown and having over thirty fine flowers.

Mr. James had the best nine stove and greenhouse plants, subjects getting a little *passe*. Mr. J. F. Mould, nurseryman, Pewsey, had the best six, Mr. Parham coming second. Mr. Armitage, gardener to N. Clarke, Esq., Reading, had the best four plants. In the class for a single specimen in flower, equal first prizes were awarded to Mr. Parham for an admirable specimen of Dendrobium Devonianum, trained to a wire globe and one mass of fine flowers. This species is said to be difficult to cultivate, but here it was in its best form, and to Mr. Baskett for the finest—the best grown and flowered example of Clerodendron Balfourianum we shall look upon this season; it was perfect in every respect.

Azaleas were wanting in size in order to make an effective display in so large a tent. Mr. Lockie had the best nine and the best six also, showing nice bush-grown specimens, well grown and flowered. Mr. Armitage was second with six. Roses in pots were a creditable feature, but open to improvement. Mr. Lockie, who scored a great number of first prizes, took the leading prize, Mr. J. F. Mould being second. Mr. Baskett had the best four, Mr. Tranter, of Upper Assenden, Henley-on-Thames, being second.

Show Pelargoniums are always a pleasing feature at the biscuit town. Mr. Ashby, gardener to W. Fanning, Esq., Whitchurch, near Reading, was first with good plants of Triomphe de St. Mande, Duchess of Edinburgh, Prince Leopold, Bridal Bouquet, Rob Roy, and Spotted Gem. With others Mr. Sumner, gardener to J. H. Millard, Esq., Reading, was second with nicely-grown plants, but wanting in quality of bloom; there is no doubt this exhibitor is steadily coming to the fore.

Fuchsias were large, but wanting in leaf and blossom. Mr. Lockie put up a creditable four, and was awarded the first prize. Mr. Mould had the best six Ericas, a little unequal in size, but nicely grown and flowered. Groups of Rhododendrons, filling a space of 120 ft., were very effective. Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erleigh, Reading, was first, and Mr. Ashby second, both lots doing the exhibition the greatest credit. Groups of plants arranged for effect are always a leading feature. Mr. Parham had the best, with Mr. Sumner well up, Mr. H. James being third. Some groups of smaller size were shown.

Of foliage plants there was a goodly number, Mr. James taking the first prize with six, Mr. Mould being second. Mr. Parham had the best three Palms, Mr. James coming second. Mr. Parham's first prize for Ferns included fine specimens of Cibotum Schiedei, Alsophila australis, and Davallia Mooreana. Table plants, groups of fifteen Ferns and Lycopodiums made up the remainder of the foliaged plants.

Cut flowers included Roses, Mr. Goodman, gardener to W. C. Hammersley, Esq., Bourne End, Great Marlow, being first, and Mr. Tranter second. Mr. Lawrence, gardener to Mr. Owen Knox, Caversham, Reading, had the best twelve show Pansies, as also the best twelve fancy ditto, Mr. T. E. Shrimpton, of Englefield, being second in both classes. Mr. James was first with twelve bunches of stove and greenhouse cut flowers, Mr. Goodman being second. Mr. Sumner had a very good lot of twelve bunches of hardy flowers, beating Mr. Phippen, who has generally taken the leading honours in this class.

Mr. Phippen was the only exhibitor of a bridal bouquet, staging a very good one indeed. Mr. Elliott, gardener to J. Hibbert, Esq., Braywick, had the best six button-holes, Mr. Hermon and Mr. Phippen coming in second and third. In the ladies' classes, Miss Adnams, Reading, had the best two vases with wild flowers, Miss L. Phillips being second, and Miss L. Cole third. Miss Phillips had the best three pieces with flowers and foliage, Miss Simonds being second.

Some good fruit for the season was shown. Mr. Turton had the best two bunches of black Grapes, staging some well-finished Hamburghs. Mr. Maher, gardener to A. Waterhouse, Esq., Yatteuden, Berks, was second with the same. The best two bunches of white Grapes came from Mr. Ashby, who had very good Foster's Seedling, Mr. Baskett being second with the same. Mr. Ashby had the best dish of Peaches, showing excellent Early Ascot, Mr. Trinder, Dogmersfield Park Gardens, being second with Early Beatrice in good condition. Mr. Mortimer, nurseryman, Farnham, had the best dish of Strawberries, staging Sir Joseph Paxton, Mr. Goodman coming secondwith same.

There was a very good display of vegetables. The best dish of kidney Potatos was Cosmopolitan from Mr. Lockie, Mr. Ashby having a second prize for a pretty dish of Ashleaf named Goldfinder. Mr. Lockie also had the best dish of round, staging Dean's Snowball, an early variety that will be invaluable for early exhibitions; Mr. Ashby was second with Sutton's Eclipse. Lettuce, Asparagus, Rhubarb, French Beans (the best being Ne Plus Ultra), Mushrooms, and miscellaneous collections of vegetables were all well represented.

Messrs. Sutton & Sons, with their usual liberality, offered prizes for the two best dishes of Sutton's Eclipse and Sutton's Ringleader Potatos, Mr. Lockie coming in first with excellent samples, Mr. Ashby running him very hard. Also for the best three dishes of Peas, in which class Mr. Goodman was first with Ringleader, American Wonder and Little Gem; Mr. Balchin, gardener to B. Simonds, Esq., Reading, being second with William I., American Wonder and Earliest Blue. Also for the best brace of Cucumbers, which brought a large competition, Mr. Lockie being first with perfect Purley Park Hero; Mr. Hermon, gardener to F. Skurray, Esq., Reading, being second with the same; Mr. Waite, of Esher, third with Tender and True; Mr. Ellott fourth with Royal Windsor.

Preston and Fulwood Horticultural.—Mr. John Atherton, the secretary, in a paper read at a meeting held on Saturday evening last, traced the history of this society from its formation in 1878 to the present time. E. Garlick, Esq., J. P. presided. There was a good attendance. Among those present were J. B. Dixon (treasurer), Messrs. W. Troughton, W. Swan (Howick House), E. Payne (Fulwood), W. P. Roberts, (Cuerden Hall), R. Frisby (Warden Hall), J. Robinson (Penwortham Priory), and C. Parker. After a few remarks from the chairman, Mr. Athertou showed that the establishment of the society was the result of a conversation between himself, Mr. J. B. Jones, Mr. E. Payne, and the late Mr. Robert Grime, at a meeting held in September, 1878, and that it was really brought into beiug on the 23rd of the following month, when it was unanimously desired to have a spring show, under the auspices of a society, to be known by the title of The Fulwood Floral and Horticultural Society, the area to include Ashton, Fulwood, Grimsargh, Goosnargh, Woodplumpton, and Preston. Proceeding, Mr. Atherton named the president of each succeeding year, the number of exhibits, the amount offered in prizes, the receipts, and the expenditure, &c. In 1883 an amalgamation took place between the Preston and Fulwood Societies, it being found impossible to get subscriptions for both, henceforward it was known by its present title. Up to now the offices of treasurer, hon. secretary, and auditor were held by the gentlemen originally appoiuted. At the first meeting under the new arrangements, the officials elected were—president, Alderman Farshaw; treasurer, Alderman Ambler; secretary, Mr. Wm. Troughton; and auditor, Mr. T. Thorp. The joint balance in hand was handsome. A check to the success experienced came, for in September, 1884, when he (Mr. Atherton) was pressed into service again as secretary, he found they had no money in hand. He, however, received numerous promises of support. Mr. B. Sykes was appointed president for 1885, when nearly 2,000 plants were staged for competition; £77 offered in prizes, £155 6*s.* (iucluding subscriptions £104) received, and £150 9*s.* expended. For 1886, Colonel Wilson was choseu president, and they would all remember the glorious success of the exhibition. It was certainly the most enjoyable gathering they had held, attributable in no small degree to the splendid arrangements for high-class concerts. The statement of accounts had not been completed, but up to the present they had a favourable balance of £6 16*s.* Continuing, he pointed out that the secrets of their success were, first, the unanimity and good feeling that existed between the members, and second, the liberality and kindness manifested by their respective presidents. He questioned whether the first officer of auy similar society fulfilled his duties so ably as theirs had done. Might they long have such gentlemen to continue the work. Another reason for their success, was that they had in their midst a large number of ladies and gentlemen ever ready in their generous contributions. In thanking them, he wished particularly to name the Misses Ffarington, of Warden Hall; Mrs. Birchall, Ribbleton; and Miss Harrocks, Preston, who permitted Mr. Royle, her gardener, to act as collector (and last year he obtained £41) as well as be at the service of the society on the days of exhibition. All who had assisted them in any way deserved their thanks. It was pleasant to know that among the originators of the society, eight still continued to take an active part in its proceedings, namely, himself, Mr. Joseph Harding, Mr. E. Pryne, Mr. Joseph Royle, Mr. James Rigg, Mr. John Newtou, Mr. Henry Winwood, and Mr. G. Hutchinsou. In conclusion, he expressed a hope that the series of readings to be given would strengthen the society, as well as prove interesting and iustructive to all of them. On the motion of the chairmau, seconded by Mr. Parker, a hearty vote of thanks was passed to Mr. Atherton. A similar compliment to the chairman submitted by Mr. Roberts, seconded by Mr. Troughton, closed the meeting.

QUESTIONS AND ANSWERS.

TURNIPS.—*J. S.:* A month later will be quite early enough to sow the main crop for winter.

SOOT-WATER.—*Inquisitive:* There is no mystery abont the "colonred water," we suspect it is soot-water only, made by putting a few handfulls of soot in a small bag and sinking it to the bottom of the tub. Why not have asked your friend?

CLEMATIS INDIVISA LOBATA.—*Amateur:* The best way of treating it for a small house is to cnt away the shoots that have flowered to a plump eye, near the base, and it should be done at once. When the plant breaks again re-pot it, and it will make fine growths for flowering next spring.

ORCHIDS.—*Young Grower:* You will find both subjects treated upon in Mr. B. S. Williams' *Orchid Grower's Manual.* Unless yon have some skill as a grower, special facilities for the purpose, and an abundance of patience, our advice is don't attempt to raise Orchids from seeds.

FUCHSIAS.—*Amateur:* Yes, you can put them ont of doors with perfect safety and with great advantage to the plants, too, if wanted for autumn planting. Stand them on a brick or slate, or a bed of ashes, and in a position where they will get a little protection from the mid-day sun. On hot days a good syringing towards evening will greatly benefit them.

NECTARINES FALLING OFF.—*Desirous:* The formation of the stones is so imperfect as to suggest a want of sufficient vigour in the tree to complete the process, hence the falling off. We suspect that insufficient root-action is at the bottom of the mischief.

NAMES OF PLANTS.—*Mrs. M.*: The Bird Cherry, Prunus padns. —*Desirous:* The Climbing Fern is Lygodinm scandens, and the Bird's-nest Fern, Thamnopteris nidns.—*Mrs. Leadbetter:* 1, Cypripedium barbatum superbum; 2, Dendrobium calceolus; 3, Acropera Loddigesii.—*J. E. L., Levenshulme:* 1, Oncidium tricuspidatum; 2, Epidendrum oncidioides; 3. Odontoglossum Andersonianum, a very pretty variety.—*G.:* 1, Asperula odorata; 2, Viola tricolor; 3, Saxifraga hypnoides; 4, Ajuga reptans.—*W. E., Great Malvern:* 1, Rose not recognised; 2, Weigela rosea; 3, Cerastium tomentosum; 4, Lychnis dioica; 5, Geraninm sanguineum; 6, Saxifraga umbrosa; 7, Cnpressns Lawsoniana.—*R. L. M.*, next week.

BOOK ON FRUIT CULTURE.—*Desirous:* Mr. David Thomson's *Handy Book of Fruit Culture Under Glass.* 7*s.* 6*d.* Blackwood & Co.

COMMUNICATIONS RECEIVED.—J. S.—Ch. Joly.—H. W. C.—J. G.—H. G.—G. K.—W. P. R.—T. B. W.—Scabrous.—R. T.—C. W.—W. E.

LONDON SEED TRADE.

June 9th, 1886.

MESSRS. HURST & SON, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report to-day's market very thinly attended and trade quiet, as is usual at this time of the year. Clover seeds of all kinds are now almost entirely neglected, but value remains firm. New French Trifolium is being quoted for forward delivery, but the figures are too high to induce buyers to operate. White Mustard is iu good demand and advancing in value. Rape also meets with fair enquiry at last quotations. Hemp, Canary, and other Bird Seeds in plentiful supply and values unchanged.

COVENT GARDEN MARKET.

June 10th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes ... per lb.	2 6	5 0	Pears ... per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries .. per lb.	2 0	5 0
Peaches, per doz.	4 0	15 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	1 6	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mnshrooms, p. basket	1 0	2 0
Cabbages ... per doz.	2 0	2 6	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			New Turnips, per bun.	1 0	

POTATOS.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	12 0	18 0
Blue Bells			Pansies, 12 bunches	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Camellias, 12 blooms.			— scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen	4 0	6 0	Primroses		
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Gardenias, 12 blooms.	2 6	4 0	Ranunculus, 12 bches.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Rhododendrons, 12 bunches	3 0	6 0
Iris, various, 12 blms.	1 0	3 0	Roses (coloured)	2 0	4 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilac, English, 12 bunches	4 0	8 0	Stephanotis, 12 sprays	1 6	3 0
Lilac (French), bunch	5 0	7 0	Spiræa, doz. bunches	6 0	9 0
Lilies, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	3 0	6 0	Tuberoses, per dozen.	0 6	1 6
Marguerites, 12 bun.	3 0	6 0	White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen		
Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots, per dozen		
Calceolaria, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Cineraria, per dozen			Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	6 0	8 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	3 0	5 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	5 0	8 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
Fuchsia, per doz.	6 0	12 0	Spiræa, per dozen	9 0	15 0

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FLOWER SHOWS.

ROYAL HORTICULTURAL SOCIETY,
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29th to JULY 5th, 1886.
GREAT EXHIBITION of PLANTS, FLOWERS, FRUIT, VEGETABLES, &c., in the BOTANIC GARDENS and WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 21st.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, JUNE 22nd.
SHOW OF PELARGONIUMS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

CRYSTAL PALACE. GREAT ROSE SHOW of the Season, Saturday, July 3rd. For Schedules, Entering Forms, &c., apply to Mr. W. G. Head, Garden Superintendent, Crystal Palace, S.E.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, JUNE 19, 1886.

WEEDS.—How many a pretty sermon has been written about weeds, to how many others will they form the text in time to come, travelling over the same ground, dispensing the same thoughts, and stereotyping almost the same ideas? A weed is, of course, bad. It is the produce of a primal curse; it is evidence of degradation unto labour; it is, indeed, about as bad as can be. So far the preachers. Of course, we must uproot, kill, destroy, pull out—in fact, get rid of weeds altogether; but the preachers' weeds are of a metaphorical kind, whilst the gardener's weeds are physical and material. And yet a word may be said for these terribly contemned weeds, for they aspire to make beautiful the earth in their simple fashion, but too often they strive to that end in the wrong place. What vast quantities of weed-seeds lie buried in the earth, awaiting, as it were, a day of resurrection, and which, to myriads of them, will never come. The gardener who digs deeply a piece of fresh ground liberates millions, the excavator who constructs a railway liberates his millions too; and though these seeds may have been lying dormant in the soil apparently for ages—at least, such is the common impression—yet no sooner are they exposed to the vivifying influences of light and warmth than they germinate and become plants, beautiful or otherwise in our eyes, just as we look for beauty according to our tastes.

If the doctrine of the survival of the fittest in vegetation be universally admitted, then would weeds, if left alone, soon show the upper hand. In our gardens, even where vegetables and various plants of the most robust kind are cultivated, weeds, if left for a short time unchecked, would soon kill and choke the fittest but not the strongest. Weeds, indeed, are irrepressible, and because of that faculty we can give them no quarter. They must be killed, or they will kill us by starvation. It is the curse of life, perhaps, or it may be for our good, that we should find few or no blessings in the form of earth products without hard labour. If the weeds be a curse, they are so only because they demand so much of our labour to keep them in check, and yet to myriads they are a blessing, because they provide or promote labour. Really, weeds are beautiful on the whole, but are weeds only because growing in the wrong place. A field of Buttercups or scarlet Poppies give elements of beauty such as we may look for in vain in the most admirable of gardens; but in gardens these plants are abominations, because there no longer regarded as garden plants but as weeds. We term the lower grades of humanity in towns roughs, and do so contemptuously, but forget that they are, after all, as good as ourselves, but simply need cultivation.

Vast quantities of those despised British plants which we also somewhat contemptuously call weeds are beautiful beyond compare, but only want cultivation to bring out their nobler forms and higher natures. Why our gardens now are gay with what are the weeds of other climates and countries prized because once rare to us they have found care, cultivation, and development. We have cared very little indeed for the plants in our own fields and hedgerows because they are already abundant, and are so feared that if encouraged in gardens they may become a pest—almost a terror. Hence, over every garden entrance may be said to be written emblematically, "Native plants ruthlessly destroyed." After all, our gardening is laid on very matter of fact lines, and we cannot permit sentiment to overpower our necessities. If we are to live by cultivated plants, all uncultivated ones must be exterminated when they interpose between our love of natural beauty and our necessities. Nay, more, such is the cruelty induced by these necessities that we, like Herod, slaughter the innocents wholesale almost ere they have seen light. Bad is it for the gardener who permits his sentiment in favour of weeds to override his requirements, and finds too soon that the weeds have become his master.

Dirt may be but matter in the wrong place, and weeds, things of life and beauty, where they should not be; but there, at least, they must not be if humanity is to live, and living is the potential element which sets man working to kill weeds. The present season is a very paradise for weeds; they grow in rich luxuriance, and will not be checked by any half measures. Only forces of the most determined kind can keep them in check and repress their exuberance. If the cultivator must employ more of labour in the extermination of these vegetable enemies, he solaces himself with the belief that the elements of weed production and growth are also elements of plant life and vigour, and if he can master the weeds by employing ample labour, his reward will be found in abundant crops. If such be correct, a weed season is not so bad after all, much as we may deplore their appearance. Certainly, the labourer, if his work is a curse, finds in his pay a blessing.

FLOWER SHOWS AND THE GENERAL ELECTION.—The sudden bursting upon the country of a general election at and immediately upon midsummer is an event which has naturally startled the numerous exhibition committees scattered all over the kingdom, and most of which hold their summer shows during or about the month of July. During the past twenty years flower shows have increased so wonderfully that any considerable agitation in the public mind at their chief season is calculated to do them material harm, and not least for the reason that the committees conducting them are largely composed of discordant political elements, and under such conditions the exhibition machinery can hardly be expected to run smoothly. We do not assert that of late years more decided elements of acerbity have been introduced into our political contests, but the last one saw much introduced, which it would have been far easier and more creditable to have omitted

Going back to 1868 we find the election fell early in the winter; in 1874 it came off early in the year; in 1880 just after Easter; and last year, as we all remember, it came at the end of November, but did not appreciably effect the Chrysanthemum shows; but those, of course, have by no means the same wide range which summer exhibitions have. We look with some apprehension to the influences the election may have upon the Great Provincial Exhibition of the Royal Horticultural Society, which opens at Liverpool on the 29th inst. In that huge seaport there is a vast and somewhat exciteable population, amongst which the special and troubulous question of the day—and the issue of which is to be fought out at the polls—will certainly exercise considerable influence. Already the Royal Horticultural Society has before it the competition of a big exhibition of marine objects, opened with so much *eclat* by the Queen. We do not hear that any distinguished or specially attractive personage will open the coming flower show, hence it will lack one important element of success.

Liverpool, too, is not one of the best fair-weather places, and although we most earnestly hope the weather may at the end of the month prove there all that is desirable, yet there are disturbing elements in the weather at present which naturally raise apprehension. The Royal Horticultural Society, in this its renewed effort at carrying out grand provincial shows, seems, therefore, peculiarly unfortunate in this, in addition to the other difficulty of having to encounter the probable disturbance arising from an excited general election.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* Meeting of Fruit and Floral Committees at South Kensington; Pelargonium show in the conservatory.—*Wednesday to Friday:* Grand Yorkshire Gala at York.

The Royal Caledonian Horticultural Society.—The council of this society has decided to abandon their summer show for this year, owing to the backwardness of the season, which will prevent the Scotch growers from exhibiting on the dates fixed. This would be a serious loss to the show, as Roses have always been the leading feature. We understand that the International Exhibition authorities are to be approached with a view to holding a flower show in their grounds later on.

Messrs. Richard Smith & Co.'s *employés* at the St. John's Nurseries, Worcester, had their annual outing on Tuesday, and fortunately had a fine day for the visit which they paid to the Indian and Colonial Exhibition at South Kensington.

Royal Horticultural Society's Great Provincial Show at Liverpool.—We are requested to remind intending exhibitors of plants, &c., that the entries close on Monday next, the 21st inst. It is expected that this will prove one of the largest and most important of the exhibitions held by the society. Great progress is being made in laying out the grounds, and many of the hot-houses are already erected, the implement exhibition being of great extent. Only fine weather is required to make it a thorough success. Vans will be in readiness at Edge Hill and other railway stations to convey the plants to the exhibition on notice being given to Mr. Richardson, Curator, Botanic Gardens, Liverpool, as to when they may be required, and the several leading railway companies have agreed to carry the plants on the return journey at reduced rates.

Pyrethrums and Pansies.—From Mr. W. Caudwell, The Ivies, Wantage, we have received a fine box of blooms of double and single Pyrethrums and show and fancy Pansies, illustrative of the strains which he grows largely for seed, and which are so good in quality as to merit high commendation. The double Pyrethrums, bright rose-pink and white varieties, are of the best, and the single forms of the very best types, being large with fine broad florets and striking self colours; these are very fine. The fancy Pansies are very bright and showy.

New Plants Certificated in Ghent.—At the meeting of the Belgian Chamber of Horticulture, held on Monday last, Certificates of Merit were awarded to Mr. Edward Pynaert-Van Geert, for Fagus atropurpureus tricolor; to Messrs. Jacob Makoy & Co., for Masdevallia macrura; to M. Jules Hye-Leysen (by acclamation), for Cypripedium grande, and for Cattleya Mossiæ var.; to Messrs. Vervaet & Co., for Odontoglossum Pescatorei var., and Vanda insignis; and to Mr. C. Van Geert, for Sambucus canadensis filicifolia.

The Liverpool Show.—A Gardener writes:—No doubt there will be many gardeners, who, like myself, will be unable to exhibit at the Royal Horticultural Society's Provincial Show, at Liverpool, but who will be desirous of seeing the display at as small an expense as possible, and I suppose that some arrangement will be made with the railway companies, to run cheap trains on certain days; if this can be done, it will be a great advantage to many whose purses are not too heavily laden, and whose employers are not liberal enough to provide them with the necessary means. Happily, many gentlemen recognise the fact, that the expenditure of a few pounds, and a day or two's journey on horticultural matters, is a distinct gain to himself and his gardener, for the latter, if an observant man, must gain some hints that he will turn to good account as occasion offers.

ROSE CULTURE IN TOWNS.

There is probably no flower more difficult to cultivate satisfactorily in town gardens than the Rose, and strange to say it is the flower above all others which possesses most attractions. It is the favourite of everyone, and for the very obvious reason that it possesses most pleasing qualities. Here we have elegance of shape, exquisite fragrance, and an almost infinite variety of colour. Its inherent fastidiousness, however, must ever prove a formidable barrier to its successful culture in localities where smoke and other impurities are the prevailing features.

It may certainly be got to bloom in the suburban districts of our large towns, though even in the most favoured outskirts, and with the most careful cultivation possible, the blooms are vastly inferior to those commonly seen in almost any cottage garden in country villages. I would advise everyone who is determined to try his hand on Rose culture in towns, not to engage with the standard, lest he should become disgusted with his experiment. Those on their own roots, or what is perhaps better still, those on the Manetti, will be likely to give most satisfaction, and especially the hybrid perpetual class.

I have found John Hopper, Baroness Rothschild, General Jacqueminot, Dupuy Jamain, Charles Lefebvre, and William Griffiths to thrive as well as any; also Gloire de Dijon and Souvenir de la Malmaison, though at their best the blooms presented a very pitiful appearance when placed beside those grown in country places. Since then it has been proved beyond a doubt that the Rose is not constitutionally adapted for the impurities of atmosphere which surround all large towns, it is wisdom to go in for things less attractive, for I think it will be admitted that to grow a less attractive flower well is better than to grow a more attractive one badly. I wish, however, in this short article to advocate among amateurs the cultivation of the Rose under glass in and near all large towns, and it may, perhaps, be well to give my own experience briefly in connection with the matter.

I selected two or three dozen of the hybrid perpetual class for the purpose, budded on the Manetti stock, and potted them in 8-in. or 10-in. pots, in the best maiden loam I could procure, taking care to lay a good foundation of draining materials, and in planting to press the soil as firmly round the roots as possible. This was in the early part of November, which I am inclined to think is the best time of the year to plant Roses, either in pots or in the open ground.

In the latter part of December, I placed them in a greenhouse, giving plenty of ventilation while the weather remained mild, and only resorted to gentle heat in order to exclude frost. By the latter part of January they began to break nicely, after which I syringed the trees twice a-day with tepid water, morning and night, until the flower-buds showed colour. Of course, in frosty weather the temperature in the night was kept at about 45°, varying to 55° or a little over by day, which I consider to be quite high enough for Roses.

About the first week in April some of the kinds began to bloom, and from that time to the middle of June, there was no lack of flowers. The foliage was simply magnificent, and the flowers all that could be desired; infinitely superior to any I had ever produced in the open garden, though I occupy one of the most favoured positions in the outskirts of the town. I had no trouble with greenfly, or other insect pests, the daily use of the syringe forbade all such troublesome intruders. As soon as the flower buds began to show themselves, I applied strong liquid manure and soot, which materially improved both foliage and flowers. The second week in June the trees were removed from the blooming house into the open garden, where they remained through the summer months, the pots being sunk to their rims in a south border. I reaped another plentiful crop of flowers in the early autumn, but they were much inferior to those produced under glass, both as regards size and brilliance of colour. In November again, they were re-potted into fresh soil, consisting of well decomposed sods, mixed with a third or so of well-rotted manure. I have had another fine bloom this spring, and while I write this article, there are flowers on some of the trees which would not disgrace an exhibition tray.

I may just mention that from a climbing Jules Margottin, planted some fifteen months ago, in a round tub of fourteen inches diameter, I have cut sixty blooms this spring, most of which went for button-holes. From the trees planted in 8-in. pots, I have cut on an average from fourteen to twenty-four blooms, so that looking at it in a financial point of view, they have proved a success, as well as affording the greatest pleasure to watch their various stages of development.

The kinds I selected for house culture were the following:—Monsieur E. Y. Teas, Charles Lefebvre, Jules Margottin, Dupuy Jamain, Mrs. H. Turner, Mrs. Jowitt, Alfred Colomb, A. K. Williams, Empéreur de Maroc, Duke of Edinburgh, Beauty of Waltham, Fisher Holmes, Louis van Houtte, Comtesse d'Oxford, Sénateur Vaisse, also Gloire de Dijon, Souvenir de la Malmaison, and Maréchal Niel.

I can with the greatest confidence recommend this method of growing Roses to everyone who lives in, or very near to, any large town. There is nothing to interfere with success, if the plan above described be faithfully carried out. It is true, mildew might occur, unless there were a free circulation of air in the house. I always admit fresh air from the south side of the house, by removing two narrow boards, close to the ground, and which are made to slide in and out at pleasure. This I consider preferable to admitting it on a level with the plants, as it becomes somewhat tempered before it comes in contact with them. I never attempt to grow many kinds of flowers in the same house, because the treatment which may be highly suitable to one plant, may be death to another, and I am persuaded that the many failures which occur among amateurs, arise from attempting the cultivation of a miscellaneous collection of flowers under the same roof. It is, therefore, wisest to cultivate a few things which require much the same treatment, rather than a great many, when the result is pretty certain to be failure and disgust.—*Geo. Kidson, Hull.*

BURFORD LODGE, DORKING.

It is natural that horticulturists of all degrees should be more or less interested in the gardens of Sir Trevor Lawrence, Bart., the popular M.P.'s for the Reigate Division of Surrey, and president of the Royal Horticultural Society. Oh! yes, everybody says, on account of the wonderful Orchids. Well, yes, that is one reason, as it is difficult to think of Burford Lodge without having them in the mind. Probably more rare species have been flowered there for the first time, and more bad doers subjugated than in any other collection in the world. But it must be understood that the perfection of good culture is attained in other classes than the Orchids, and that the various other things grown each in their seasons, give very charming displays both indoors and out. Few who have seen the beautiful group of the white, pink, and scarlet varieties of the Begonia nitida, and other shrubby kinds as they here appear, mingling their lovely flowers above and among their bright green leaves, will be likely to forget them and their fragrance; the group of mingled white and blue Agapanthus, and scarlet Impatiens Sultani is also one of the features of the Burford plant houses, and the many pretty things among Freesias, Ixias, Sparaxis, and other Cape bulbs, are all the more acceptable because we so seldom have the opportunity of seeing them.

The Plant Houses.

In the plant houses too, may also now be seen in flower, Clianthus Dampieri, which has survived several years and is still vigorous; some good single and double tuberous Begonias; a fine collection of scarlet Anthuriums; a select house of Ferns; others of Palms and other decorative plants; a range of Vineries in good crop, all bearing evidence of the diligence of Mr. Bain, the gardener.

The Pleasure Grounds.

On entering the gate and passing under the shade of the tall beeches, with their undergrowth of Perriwinkle, a pleasant and uncommon sight meets the eye, the comfortable residence, the garden, and neat little park, being partly encircled by Box Hill, which rises at the back almost perpendicular to the height of about 400 ft., its chalky front clad with Box and Yew, having a very picturesque appearance, Burford Lodge being sheltered in the nest formed by it, its rugged background showing to great advantage the soft green turf, neat walks and bright flowers, with which it is surrounded. On the other side of the house, past the deep shady dell, planted at the top with St. John's Wort and Solomon's Seal, and below with Ferns and other shade-loving plants, we come to the garden devoted to herbaceous

perennials, bulbous and other plants, especially those useful for cut-flowers. Here the collection of Gladioli are coming on vigorously; the bed of the new hardy white Crinum Powelli, which was so handsome last year, bids fair to be equally good at the end of the summer; and the Roses, Iris, and other showy and favourite flowers give abundance of beauty at the present time.

The Orchid Houses.

These contain a wealth of beauty, and a host of the most wonderful examples of nature's arrangements for the reproduction of these plants which are in a wild state dependent on insect aid for fertilisation. The great charm of the Orchids is that the love of them is not an acquired taste, it does not require an expert to appreciate the loveliness of the showy ones, or the curious structure of the smaller kinds with insect-like flowers. Large or small, if a fair specimen of any Orchid be placed among a group of other plants staged in a public exhibition, it will be sure to attract a larger amount of attention than any of the other things. Of the rare things of extraordinary structure and colouring now in flower at Burford Lodge, which no one could pass without careful examination, we cannot help particularising the fine plant of the priceless Cypripedium Stonei platytænium with its two spikes of six fine flowers, with pointed shoe-like pouches, showy oval white and chocolate dorsal sepal, and broad spreading white wings with crimson spots; whether as a showy beauty or a curiosity it is unique. Sarcopodium Dearei, too, with its half-a-dozen large yellow flowers, stained and lined with crimson, is curious beyond conception in its structure, its labellum being hinged so that when the insect alighting on it in search of nectar passes over a certain point it tilts over bringing the invader in contact with the pollinia, which adheres to its back, and is thus transported to the next flower to fertilise it.

Another of the sights peculiar to Burford, is the very fine collection of Chimæroid Masdevallias, some of them with hundreds of leaves and scores of flowers; they are grown in boats or baskets and suspended overhead, and with their large flowers hanging over they present a very pretty sight. M. chimæra Roezlii now bears many of its nearly black flowers, which look like bats on the wing. The other section of the Masdevallias to which M. Harryana, M. Veitchi, and M. ignea belong are equally well grown, and give a great display of purple, mauve, scarlet and orange flowers.

Rare Orchids in Flower.

Among the very rare things now in bloom with Sir Trevor Lawrence, are three plants of the handsome Ærides Schroderi; the only flowering plant in the country of the handsome Phajus Humblotii, discovered in Madagascar by H. Humblot, not long before he died; Sphathoglottis Augustorum, a pretty terrestrial Orchid; Anguloa Ruckerii sanguinea, with six of its large wax-like aromatic flowers, in shape like old-fashioned helmets, but beautifully tinted blood-red inside and yellow out; two distinct varieties of Anguloa uniflora; Cattleya Mossiæ Reineckiana, a fine variety with pure white flowers marked with purple on the lip; Odontoglossum coronarium miniatum, a very handsome crimson and yellow form; Trichoglottis fasciata, a curious plant, like a fleshy Vanda Cathcartii, with white and brown spidery-looking flowers; Ærides Larpentæ, a large mass with many spikes of white and rose flowers; many Vanda teres; Angræcum Scottianum with ivory-like flowers, with long caudal appendages; Bifrenaria inodora xanthina, a handsome Orchid which opens with greenish flowers, changing to bright yellow; and Ionopsis paniculata superba, a lovely gem of a plant with neat branched spikes of clear-white and rose flowers, very pleasing to look upon.

The Cattleyas and Lælias.

Of these some very showy things are in flower, it need hardly be said of the best varieties, for none other are admitted. Some of the Cattleya Mendelii are very fine, one with about twenty five clear white flowers, with violet-crimson lips, being superb; the many showy plants of C. Mossiæ, C. gigas, C. Warneri, and Lælia purpurata, whose flowers are so handsome on the plants, and handsome and useful for the town house when cut, are also in good form.

The Odontoglossum houses known to contain many unique specimens, have in them in bloom a fine batch of the orange-scarlet Epidendrum vitellinum majus; some bright and pretty Masdevallias, the large golden yellow Oncidium macranthum, several of the rare and pretty O. bifolium, Restrepia atennifera major, the curious Pleurothallis ornata, with black flowers fringed with white; Odontoglossum vexillarium, O. Reichenheimii, O. hastilabium, O. cordatum, as well as the usual show of O. Alexandræ, in fine pure white as well as heavily spotted forms.

In the numerous other houses, either in bloom or bud are Ærides Lawrencæ, the regal Ærides named in honour of Lady Lawrence, who is a great admirer of Orchids; it seems unlikely that this grand plant will ever be beaten in its class, its flowers are so noble in their proportion, and clear in their white and crimson colouring. Dendrobium Jamesianum, with snow-white and orange flowers, which lasts a month or six weeks when cut; D. moschatum, a fine old favourite; D. Dalhousianum, D. clavatum, D. Bensoniæ, D. chrysanthum, D. Goldianum, with fifteen flowers on a spike; D. suavissimum, D. amœnum, D. secundum, Saccolabium curvifolium, S. guttatum, S. Blumei, Scuticaria Steelii, many forms of Stanhopea, Acineta, and some grandly flowered Thunia Bensoniæ and T. Marshalliæ; Ærides Lobbii superbum, with spikes of rosy crimson and white flowers about 3 ft. in length; A. suavissimum, A. Lindleyanum, A. virens superbum, A. odoratum majus, Mormodes luxatum, Maxillaria Turnerii, many good Odontoglossum citrosmum, Epidendrum variegatum, Vanda cristata, Oncidium Jonesianum, and some handsome Sobralia macrantha.

The Cyripediums are always well represented at Burford, some of the new ones as well as other hybrid Orchids having been raised there. Besides the noted C. Stonei platytænum, there are in bloom several C. Stonei, C. concolor Regnieri (with three flowers on a spike), C. niveum, some large pans of the noble C. Lawrenceanum, C. Veitchianum, C. Dayanum, C. Swanianum, C. Hookerii, C. barbatum grandiflorum, C. superciliare, C. tonsum, C. œnanthum superbum, C. Sedeni candidulum, C. grande, C. Curtisii, and many others.

In one of the houses stands an immense plant of Renanthera coccinea, with several branched spikes of its yellow and blood-red flowers, like flights of showy butterflies. The flowers are very beautiful, and this particular plant is interesting on its own account, as its pedigree, proved by the old label which was found among the material in which it was potted when Sir Trevor bought it many years ago, indicates beyond a doubt that the specimen has been in cultivation in this country over seventy years, a proof that Orchids do not die out if they get into good hands, although many of them are more susceptible to bad or unskillful treatment, than the one in question, no doubt.

We must not pass from the Burford Lodge Gardens without noticing the Ouvirandra fenestralis of Madagascar, a water-plant with curious lattice-work-like or skeleton leaves, every vein having the space between it and the next open. The plant is very difficult to grow, but at Burford it grows well, flowers and seeds. The insectivorous plants are, some of them, covered with flies of their own catching. The Nepenthes Mastersiana has pitchers of the brightest red and of the largest size; and the showy Utricularia Endresii and U. montana, well worth their place in those Orchid houses which Mr. Bickerstaffe, who is in charge, takes such good care of.

The Late J. C. Spyers.

The Late Orchid Grower.

While on the subject of the Orchids at Burford Lodge, a good opportunity offers to present to our readers a portrait of their former guardian, Mr. Joseph Charles Spyers, who wrought so earnestly among the plants in his charge, and gained the high esteem of Sir Trevor and Lady Lawrence as well as of all those who had to do with him. He was a man of many friends and no enemies, and we are sure that his portrait will be scanned in our columns with kindly feelings towards him who it represents by a large number of Orchid growers and plant lovers in various quarters of the globe, who either knew him personally or through his contributions to the horticultural press. Joseph Charles Spyers was born on the 5th February, 1850, and his father unfortunately died about that time. When six years of age he was sent to the Orphanage School at Beckley, near Oxford, and remained there until he was seventeen.

It was here that he gained his first knowledge of gardening, the large grounds attached to the school being cropped for market purposes. On leaving school he went to Mr. Stagall at Weymouth, where he remained three years, and thence went to Kew Gardens where he was employed in the Orchid houses about two years. From Kew he went to Robert Hanbury, Esq., at Poles, Ware, to take charge of the Orchids, remaining there over two years, and working hard to increase his knowledge of the plants he liked so much. The autumn of 1874 found him installed as Orchid grower to Sir Trevor Lawrence, Bart., at Burford Lodge, who was able to aid him by his vast experience. A long and pleasant service followed which only terminated by the death of Mr. Spyers from Phthisis on the 10th of April, 1883.

Very many gold medals and prizes were awarded to the Burford Lodge exhibits during Mr. Spyer's time, some of the plants shown being incomparable. He was also one of our best contributors to the horticultural press, and always ready to intelligently advise on any difficult point of Orchid culture. It must have been a comfort to him in his last illness to know that in Sir Trevor and Lady Lawrence his wife and young family had sure friends; and it speaks well for the whole body of Orchid growers that quickly a fund was raised, with Mr. James O'Brien as secretary and Dr. Masters as treasurer, sufficient being obtained to purchase the widow a nice new freehold house close to the great Orchid establishment of Mr. F. Sander (whose great kindness also deserves the highest commendation), at St. Albans, and thus the comfort of the family of our late respected friend is permanently secured.

NOTES OF A TRIP TO AMERICA.

(*Concluded from p.* 650.)

Continuing my notes from last week, I come now to the State of Massachusetts, in which are situated Boston and Newport. You can leave New York by rail or boat, the latter being the most pleasant mode of conveyance. The steamers of the Fall River Line are said to be the finest in the world, and by taking this line you can call at Newport, Rhode Island, one of the most celebrated of fashionable American watering places. It is called the Brighton of America, and it is here where the wealthy reside during the summer. The Vanderbilts and the Lorilards have fine summer places here, and there are a few good collections of plants to be seen. The most noted is Mrs. Gardner Brewer's, where Mr. Hill formerly of Down House, Blanford, has charge of a good collection of Orchids, stove and greenhouse plants, &c. Mr. Fairman Rodgers' is another place where good all-round gardening is carried out, and ere long there will be several other fine establishments. The roads of Newport are wide, and being well planted, form fine cool avenues for promenading and driving, which are greatly appreciated.

Boston.

The journey from Newport to Boston is easily accomplished, and in the neighbourhood of the latter city gardening is carried out more extensively than any other part of the States I visited. Here is established the home of the flourishing Massachusetts Horticultural Society in the centre of the city. The society has fine halls and a splendid library, containing all works possible to obtain relating to the profession of horticulture, and to which the members have free access at anytime. It is here where the flower shows and meetings are held which have done so much to stimulate a love for plants among all classes. There are also public grounds, well kept, right in the heart of the city, with fine lakes, bridges, good walks, and fine statues; and there are many fine private places around Boston more like English noblemen's places than anything else. There is, for instance, the lovely place of H. H. Hunniwell, Esq., a few miles out, where there is to be seen a fine collection of conifers, ornamental trees, hardy shrubs, grand specimen Azaleas and greenhouse plants, magnificent collections of Orchids, stove and greenhouse-flowering and foliage plants, fine stately Palms, Cycads, good Vineries and Peach-houses, fine undulated grounds, well kept, and beautifully laid out, and all reflecting great credit upon Mr. Harris, the energetic gardener, who has had charge here for many years.

The Hon. F. L. Amis, also has a fine place situated at Nort Easten. Here there is a well established collection of rare and valuable plants under the charge of Mr. Robinson, whose English training speaks volumes in his favour as a good all round practical gardener. There is a grand house of fine foliage plants, house after house full of rare Orchids, many very fine specimens; graceful and curious Nepenthes, splendidly pitchered, adorn the roofs, and I may safely say that here is to be seen the finest collection of cool Orchids in America. The Odontoglossums and Masdevallias especially, are wonderfully well done, and there are many very fine specimens and first class varieties; these certainly are grand. It must be a great pleasure to Mr. Amis to have so good a collection in such grand condition. At Mr. Pratt's place, situated at Mount Auburn, there is also a collection of plants, including many good Orchids, and other rare plants all grown to perfection. Here I saw a specimen of Hydrangea Thomas Hogg, 8 ft. through, with over 100 trusses. Hydrangeas are grown here in tubs, and very fine they are. This place is under the care of Mr. David Allen, to whom great credit is due for the admirable manner in which he cultivates everything under his care.

Opposite Mr. Pratt's is Mr. Payson's, where there is a capital lot of Orchids, chiefly Cattleyas and Odontoglots, many fine specimen stove and greenhouse plants, and bedding-out is well done. The place is well kept in all the various departments by Mr. Duncan Aird, the gardener.

Cambridge Port, joining Boston, contains one of the two botanic gardens of America, the other being at Washington. At Cambridge there is a collection of plants grown for scientific study; the grounds are nicely kept and contain many good things. Mr. Manda is the curator, and his abilities are sorely taxed by the demand for various plants for the students.

As at most other places in America, there are many florists in Boston, and flowers for personal adornment are as extravagantly used here by the fair sex as at other places.

South Amboy and Philadelphia.

Going from New York to Philadelphia, you pass by the Camden Route, through South Amboy, where the splendid nurseries of Mr. George Such were situated. Mr. Such retired from the nursery trade some two years ago, when his famous collection was sold by auction and brought many buyers from a great distance. His nurseries contained the most valuable collection of exotic plants in the trade. At South Amboy a few years since there was a very fine collection of Orchids belonging to Mr. Rabone, who disposed of them some time before his death. Philadelphia, the Quaker city, is the most important city of Pennsylvania, situated on the Delaware river. The city and neighbourhood contains many features of great interest, including Fairmount Park, where the great Centennial Exhibition was held in 1876. It was here, in company with Mr. Harry Williams that I first got initiated into the American ways. The Park is beautifully situated on the Schuykill, is over three thousand acres in extent, and beautifully undulated. The Park has only been established a few years, but it has already assumed a magnificent appearance, and is well kept. The splendid horticultural hall erected for the Centennial, and the Art Gallery still remains; the former is a fine building, and contains some grand specimen Palms, Dracænas, Tree Ferns, planted out and in fine condition. When here last it hardly seemed possible that the plants could have assumed such gigantic proportions in the time, but still it is ten years. There are several fine seed establishments here, and Messrs. Dreer, Buist, and Landreth, have fine business houses, and do an enormous trade.

There are also several good nurseries and florist's businesses. It was in this city where the late Mr. Buist began, also Mr. John Dick, who retired in favour of his son who still carries on the old established business. Florists are innumerable, and of private places there are many, but not on a very extensive scale, still there are some good collections of exotics.

From Philadelphia, Baltimore is easily reached. This is the most important town in Maryland, has several very fine cemeteries and parks, and public grounds which are well kept, as well as several good nurseries of which Mr. Halliday's and Mr. Brackenridge's are the most notable. There are also several fine private establishments here, and Orchid growing is increasing in popularity.

Washington,

The capital city of the United States, and the seat of the Government lies, in the district of Columbia on the banks of the Potomac river. The location is very picturesque, and some very fine views are obtainable at different points; there are some wonderfully fine buildings, viz., the Capitol, the President's House, and Government Buildings. The former is a magnificent building of immense extent, being 750 ft. long, with a dome nearly 400 ft. high; the building stands upon a hill fronting east and west, and covers over three acres. Handsome grounds surround the Capitol, with fine avenues of trees, and landscape gardening has been done well. The Botanical Garden is close by. It is about ten acres in extent, and is well laid out. The main conservatory is 300 ft. long, 60 ft. wide, height of dome, 40 ft., and wings 25 ft. In connection with this are ten other houses, and a lecture and botanical class room for students. The houses contain a very fine collection of plants, such as are generally found suitable for botanical study. There is also a very fine collection of stately Palms, majestic tree Ferns, large specimens of officinal and medicinal plants, a grand collection of succulents, a choice collection of Orchids, &c., all in very fine condition. There is no other place in America where such an unique collection is to be seen. These botanical gardens are constantly receiving importations from various parts of the world. The place is in admirable condition, and is under the able superintendance of Mr. W. R. Smith, who has had charge here since 1852, and who is greatly respected, his kindly genial manner having made for him a host of friends in all parts of the world.

The Smithsonian Grounds

Are about fifty-two acres in extent, and situated near the heart of the city. The grounds are beautifully kept, and when I was there, early in April, Magnolias, Forsythias, Spiræas, Pyrus, and such-like were magnificently in flower, showing how early vegetation is there as compared with the State of New York, for not a vestige of green was to be seen upon the trees there at the same time. The plant-houses here are very fine, and include a grand range built in 1868 from designs by Mr. William Saunders, who is at present the superintendent of the gardens and grounds. The houses contain a grand collection of officinal and medicinal plants, Palms, Dracænas, Crotons, specimens of all the leading sorts, and there are some fine Vineries containing all the varieties of Grapes in cultivation.

The Department of Agriculture,

Close by the Smithsonian Institute, has a beautifully laid-out garden, a fine arboretum with walks and drives, and a very good collection of hardy trees and shrubs. The trees and plants in the arboretum are planted in strictly botanical order, all being classified. There is here a grand collection of plants of all descriptions for outdoor gardening, and the houses are numerous in which the bedding and other plants required are propagated in enormous quantities. This establishment is under the superintendence of Mr. Brown, whose practical abilities are well proclaimed by his work.

The President's House and Grounds

Consist of eighty acres, twenty of which are private. The grounds are finely laid out, and bedding is well done. There are several houses belonging to the White House, including a large conservatory attached to the President's House, which is kept very gay and is used for promenading, &c. Of cemeteries there are several which are very extensive, and all well kept and planted with choice trees and shrubs, &c. Among the florists and nurserymen, of which there are several firms, Field Bros., among the former, carry on a very extensive business. They grow enormous quantities of Roses, Carnations, and such-like, and are considered the best Rose growers in America. Of nurserymen, Mr. Saul has been established a great many years, and he does a fine trade, especially with the south. His nursery is very extensive, and contains many novelties. Here I saw upwards of a hundred good plants in full bloom of Dendrobium fimbriatum oculatum, some very fine varieties. The same quantity of D. Dalhousianum and hundreds of Cypripediums were in great perfection. Anyone visiting America should not fail to visit Washington, for it is full of interest.

Rose Growing, &c.

I may as well mention here that the florists in America plant out their Roses, Carnations, &c., and it is certainly marvellous how well they do, for finer crops and grander flowers I never saw. Another plant that is extensively grown, and for which there is a very great demand, is Myrsiphyllum asparagoides (Smilax). This they plant out, and it is a common thing to see houses devoted exclusively to its cultivation. I have seen houses of it with hundreds of sprays trained up string, 6 ft. high. They grow it in this way, and sell it so much a string; and it is invaluable to the bouquetist. It stands well, and should be tried here in this country, but I have never seen it attempted.

To young men ambitious to go to the States, my advice is, do not go out on speculation, but, if possible, get a situation before you go. The work out there is different to what it is here, and it is not the least good anyone going to America unless they make up their minds to work, and work well. There are several young men out there, who, I am proud to say, I have worked with myself, and who are getting on in a highly satisfactory manner. I was fortunate in being able to return home in the magnificent steamer Umbria, of the Cunard line, leaving New York on Saturday, and the following Saturday arriving in Liverpool, which is good travelling, one must admit. This steamer made the unprecedented run of 480 miles on the journey in twenty-four hours.—*A. Outram, Victoria and Paradise Nurseries, Holloway.*

"LEAFY JUNE."

Admirers of arboreal beauty, and they are many, cannot have a more delightful time for visiting parks or arboretums than the present month, for all trees are now in full leaf even the tardy Mulberry and Walnut. They possess a freshness of verdure now that will quickly disappear when the hot dry weather comes, and the special characters of habit and foliage formation can be

seen to excellent advantage. By noting these peculiarities or recommendations many shrubberies might be improved and diversified, and unfortunately it does not appear that so much attention is given to this matter as it deserves. The number of introduced ornamental trees and shrubs is now very large, and they have still been farther increased in nurseries by raising seedlings or propagating sports.

The varieties of common British trees are now extremely abundant, many of them differing so greatly in their leaf forms and colouring that they would scarcely be recognised as relatives of the better known species, some have the leaves deeply cut into irregular segments, and others are variegated with yellow or white in a variety of ways many being extremely beautiful. They require, however, to be planted with some judgment, and none of these garden raised forms should be allowed to predominate—one here and there helps to relieve the monotony, but too many gives a formality or unnaturalness that should be especially avoided.

The copper-leaved Beech can, perhaps, be employed with the greatest freedom, but even this is seen to much better advantage when planted as an isolated specimen, near a background of the ordinary green-foliaged trees. The variegated Acer negundo is very effective, and though it has been expelled from gardens by some horticultural purists, it by no means merits the condemnation it has received; for if planted in shrubberies, where it peeps from among more sombre-coloured foliage, its appearance is charming—at least, to ordinary tastes. A few standards have a good effect in borders near the margin of lawns, but they should not have a too conspicuous situation, as, being deciduous, they look rather bare in winter, and are more noticeable than when in shrubberies.

The diversity in the shades of green is more observable in the early spring, when the leaves are just expanding, for innumerable tints are then seen, if many distinct kinds of trees are planted, from the soft tender hue of the Lime to the darkest evergreen. The lightest shades are now lost, although the leaves are fresh still, owing to the recent rains; and the differences in an ordinary mixed plantation are readily distinguished. The season has suited most ornamental trees admirably; they are making vigorous growth, and are likely to continue attractive much longer than is usually the case.—*Arbor.*

Scottish Gardening.

Strawberry Runners for Forcing.—In northern and late districts where there is a difficulty in getting well matured growth in autumn, accompanied by strong well developed crowns ready for forcing at the right time, a special effort should now be made to get runners rooted and potted for the purpose. If young plants were planted during the autumn, and in good condition, they should produce the best of runners. Those saved over the winter are generally stunted, and produce a large number of small flowers which do not form fruit that swell to a large size; some depend on the early forced plants for their stock of runners for forcing, but we have never seen such as strong as those from young plants established in the autumn; runners rooted in the ground in their natural form, lifted, potted and placed in the shade a few days answer very well. But we (after trying every system of which we have read) prefer the old well tried system of placing a cut of turf or good loam in a small pot, fastening the runner in the soil by a small stone or peg, and when roots are plentiful, the plant is transferred to the fruiting pot, potted firm and stood in the full sun, watered regularly and well; roots kept from rooting through the bottoms of the pots, weeds and runners eradicated as soon as they appear, and plenty of room given to develope the foliage. Early ripening of the crowns, a long rest and careful storage of the plants during winter are items of primary importance in their management—especially in cold districts.

We have stored the plants on their sides, against walls facing the sun, in frames, cool fruit houses and by other methods, but prefer placing the pots in ashes to their rims and leaving them to all weathers; shutters placed over skeleton frames to keep off heavy snowfalls are advantageous. During last winter, and often before, we have taken the plants in, from time to time as succession required, with the pots crammed with masses of white healthy roots, and now that these are forced and ready for planting out in the ground, they are in the best condition possible.

The kind which most readily meets all wants in the north, is Vicomtesse Hericart de Thury. We are generally on the search for information when opportunity affords it; and lately we met Mr. Mathison, of Meiklour, in Perthshire, and replying to our enquiries, he stated that he had almost parted with all kinds of Strawberries, both for outside and for forcing, retaining the above named only. We have much confidence in the practice of this well-known successful cultivator of fruits, whose experience has been wide both in the north and south. In addition to this kind we have forced some 400 of Sir Harry this year, which have given much satisfaction. That kind along with President did well last year. Old Melon soil makes excellent potting material for Strawberries; fresh manure is very objectionable; bone meal and a little soot in the soil is a good and pure stimulant; vine manure (Thomson's) is excellent.

Mulching.—The practice of protecting the roots of plants in the open air from burning heat and severe cold is becoming more general the better it is understood and appreciated, and at the present time one naturally looks for a maximum of sun, which is often accompanied by severe drought; but where a proper system of mulching is a portion of the general garden work, there is a minimum amount of difficulty compared with the leave alone system. Mulching does not always mean a quantity of rich manure placed over the ground in which roots of plants are growing. A free use of the hoe which leaves an open surface of loose soil, a quantity of soil spread over the surface, such as rotted leaf-mould, old peat, refuse of potting benches, grass from lawns, rotted turf, and other material. Did we have the choice of any of these for summer applications, rotted manure or rich soil would be accepted, and for many purposes the two mixed together, or a layer of manure and the soil levelled evenly over it. The latter has been our general practice for years past. Often among fruit bushes, Raspberries, shrubs, Rhubarb, Dahlias, Hollyhocks, Roses, and other plants, we remove back the surface soil, place the manure nicely as far as the roots extend, then replace the soil leaving it open, thus keeping in the virtue of the former, and giving the whole surface a clean appearance; even in vegetable gardens this is of moment. While we believe in plenty of healthy manure applied to gross feeding plants which are wanted to make luxuriant growth during summer, we detest the practice of filling the soil till it is almost poisoned with humus.

Referring to Strawberries, this season we notice a goodly-sized plot, which was left unmulched in winter, far ahead of those which had a good surfacing of cow-manure, well rotted. We know a great grower who never mulched for these except just before the fruiting period, with clean straw. Vines had some charcoal dust spread over the borders during winter, and the Strawberries had a good coating of manure at planting-time. A quantity of plants were trenched down every year just after they fruited, which was a good preparation for Cabbage or similar crops; and a young plantation (in proportion to the requirements of the place) was planted as soon as the plants were fit, after they had been forced. We notice the benefical effects at the present time, of good mulching on Raspberries, Gooseberries, Currants, and Celery; this we mulch with grass or any easily obtained material as planting proceeds. On shrubs peat and other soil is used with the best results. Rhododendrons planted two seasons ago in very poor gravelly soil, mixed with bog-earth and well mulched at the time, and the application repeated to the surface has done a deal to aid the plants in carrying loads of bloom; they are now at their best and starting freely into strong growth.

Early Turnips.—Among many kinds recommended for early use, we have found that the Early Milan has no equals; we have tried in pits under glass, in the open ground, and on early borders, but this really valuable acquisition has outdistanced all compeers. We notice three or four kinds together on the same ground are making a good succession; first are Early Milan; second Munich; and third, the old White Dutch. The Early Milan stood well through the winter of 1885; the roots, which were about 2½ in. to 3 in. in diameter, were covered with old mushroom manure. The Yellow Malta and others of this class are peculiarly suited for northern parts. The Whites are more valued in the south, but more from appearance than flavour. To get good sweet Turnips (not stringy and tough) from this time onward through the autumn, should be sown on firm ground (not poor and sandy) after it has been soaked with water; we have fine showers at present (June 15th), which renders sowing and planting an easy matter. Dust well with soot to ward off slugs and black fly.—*M. T.*

The Amateurs' Garden.

THE VEGETABLE GARDEN.

The principal work now is staking Beans and Peas as they advance in growth, regulating the length of the sticks for the latter according to the height of the varieties, which can be found in any catalogue. The dwarfest varieties of the American Wonder type will not need any sticks, and in some gardens the varieties of medium height are not staked either; but they repay for the little trouble and expense in neatness and surety of crops. In many suburban gardens Beans of the Scarlet Runner type are extensively grown, and usually these are sown near the walls or fences. When this is done sticks may be dispensed with, and stout string employed instead, either stretching this horizontally or vertically if end posts or top and bottom pieces can be supplied. No vegetable is so useful for town gardens in summer as the Scarlet Runner, and if a few rows are grown in the open they are well worth the stakes required.

Transplanting from seed-beds should still be proceeding, and if any vegetables sown in rows or beds as permanent crops are too thick, give early attention to thinning. Sowing seeds thickly is a bad practice; but after this has been done, if the plants produced are allowed to remain crowding and injuring each other, matters are made considerably worse, and satisfactory crops must not be expected. As soon as it is noticed that the plants are crowded, and they are large enough to be safe from the ravages of birds or insects, which often act very energetically as nature's thinners, remove all the smallest, weakest, and least promising seedlings, leaving spaces corresponding with the size the vegetables attain, so that they are quite clear of each other. Wherever large specimens are required, especially of root crops like Onions, Carrots, Parsnips, Turnips, &c., thinning must be liberally performed.

Young plants newly placed out must be looked after carefully if slugs or grubs are abundant, or they will soon destroy the plants in large numbers, particularly those of the Cabbage family. Vegetable Marrows are also great favourites with these pests, and we have recently had considerable trouble with them. The best plan is to sprinkle the young plants freely with soot, strewing it round their stems as well to a distance of 6 ins. or more; this may be preferably done in the evening or early morning when the leaves are slightly damp with dew, as it causes the soot to adhere to the surface. Lime is used in the same way, but we prefer the soot as it acts as an excellent manure, and seems to retain its efficacy longer than the lime; the latter being of little use after a heavy shower. Visit the plants late in the evening, watching them continually, and when they have obtained a good hold of the soil, they will grow out of the way of these troublesome creatures, or become too tough for them to destroy.

THE GREENHOUSE.

The Vines we have previously mentioned will now probably have flowered and set their berries, though in unheated houses they are only just opening their flowers. We have two Black Hamburghs in a warm corner of the greenhouse, and the berries are swelling sufficiently to render thinning necessary. This is an important operation, and requires some little practice to become successful, as well as close observation and judgment. However well the berries may be set, it will be seen in a few days that some are swelling more rapidly than others, the first point is, therefore, to remove those which, from imperfect fertilisation or weakness, are small, and not likely to make full sized berries. Sufficient must, however, be left to form a compact, but not crowded bunch, and to do this thoroughly, the size the berries of the particular variety attain must be known, also considering the strength of the Vines. By all means avoid a thin loose bunch, as it has a most unsatisfactory appearance on the table, and if there is any danger of the Vines being overcropped, remove some of the bunches rather than thin the berries excessively. Keep the lateral stopped one leaf beyond the previous stopping, and if the growths are at all crowded, keep them back to one joint beyond the fruit. After the berries have commenced swelling syringe the foliage liberally, as it is important to prevent red spider from making any progress.—*Scolytus.*

PHENOMENA OF VARIATION, WITH SPECIAL REFERENCE TO FERNS.*

In a paper which I had the honour of reading here last season upon certain newly discovered phenomena of reproduction in Ferns, I confined myself mainly to a description of the various normal and abnormal methods by which they are propagated, and an elucidation of the characteristic differences in these respects between the Filices and the flowering plants. With the view of opening a discussion of somewhat wider interest than the study of Ferns alone could do, I purpose to-night to dwell especially upon the peculiar faculty of variation possessed by Ferns, and the general character of such variation, in order to ascertain from the discussion which I hope will follow whether this faculty is displayed in as great a degree in the other branches of botany which may form the special study of my fellow members. I therefore start with the hypothesis that Ferns are endowed with a greater capacity of sudden variation under natural circumstances than other plants. I say under natural circumstances, because it is chiefly wild sports which I have in view, and not the wonderful differences which careful cultivation and selection are capable of effecting in almost every living thing if only time enough be granted.

The faculty of variation is general throughout organic life, but, in the vast majority of cases, the individual differences displayed between organisms of the same species are mainly the result of different conditions of growth, and do not involve any material alteration of structural plan. The offspring, consequently, present the same general appearance as the parent. Here and there, however, through some subtle occult influence, cases present themselves where the offspring is found to display strongly marked characteristics, of which not a trace existed in either parent, or, so far as can be ascertained, in any of its progenitors. These sudden departures from the normal type (or sports, as they are horticulturally termed) seem frequently to result from some accumulated influence induced by the artificial conditions attendant in cultivation. This is shown by the fact that many flowers under such treatment are liable after a certain time to vary suddenly either in themselves or their progeny—a fact to which we owe the immense number of strongly marked forms of floral beauty now existent.

In Ferns, however, under purely natural conditions—at any rate, under conditions as natural as we can obtain in a civilised country—there have been discovered an immense number of forms departing so widely from the normal types among which they were found, and which are so isolated in their occurrence, and so entirely unaccompanied by any trace of intermediate aberration, that we are forced to the conclusion that they are the direct offspring of spores from perfectly normal plants, notwithstanding which, they, in most cases, truly transmit their peculiarities generation after generation to their offspring.

What an extraordinary subtle influence must that be which in either plant or animal can so affect and transform the microscopic germ that the resulting offspring shall not only differ materially from the parent form, but possibly an altogether different type of structure, at once symmetrical and beautiful, shall originate, and be able to transmit henceforth its peculiarities to its offspring. Here, indeed, have we special creations, forming striking exceptions to the general rule of gradual evolution.

To return to my special theme—Ferns. Take, for instance, the Victoria Lady Fern, and grant the assumption, which cannot be avoided, that it originated from a normal plant. This normal plant we found to consist of fronds formed of a central stipe tapering to a point, and provided with side branches or pinnæ on the same plan and set on at an angle of about 30°; these being again divided on the same principle, the whole forming a feathery frond of lanceolate outline. On the back of every frond there are millions and millions of microscopic spores, which, during the indefinitely long life of the plant, are shed around and blown about in countless myriads year after year, not only from this plant but from thousands like it in the vicinity. Suddenly one, and apparently only one, of these spores yields a plant in which all the divisions, pinnæ, pinnules, and pinulets are not only duplicated but much narrowed, and set at about right angles to each other. The outline of the frond is also greatly narrowed, and finally the tips of the pinnæ and the frond itself are many times divided, so as to form heavy tassels. Finally, it is abundantly sporiferous, and every spore is capable of reproducing its structural peculiarities; though, strange to say, the offspring are generally if not always easily distinguishable from the parents by a certain coarseness, the fine cutting of the ultimate division being, as it were, blurred and less sharply defined. On the other hand, I have raised hundreds of this form, and never saw a case of reversion to the normal form. This case of variation is an extreme type, involving as it does not merely a cresting but also an essential variation in plan of structure, a combination of peculiarities which has so far not been discovered in connection with any other family of Ferns, though some few varieties are characterised occasionally by cruciate pinnæ. This Fern was found growing wild by the roadside in Scotland, and though the station was assiduously searched then and later, no second example or intermediate form was or has since been discovered there or elsewhere.

Another extreme form was Athyrium F.-f. acrocladon, found also by the roadside on a Yorkshire moor. Here the rachis and rachides possess such a tendency to division, that the normal feathery nature of the frond is utterly lost, and the plant resembles a number of mossy balls crowning the much-divided stipes. Here, again, no intermediate form was found in the vicinity, and the necessary conclusion is that it originated at one jump, as it were, from the normal form. This case, however, is not so striking as that of A. F.-f. Victoriæ, since the ramification of the rachis is a comparatively common form of variation, and is only carried in this instance to an extreme extent. This again yields, I believe, fairly true progeny, in one of which the division is carried to such an extent that the whole plant resembles a ball of velvet.

This power of cresting, in which the normally acute points of the rachis and rachides, of froud, pinnæ, and even of the pinnules become dilated and divided, seems common to all or nearly all of the British Ferns, only one or two species having failed so far to afford instances; and since, as I have said, the more marked departures have been found wild, it becomes a question whether exotic Ferns all over the world will not yield instances of the same phenomenon when sought for by an eye accustomed to the quest; for it is a peculiar fact that until the sight becomes habituated to the search for special features, the eye unconsciously is liable to overlook and pass by the most striking characteristics. Hence a botanist whose speciality is the discovery of new species only, would readily detect an altogether new plant, but fail to note that one amongst a crowd of familiar plants possessed unusual features. As an instance of this, I recollect once hunting over a lot of Scolopendriums with a good general botanist, and I found no less than seventeen ramose and otherwise abnormal plants among them before he found one, yet in his own element he would point out an uncommon flower on the other side of the field where I could hardly discern a plant at all. To this may be attributed the fact that so few abnormal exotics, and especially tropical Ferns, have been found, though I venture to think the quest is worth while; for let the scientest term them monstrosities if he will, I contend that in many cases the abnormal forms infinitely transcend the normal ones in beauty,* while admitting freely that, on the other hand, many are far more curious than beautiful. Anyone who has seen a grand specimen of Lastrea cristata, our nearest approach to a Tree Fern, and splendidly tasselled, must admit that such a cresting on Dicksonia antarctica or a fine Cyathea dealbata would be simply magnificent, and I am sure that somewhere in the untravelled habitats of these Ferns their crested forms are quietly awaiting their discoverer.

(To be continued.)

To find the capacity of a cylindrical cistern in gallons, multiply the area in inches by the height in inches, and divide the product by 231. To find the capacity of a four sided vessel in gallons, find the cubical contents by multiplying the length, breadth and height in inches, and divide by 231.

*A paper read at the Horticultural Club by C. T. Druery, Esq., F.L.S.

* Compare the normal Athyrium with the best plumosum, and the difference is as great as between a common goose feather and that of an ostrich.

NOTES FROM CUERDON HALL.

Rarely, if ever, have I seen such pots of Mignonette as I saw recently in the gardens at Cuerdon Hall, near Preston. The plants are grown in pots, varying in size from 4½ ins. to 9 ins. Those in the smaller sizes are brought into flower in the middle of March, and were getting seedy when I saw them a week ago, but there was ample proof from the vigorous growth and size of the plants that they had been really fine. All the pots contain more than one plant, but are sown in the small size and potted on. Three were in 9 in. pots, and the best of these was a compact bush 3 ft. through, 2 ft. 6 ins. high from the rim of the pot, with leaves of a beautiful dark green colour right down to the pot. The other two plants were, if anything, taller, but not so broad, and with much stronger and longer spikes, one of which I measured and found to be no less than 16 ins. in length, including seed-vessels and flowers.

Gloxinias are well grown here, too, and in flower every month of the year. They are brought forward in batches of twelve to eighteen; those expanding their flowers now promise to be good, and the largest is 27 ins. over in a 5½ in. pot. I have only once before seen these so good, and that at Messrs. James Veitch & Sons, Chelsea. Early forcing is successfully carried out in this garden. Strawberry gathering commenced this season on the 1st of March, and Melons, Peaches, and Grapes, were ready in the third week in May. Four kinds of Strawberries are forced, Keen's Seedling, La Grosse Sucre, President, and Sir Joseph Paxton, and they have done so well this season, that not one per cent. has failed to flower, after the first batch, and as evidence of their vigour, I may mention that as many as fifty flowers have been counted on some plants. The runners are secured as early as possible and laid in small pots, and as soon as rooted they are taken from the parent plants and potted on.

Cucumbers and Melons are grown in the same house, the former occupying the north side in summer and the south in winter, and I have seen them look as well in January as we occasionally see them in June. Tomatos are also grown largely here, huge clusters hanging over your head when passing through the Pine stoves, where many good-shaped fruits of the latter afford good evidence of the treatment they receive. In short, I may say, that every department, both indoors and out, reflects much credit on the industry of Mr. Roberts, the head gardener.—*Visitor.*

HERBACEOUS AND ALPINE PLANTS.

Talk of judging! it was a very serious business indeed to have to deal with these, at the great National Horticultural Exhibition at Manchester, as they were so numerous and wonderfully fine. In the nurseryman's class, for the best collection of hardy herbaceous, bulbous, and Alpine plants, Messrs. James Dickson & Sons, Newton Nurseries, Chester, were the only exhibitors, putting up a fine group, among which appeared Liliums, Delphiniums, Alstrœmerias, Spiræas, Gladiolus, Iris, Pæonies, Canterbury Bells, Phloxes, Dianthus, &c. On the opposite to this they set up a group of hardy herbaceous and bulbous plants, in or out of flower, all of them large and handsomely grown specimens ranking in importance next to the Orchids. In this class also they were the only exhibitors, setting up fine pots of the following Lilies: Speciosum rubrum, candidum tigrinum, Brownii, testaceum, giganteum, longiflorum, Szovitzianum, auratum, and Harrisii; Œnothera Youngi (yellow, very showy), Delphiniums, Miss Mary Russell (bright blue and bronzy pink), and Belladonna, Carnation Gloire de Nancy, Gladiolus Blushing Bride (white with carmine stains on the upper florets), G. Ardens and G. Colvilli albus, Anthuricum liliastrum, Campanula percisifolia fl. pl., C. Burghalti, C. Van Houttei, Lupinus polyphyllus, and its variety albus, Hyacinthus caudicans, Dianthus magnificus (crimson), Spiræa aruncus, Tulipa persica, Francoa appendiculata, &c. Never before have we seen anything in the way of exhibition herbaceous plants done so well as these. In the class for forty Alpine plants, Messrs. T. W. & A. Standsfield, nurserymen, Sale, were first with a fine well-grown evenly-balanced lot grown in large pans, of Primula sikkimensis, P. farinosa, Armeria maritima alba, Lychnis viscaria splendens, Saponaria ocymoides superba, Pent-

stemon nitidus, Saxifraga Hostii, Ramondia pyrenaica, Geranium cinerium atro roseum, Veronica prostrata, Aster alpinus, Dianthus alpinus, &c. We unfortunately omitted to note the second prize collection. Messrs. Paul & Son, the Old Nurseries, Cheshunt, being third, having smaller plants but containing some good subjects, such as Saxifraga lantoscana superba, S. McNabiana, Lithospermum graminifolium, Cypripedium caudatum, &c.

In the amateurs' division for the best thirty herbaceous and bulbous plants, Mr. W. Plant, gardener to R. P. Gill, Esq., Ashton-on-Mersey, was first with Spiræa palmata, S. aruncus, Aquilegia chrysantha, Erigeron cœrulea, Centaurea montana rubra, Hemerocallis flava, the true old double white Rocket; Lilium aurantiacum, Campanula grandis, Saxifraga pyramidalis, Galega officinalis, &c.; second, Mr. Cole, gardener to J. Broome, Esq., Woodlawn, Didsbury, with Scilla campanulata, Caltha palustris fl. pl., Spiræa japonica, Campanula Van Houttei, Lilium auratum, L. Harrisii, Aquilegia Witmannia, Mimulus cardinalis, Orchis maculata, &c. In the class for thirty Alpine plants, Mr. Broome was first with an excellent lot, comprising Saxifraga pyramidalis, S. lantoscana, S. cochleata, S. caryophylla, Phyteuma comosum, Dianthus glacialis, Globularia bellidifolia, &c.; second, Edward Wright, Esq., Northenden, whose chief subjects were Saxifraga aizoon, S. pyramidalis, S. lantoscana, S. cotyledon, S. altissimum, Gentiana verna, Veronica prostrata, Ourisia coccinea, and Cheiranthus alpinus.

But what can be said in sufficient praise of the wonderful collection shown by Messrs. Backhouse & Son, nurserymen, York. It was a very extensive one, and contained many subjects of great interest; prominent were Potentilla splendens, white; Ourisia coccinea, Vinca pyrenaica, Gazonia pavonia major, G. longiscarpa, Myosotis rupicola, Pentstemon Lewisii, Arenaria Laucheana, rosy red; Chrysanthemum Puyde Doome, Dodecatheon integrifolium, Lithospermum graminifolium, L. tinctorum, Iberis sempervirens plena, Myosotodium nobile, Ixiolirion tartaricum, Ramondia pyrenaica, Achillea Clavenæ, Cypripedium calceolus, C. macranthum, C. acaule, Pinguicula grandiflora, Todea superba, Megasea purpurascens, Allium Ostrorskianum, Hyacinthus amethystinus, &c.

NEPENTHES FINDLAYANA.

In a previous issue, November 28th, 1885, we gave illustrations of two of the finest pitcher plants in cultivation, N. Rajah and N. Mastersiana, and now give the portrait of a third which gives promise of becoming as popular as the last named. Nepenthes Findlayana is a garden hybrid, with very bright and handsome pitchers, the marbling of reddish crimson on the bright yellowish green ground, being both striking and effective. It belongs to that section, not a large one, of which N. Mastersiana is such a conspicuous example, and which produce their pitchers so freely, that anyone not generally successful with Nepenthes, may procure with the moral certainty of having no difficulty with it. The plant was introduced into commerce by Mr. B. S. Williams, of Holloway, who grows these plants so finely in his large Nepenthes house, and to whom we are indebted for the illustration.

Nepenthes Findlayana.

THE CLAPTON NURSERIES.

A visit to this well-known establishment is always sure to be amply repaid, and particularly is this the case at the present time. The display of Cattleya Mossiæ is simply grand; seldom has it been my privilege to witness such a sight. The absence of inferior varieties is indeed remarkable; the form and colour of the flowers, which could be counted by hundreds, is very fine indeed. At the time of my visit C. Reineckiana, and the white form, C. Wagnerii, were both in bloom, the latter a fine plant carrying half-a-dozen fully-expanded flowers, a veritable gem, which many would doubtless be proud to possess. Some very good forms of C. Mendelii were also in flower, as also was a plant of C. gigas Sanderiana, with many more of the latter to follow, some of the bloom-buds being already out of the sheath. A batch of Vanda teres, growing fully exposed to the sun, were flowering quite freely; quite small plants I noticed were carrying flower-spikes. Many Dendrobes, too, were flowering; among others I might mention D. Bensoniæ, a most useful Dendrobe and a free grower, D. crystallinum, transparens, Cambridgeanum, aggregatum majus, Lowii, and last, but certainly not least, the pure white D. Dearii, a most beautiful species, which was growing most vigorously in one of the warmest houses. Cypripediums, too, are well represented by flowering plants. Among the numerous C. Lawrenceanums I noticed some highly-coloured varieties; C. Hookeriæ, Lowii, lævigatum, and many others being in flower, among them the distinct and pretty C. niveum. In a span-roofed house, running north and south, some fine varieties of Odontoglossum Roezlii, and the white variety, O. Roezlii album, were in flower; and suspended from the roof, growing in teak baskets, were several plants of the curious, and at the same time pretty, Paphinia rugosa, each plant carrying a pendulous spike bearing three or four flowers. Another curious Orchid was also in flower in the same house—viz., a species of Cycnoches, appropriately named the Swan Orchid, part of the flower bearing a striking resemblance to the swan, the head being simply reversed.

Thousands of Odontoglossum Alexandræ and varieties are here growing like weeds; a good number, too, were in flower—not a "starry" one among them, all being fine and full. Many of the supposed hybrid varieties have flowered among them, and are continually appearing. One I saw in bud looked very distinct and heavily spotted. It is but a short time since one of the finest varieties that have yet flowered appeared here. A span-roofed house of Masdevallias were looking the picture of health; several plants of M. Harryana, Lindenii, and others were flowering, and at one end were a nice lot of the comparatively rare M. racemosa Crossi. I need, perhaps, hardly mention the Phalænopsis, for which Clapton has long been famed. Some fine forms of P. amabilis are still flowering; P. Luddemanniana and the tiny rosea are also in flower, and a plant of P. Sanderiana just about to expand its flowers

gave promise of being a finely-coloured variety. Several plants of P. Schilleriana were growing on pieces of tree branches, apparently as much at home as if still in their native habitat, literally covering the blocks with fine fleshy roots.

A fine batch of Cœlogyne ocellata in an adjoining house are growing freely, in nearly every case a flower spike appearing with a growth. Among the Aërides at present in flower are some fine spikes of the Foxbrush, A. Fieldingii, and the sweetly-scented A. maculosum, as as well as the dwarf-growing A. affine roseum, suspended in baskets on the roof; a number of the pretty Saccolabium ampullaceum are also flowering in the same house. Numerous other Orchids are also flowering in the various houses, but I cannot stop to enumerate them all. The above is only from mental notes, and can only give but a faint idea of what the plants named are really like. The stock of imported plants is both large and varied; fine masses of different varieties of Dendrobe not yet potted up were lying in one house, and among them were said to be some of the finest varieties of D. nobile yet introduced.—*J. S. Brown.*

ROYAL HORTICULTURAL SOCIETY'S LIVERPOOL SHOW.

The great Provincial Show of this Society will be held in the Botanic Gardens and Wavertree Park, Liverpool, from June 29th to July 5th, 1886, inclusive, the prices of admission being 5*s.* on June 29th; 2*s.* 6*d.* on June 30th; and 1*s.* on July 1st, 2nd, 3rd, and 5th. The show will be open to Fellowes of the Society at 12 noon on June 29th, and to the public at 1 p.m., closing at 7 p.m. On other days the hours of opening and closing will be 10 a.m. and 7 p.m. respectively, except on Saturday, July 3rd, when the hour of closing will be extended to 8 p.m.

Numerous varieties of plants, fruits, flowers, vegetables, horticultural implements and appliances, will be exhibited, for which, under various classes, the sum of £1,200 will be awarded in prizes. These prizes are open to all competitors who reside in the United Kingdom, but no exhibitor can obtain more than one prize in any class. Valuable awards, ranging from £1 to £20, are offered for Orchids and other species of plants; also for cut flowers, fruits and vegetables. Table decoration, bouquets, and grouped garden produce will greatly augment the attractiveness of the show, as well as offer substantial benefits to successful competitors. Eminent firms of seedsmen have offered prizes for various kinds of vegetables which are, severally, among the specialities, and a most novel and interesting exhibition will be that of horticulture on board ship, for which medals will be awarded according to merit.

On Saturday, July 3rd, and Monday, July 5th, there will be a Cottagers and Artizans' Show.

The exhibits of Horticultural and Botanical Literature, Science, and Art, will be divided into three sections:—

Section A—Home and foreign literature of gardening, embracing instruction (elementary and advanced), models, diagrams, apparatus, etc.

Section B—Technical art, such as surveying, plan and architectural drawing.

Section C—Botanical and decorative art, such as photographs, and drawings in water colours and oil, of flowers, fruits, trees, and garden landscapes. An incentive to amateurs is offered in a competition for a hand-painted china or terra cotta vase, tile, or plate, the subject being flowers, fruit, or foliage. The awards will be a silver-gilt, silver, and bronze medals.

Applications for space for implements, garden structures, tools, and appliances, have been numerous, including space for boilers entered for the Boiler Contest. All modes of heating, ornamenting, and ventilating conservatories, &c., meteorological instruments, wirework, tenting, &c., will be prominently shown.

Certificates will be awarded for any special novelty, approved of by the judges, that may be brought under their notice; also one or more gold medals for the most meritorious aggregate displays in any or all of the classes.

There will be a Conference on the Nomenclature of Orchids on Wednesday, June 30th, in which some of the most eminent men of the day will participate. The whole exhibition will be one of great interest and value, not only to the general public, but also to scientists and practical gardeners; and persons intending to visit the International Exhibition of Navigation, Travelling, Commerce, and Manufacture, should make a point of doing so while the Royal Horticultural Society's Show is in operation.

The main entrance to the show will be at the junction of Wavertree and Exhibition Roads, while another has been provided for at a point in the Exhibition Road opposite to the main entrance of the "Shipperies," so as to enable visitors to pass freely from one exhibition to the other. With the exception of the space occupied by one large tent, which will be filled with Roses, and one or two smaller ones, the whole of the Botanic Gardens, including the lawns, will be available to visitors as a promenade.

HARDY PLANTS IN FLOWER.

The great army of hardy flowering plants coming as they do at this season in such quick succession, and so profuse with their flowers, cannot but arrest the attention of even those who do not care to speak in eugolistic terms respecting them. This may be for a variety of reasons, but primarily, no doubt, it is owing to the fancy of the class to whom I have referred laying in another direction. Well is it that it should be so, as now we see all classes of plants, more or less, frequently grown according to the particular tastes of individuals. But no one will discard our choice hardy plants, I am sure, from arbitrary motives, especially in these days when cut flowers of all descriptions are eagerly sought, and more especially those that you can cut at and come again. Of these there are plenty, and while not confining my present remarks to them, I will include the best of what are in flower at the present time.

The Yellow Tree Lupin.—One of the most pleasing of Lupins, both for delicacy of colour and for its unequalled fragrance, is the Yellow Tree Lupin, L. arboreus. This plant, with years, will attain to 6 ft. high and as much through; here then is a noble example of the "cut and come again" class of hardy plants, a dense bush, and as densely laden with spikes of soft light canary-coloured flowers. I will ask my readers to imagine a giant specimen, such as I have described, its spikes of flowers issuing from its small glistening glaucous leaders; imagine it, too, an impenetrable mass of flowers situate high on the rockery, and gracefully bending towards the observer, such then is the yellow tree Lupin, which lasts for weeks in perfection, is among the very hardiest of plants, and may be used in spacious rockeries, in shrubberies, or in the open border; and further, if you would give it the best of all chances, plant it in a deep rich soil in an isolated position on the lawn. The best proof of its hardiness, is that it has withstood our past severe winter with impunity. Of other Lupins which are herbaceous in character, there are good forms of polyphyllus, apart from the type among which the white is very good just now.

Day Lilies.—Writing about yellow flowers, I am reminded of the bright golden, fragrant, trumpet flowers of Hemerocallis flava, so charming and good, so profuse too, but unhappily not so enduring as the majority of perennials, but which deficiency is fully met in the great profusion of its flowers, it is 2 ft. 6 ins. in height, and the flower stems rise from broad grassy tufts of leaves. A plant near akin is H. thunbergia, rather dwarfer in habit, and of a deep golden hue.

Onosma taurica.—Another yellow gem, and especially so for the select border or rock garden, is the yellow-flowered Onosma taurica, a member of the Boraginacæ, which has no equal among the great host of alpines. Its flowers are arranged in pendant cymes, in colour they are light golden or canary, tubular in outline, and fragrant. It grows from 1 ft. to 15 ins. high, and forms slightly spreading tufts of leaves which bristle with short stiff hairs; it prefers sandy loam and plenty of grit.

The genus Lychnis gives us one or two highly coloured flowers, of which the best are L. diurna fl. pl., and L. viscaria splendens fl. pl. The former has compact tufts of obovate somewhat wooly leaves, and deep rose coloured flowers on stems 2 ft. high, and the latter forms tufts of linear-lanceolate leaves, grows about 15 ins. high, and has branching rather pyramidal spikes of rosy crimson flowers. This latter is one of the best flowering plants at the present time, the rich colouring of its flowers, its dwarf habit, and its enduring qualities being all that could be desired; and lastly any ordinary garden soil seems to suit it.

The Double-flowered Rockets are still in their prime, and as old garden favourites need no words of mine to recommend them, their massive spikes of purple and white, of that fragrance which is so eagerly sought, have long since made them popular; popular in the days of our forefathers, ere the Tom Thumb Pelargonium had its being, and popular now despite that infection "the scarlet fever," which for many years spread so rapidly through our gardens, and which for the time being dealt such a fatal blow to so many of our best hardy plants; happily, however, these with others escaped, and who among us regret it to day?

The Double and Single-flowered Pyrethrums and German Irises are now grand, and will afford room for a special note, and of which I hope to be allowed to say a few words in some future issue, suffice it now to say that no two genera can compare with these at the present time, either for delicate colouring on the one hand, and the rich gaudy flowers on the other. Of

Bulbous Plants in flower not many are to be seen just now; some few Liliums, however, are very good, and all assist in giving variety, and adding beauty to the garden. In this group we find L. pyrenaicum flavum, growing 2 ft. to 3 ft. high, with powerful fragrant flowers. It is an excellent border kind, and very hardy: and then to peep at something out of season, we have in a very late planted batch of

Anemone fulgens—that vivid scarlet glare which makes this so conspicuous when in flower. Here there is a lesson easily learnt, but none the less valuable for that: this batch of Anemone fulgens, numbering several hundred, were planted about the 20th day of March last—dry, shrivelled tubers, hardly worth the trouble, apparently, and which only those acquainted with their aptitude for retaining vitality for so lengthened a period would have anticipated; but here they are, in less than three months from planting, a blaze of flower such as few could realise, and which will continue—judging by the numbers of flower buds issuing from the soil—for some time to come. The lesson here then, in brief, is, that by successional plantings from October to the end of March, a constant supply of flowers may be had from the earliest months of the year.

The St. Bruno's Lilies still continue to expand their glistening white flowers: miniature Lilies, as it were, these are very fine perennials, and cannot be too strongly recommended. Botanically, they are known as Anthericum liliastrum. This is an excellent plant, though hardly to be compared with the variety, A. liliastrum major—a bold, telling subject, quite unique, which grows from 18 in. to 2 ft. high, and should be found in all collections of hardy plants. These do not, by any means, exhaust the present list of good things—far from it; they are rather only as a drop of water in the sea, compared with the numbers which space forbids me to mention now. More anon!—*J.*

DWARF RHODODENDRONS.

Amongst the host of claimants to popular favour in the varieties of Rhododendrons ordinarily grown in British gardens, we are apt to lose sight of a very pretty though less conspicuous group of dwarf species that are quite hardy, not difficult to grow, and which usually flower freely. In a few old gardens they may be found, but they are strangers in many where they would well deserve a place. One of these is R. ferruginum, an easily recognised plant, with elliptical leaves 3 in. long, covered on the under surface with small rusty brown dots to which the name applies, the flowers being funnel-shaped, of a pinkish purple colour, curiously dotted with grey on the outer part of the corolla, the stamens being hairy at the base. These characters will suffice to enable anyone to recognise this little shrub, which seldom exceeds 12 in. or 18 in. in height, and bears its flowers freely in May and June. It is rather later than usual this season, as the flowers are still fresh on our plants in a border facing the room where I am writing, where it grows in company with the others I am about to mention. R. hirsutum is rather more compact growing than the foregoing, and where it thrives can be cut into a neat little hedge as a margin to large beds, especially in what are termed American gardens. The leaves have a number of short hairs on the surface, the flowers are more reddish than R. ferruginum and quite as freely produced. The third species is R. anthopogon, which is about the same height as the two already mentioned, but is more

slender in growth, and has yellow flowers, a rare colour in the genus Rhododendron. It is rather tender, but here in a warm corner of Surrey it escapes injury, though it does not bear its flowers in great numbers. Has anyone tried to cross this with any allied species? I have tried it with the two named but have not succeeded in obtaining seed. If a race of dwarf hybrids could be formed with yellow, purple and red flowers, they would be attractive plants, and would probably become more floriferous than the parents.—*Surrey Amateur.*

FRUITS, FLOWERS & VEGETABLES.

Rose Prospects.—The weather that succeeded the frost and snows of March was such as to raise high hopes in the Rosarian's breast. Pruning was delayed rather later than usual, the wood proving firmer and in a better condition than could hardly have been expected after passing through such a trying ordeal. Early in May the plants had made a splendid start, the growth, although backward, looking in every way most satisfactory, the foliage being as clean and fresh as if grown under glass. But a change occurred on May 8th, which brought hail, rain, sleet, and frost; rain falling every day with the exception of two up to the 27th. The heaviest amount of rain registered was on the 7th, 0·20; 8th, 0·18; 9th, 0·26; 11th, 0·55; 12th, 0·76; 13th, 1·04; 15th, 0·30; 25th, 0·60; 26th, 0·20; 27th, 0·28; and 31st, 0·26. The amount for May reaching the unusual total of 5·57; the temperature during this continual downpour was very low, the maximum on the 13th, being 39°, on which day, in twelve hours, the rainfall was 1·37. This proved a most severe check, searing the foliage as if burnt with a hot iron, and in some cases blacking the centre of the young growths at their base and so making them useless. Those planted in November felt this strain acutely, and, although well protected by long litter, deaths occurred to about six per cent. During the present month they have made steady progress and are now as early as last season; disbudding was commenced two days earlier this year than last, the growth promising to be stronger than in previous years. A few Teas planted last November on a raised bed, protected by litter and mats to throw off heavy rains, have stood well, breaking into good growth and showing buds in advance of the H. P.'s. The minimum temperature is some 5° higher than this time last year, so that unless a very great change occurs the season will not prove an unusually late one, although "the Royal" show is quite ten or twelve days too early for Roses in this district. "Cuckoo spittle" is unusually prevalent this year.—*W., Liverpool.*

Double-flowered Ivy-leaf Pelargoniums.—In several places and in many different situations I noted these last year, and from their great beauty I could not help thinking they might appear in more gardens than they do in place of other and less worthy things. My chief object in mentioning them is to point out their usefulness and beauty as window-box plants. To my mind few plants can compare with them for this work, as their foliage is handsome and the flowers bright and lasting; they may also be allowed to hang over the fronts of the boxes or be grown as bushes if tied up. Mr. Henry Cannell, of Swanley, has a very fine collection of them, varying in colour from white to cerise, rose, scarlet, and crimson, and altogether better in doubleness of flower and habit of growth than the old kinds. Mr. A. Bradshaw, gardener to Baron Ferdinand de Rothschild, is a clever grower of this class, his pyramid specimens rivalling show plants of Azaleas in beauty, but they are more lasting. I believe these plants will be extensively grown, and they are well worthy of a place in any garden. They also grow admirably trained over trellises as window plants summer and winter.—*M. A., Camb.*

Pæonies.—How bold and striking are the Pæonies! There are two distinct types—viz., the tree Pæonies (Pæonia arborea), and the herbaceous Pæonies (P. officinalis). The former will grow in the open air in the warmer parts of the country, but they are liable to injury from frost; and yet the flowers are very fine that are produced by some of the varieties. We have this season seen them from 6 ins. to 9 ins. across, and of various colours—from white to deep crimson and purple. They should be planted in warm, sheltered spots, and where some trees, or neighbouring trees on the east and north, can screen the plants from the late spring frosts. They have a fine effect isolated on lawns, subject, of course, to having some shelter. We have seen them growing in pots in a cool Vinery in early spring, brought on into bloom under such protection, and then taken into the conservatory, where they are objects of great beauty for a time. The herbaceous Pæonies die down in autumn, renewing their foliage in spring, which produces flowers. They are so hardy that the most severe frost can scarcely injure them. The rich old double crimson Pæony must be known to many of our readers. It grows very strongly in a rather deep stiff loam, and not only produces its flowers freely, but also of large size and great fullness. It will do well under the shade of trees, but to be seen in all its beauty should have an open, sunny spot. There are now a large number of varieties of different colours—some delicate in tint, others rich and deep; but the most popular and most frequently met with are the crimson and scarlet varieties.—*R. D.*

Strawberry Viscomtesse Hericart de Thury.—This is an excellent variety, and a great bearer. Here it succeeds well on a yellow clayey soil, and has given great satisfaction. We gather the largest fruit for the dessert, and preserving whole with the stalks attached to the fruit. It is also one of the earliest kinds in cultivation, but in this respect varies according to locality and situation. It is also well suited for forcing in pots.—*J. R.*

Kershaw's Crimson Sycamore.—On a recent visit to the Slead Syke Nurseries, Brighouse, while walking through the quarters allotted to forest and ornamental trees, I was particularly struck with the splendid appearance of a quarter planted with a new Sycamore, the colour of the foliage of which formed a striking contrast with the bright vernal green foliage of the other trees by which they were surrounded. The leaves at first come out of a brilliant crimson colour, changing as they become older into a bright red, thus giving us in leafy June, and through summer onward, the beautiful autumnal tints so prevalent in some of our trees; as, for instance, the foliage of the Virginian Creeper, and others that may be cited. In ornamental and pleasure grounds, no doubt this Sycamore will have a fine and conspicuous effect, and will be a good companion for the purple Beech. I ascertained that it was certificated by the Royal Horticultural Society in 1884. Unfortunately, Mr. Kershaw has not been so successful in increasing the stock of it, as, relying on budding, it was found that the buds do not take so readily; however, other means of propagating it have been found, and it will most probably be sent out next year.—*B. L., Lindley.*

Paragon Rhubarb.—While in the nursery I took the opportunity to look over two quarters of Paragon Rhubarb, of about two acres in extent. This variety does extremely well here, and I must say that it does full justice to the high eulogiums that the raiser bestows upon it. At one end of one of these quarters, where the roots or crowns had not undergone the process of pulling, were some plants, of which I must certainly say that I never saw better, nor could anyone wish to have any better Rhubarb, taking all the qualities of colour, size, and quantity of stalks combined, especially the latter. To bring such a weight out of mother earth as some of the roots of this variety do, leaves one to infer that there must be something in the soil to recompense for it, as well as the peculiarities of the variety itself. I learnt that this quarter was planted in the ordinary soil of the nursery, where Broccoli had previously been, and it is the custom to give it an annual winters top-dressing, which helps to keep the crowns warm also. Mr. Kershaw grew this variety for many years prior to his removal to his present more extensive place, thus testing it thoroughly, and knowing it to be good, he determined to let the world have the benefit of it. In an ordinary spring and summer, he calculates to pull at the rate of £50 an acre. It is a cross between the Victoria, and the old Tobolsk, a variety almost extinct. Referring to Mr. Gilbert's note in a recent number, I may say that Mr. Kershaw does not claim that it is the earliest, but that it is early; nor does he think it has been sufficiently long out in the country to establish itself, and to test its true merit. But for earliness, flavour, colour, and productiveness combined, it stands without a rival.—*B. L.*

A Variegated Rose.—Two years ago one of my Rose trees, Thomas Mills, sported, one of the shoots came variegated, white and green tipped with pink. I budded it, and did so again last year, it is now very pretty, just like Fuchsia Sunray. It is almost entirely white, tipped with pink, with an occasional small spot of green in the leaves. It is now coming into bloom for the first time, and if the blossom be as curious as the foliage it will be a great curiosity. I have had considerable experience in Rose-growing, and never saw anything like this before, neither has anyone to whom I have shown it, amongst whom are several nurserymen of large experience. Has such a freak of nature come under your notice before?—*J. L. L.* [We have no recollection of having seen a sport of this character.—Ed.]

Cuckoo Spittle.—I was somewhat surprised at the statement made in a short paragraph of your last week's paper, respecting this peculiar insect, viz., that it makes a small puncture in the stem of the plant on which it is found, and that the frothy material by which it is always surrounded is drawn from the plant. I am not in a position to flatly contradict it, though I have always been under the impression that the frothy surrounding was generated by the insect itself. I have frequently dislodged them from plants, but could never perceive such puncture. Of one thing I am certain, it should always be destroyed when found, for the leaves on which it fixes itself seldom do much more good. I have always been led to think that it was of a poisonous nature. Let me state a fact respecting it. I took one from the leaf of a Chrysanthemum some six weeks ago, and was careful to mark the particular leaf and plant, in order that I might watch the result. The leaf in question seemed to remain at a stand still for a week or ten days, after which it began to curl up into a tiny ball, gradually appearing to get less, when about a week ago I removed it from the plant as being useless. I perhaps ought to mention that every other leaf on the same plant is exceedingly stout and vigorous.—*George Kidson, Hull.*

Orange Rust on Roses.—Will some of your readers kindly advise me as to the best means of getting rid of orange rust on Roses?—*S.*

Wire-worms in a Vine Border.—I have a newly planted Vinery, the borders of which are literally swarming with wire-worms. The Vines were planted in February, and some have made a good growth, both in rod and at the roots, but others have not. I have been trapping with potatos and oil-cake for six weeks, and have destroyed at least 5,000 wire-worms in a border 60 ft. long, and 25 ft. wide. My friends say I must be thinning them out; I know I am catching the big ones, but how about the young ones? Can you tell me whether there is any other means of getting rid of them—any liquid that can be applied, to kill young and old, without injuring the roots? I have been advised to try ammonia water, but I know nothing about it. I have a kitchen-garden in the same state; what would you advise me to do with it?—*D. R.* [In the case of the Vine border, we can only advise you to persevere with the oil-cake; but perhaps some of our readers can suggest a more expeditious method. In the kitchen-garden, you should take advantage of any ground being unoccupied, to give it a liberal dressing of salt, say at the rate of 6 cwt. to 8 cwt. per acre, in cloudy weather, and hoe the ground frequently for a time, to well mix the salt with the soil.—Ed.]

THE FERTILIZATION OF ORCHIDS.

(Concluded from p. 646.)

Cross and Self-fertilisation.

The beneficial effects of cross-fertilisation may be inferred in the abstract by its almost universal occurrence throughout the great Orchid order. In fact there can be little doubt that it has been the leading and most potent factor in the production of the immense variations of form, colour, and habit, which we now find. The mere act of fertilisaton introduces a new element, a physiological potential to further development, and initiates the very origin of change. The offspring resulting from cross-fertilisation possessing a renewed or re-invigorated constitution, will be able to compete successfully against their less favoured relations for the suitable places of the earth's surface most adapted to their well-being. In favour of this view we find the largest and most highly developed, as a rule, producing the largest flowers, and adapted to suit the convenience of large insects; while both insects and flowers of this type may be looked upon as the aristocracy of their kin. Cross-fertilisation would also affect the area of the dis-

tribution of a species by giving rise to individuals better adapted to withstand a greater degree of heat or cold than the parents, and abler in many ways to accomodate themselves to their surroundings and changing circumstances.

Self fertilisation, on the other hand, is a last resource to save a species from utter extinction that has from some cause or other ceased to be insect-fertilised, either through the extinction of the insect, or owing to one or other having migrated or shifted its geographical distribution independently of the other. Close competition with other more highly attractive flowers might limit the number of insects visits, but such might still be occasionally cross-fertilised, and it is questionable whether this does not happen to those that are usually self-fertilised. The loss of the proper insects, however, have doubtless been the cause of much extinction of species and forms. In Ophrys apifera the whole pollen masses, owing to their own weight and the slenderness of the caudicles fall out of the anther-cells and are easily blown against the stigmatic disk while daugling by their glands. In several other species of the same tribe that are known to be self-fertilised, the pollen masses by a degradation of their connecting tissue, fall to pieces and drop on the stigma. The same thing happeus in some of the Neottieæ. The filament of the anther in some species of Dendrobium is highly elastic and contractile, and in D. chrysanthum, serves to scoop out the pollinia when the anther-cap has been disturbed by an insect or other means. The pollinia falling on the labellum are caught up by the latter as it regains its position and thrown against the stigmatic disk where they adhere. This is what happens, provided the insect fails to remove them in the proper way. Self fertilisation also takes place in the same species by the pollinia remaining *in situ* and emitting their pollen-tubes into the copious sticky matter produced by the degradation of the rostellum, and so passing directly into the stigmatic disk. This occurs regularly and without external aid in Chysis aurea.

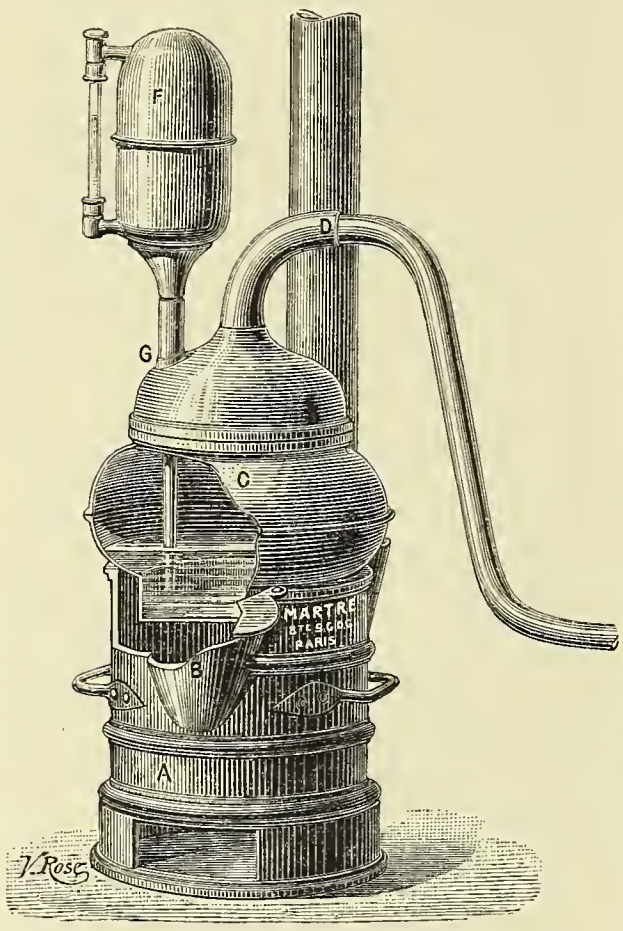
Seeds.

When the pollinia are applied to the stigmatic disk the ovules are not even perfectly formed. The column, however, commences to grow almost immediately and swells to a great size, in some species at least entirely enclosing the pollen masses and quite losing its original appearauce. The pollinia now undergo their final developmental changes, preparatory to the emission of the pollen-tubes that find their way down the column and ovary to the microphyle of the ovules in immense numbers. The enormous number of ovules or seeds after fertilisation is a remarkable feature of the order. We have already seen that the pollen leaves its parent cell, before having completed its final development, and the same thing applies to the seed which is matured and desseminated before the embryo has attained anything more than a mere morula-like mass, without differentiation into radicle, plumule and cotyledons as we find in most Phanerogams. This is an obvious mark of low organisation, and, however perfectly adapted to the surroundings in the primeval condition of the order, when our planet presented totally different climatal conditions and accompanying circumstances, influencing and affecting plant-life. The seeds of Orchids are at the present day unable to compete with those of Phanerogams, developed along different lines and more adapted to accommodate themselves to the existing order of things. This applies more especially to British Orchids and to temperate countries generally, where the native Orchids may be looked upon as a remnant of what they have been, and as gradually becoming extinct rather than extending their area of distribution.

There can be little doubt that the weak point of this otherwise highly developed order lies in the imperfectly developed embryo. The infinitesimally minute and light seeds are admirably adapted for distribution by the wind and other agencies, and this provision serves for their transportation to the often elevated positions occupied by epiphytes, but this is all. A single capsule of some of our commoner native species would produce over 6,000 seeds, while some of the exotic Maxillarias have been calculated to contain about a million. This number is probably much exceeded by Cattleya gigas, and seeing that the progeny of the third generation of a species producing the lowest mentioned number of seeds is sufficient to cover the entire surface of the globe with plants, it is very obvious that a very small percentage ever become plants at all. Their minuteness and the very little nutriment they contain precludes the idea that they offer great temptations to, and are destroyed by birds. Again we see that our native Orchids thrive admirably when they have succeeded in establishing themselves, a fact which suggests the idea that they either do not germinate or are killed in the process of germinatiou or soon after. The length of time they require to complete this process must be fatal to their well-being in this our changeable climate, where the necessary conditions as to heat and moisture are too inconstant and variable to allow the seedlings to establish themselves; whereas, the seedlings of other plants are ready to spring into life and activity upon the accession of the proper degree of heat and moisture, those of Orchids are unable to do so. —*J. F.*

A TOBACCO VAPORIZER.

Mr. Charles Joly, of Paris, who is always doing good suit and service to horticulture, by publishing reports and notices of a useful character on all sorts of interesting subjects, has lately called attention to an invention by one of his countrymen, M. Martre, 15, Rue



M. Martre's "Thanatophore."

de Jura, Paris, for distributing the vapour of tobacco in plant houses. The "Thanatophore" or tobacco vaporizer, of which, thanks to M. Martre, we are enabled to give an illustration, has been designed to meet a want felt among continental growers, who have adopted the plan of filling their houses with the vapour of tobacco, instead of tobacco smoke. Horticulturists, in all times, have ever been desirous of adopting the most efficacious means of destroying the numerous insect parasites which infest their plant houses. To wash the leaves as is usually done is a long and tedious operation, and by this means one cannot always reach the pests, nor is the practice applicable to the flowers. Fumigating with tobacco is certainly effective to a great extent, but the process has its disadvantages in the injurious effects of the oxide of carbon, sulphuric acid, and other deleterious gasses, which fill the house when the fire is introduced, if not very carefully done. All this to a great extent is avoided by the new method of vapourizing the tobacco, by the means lately mentioned in our columns, and still more so by doing it with the "Thanatophore," which by being kept outside the house prevents anything but the vapour of Nicotine from entering. Mr. Joly assures us that the process is a great improvement on all former methods.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.—With bright sunny weather comes an extra need for vigilance in looking after thrips, both black and yellow, and wherever they are known or suspected to be, the sponge and tobacco-water should be unceasingly used among the plants. Vigilance in keeping them down is great thing, for come they will, and bad work will the they make if not looked after. Soon even the Carnation blooms outdoors will be covered with thrips, and we need not wonder or blame anyone if they appear in the Orchid-houses. If, however, the requisite amount of attention is given they may easily be kept under.

In collections so unfortunate as to possess it a watch should at all times be kept for the Cattleya-fly and grub, illustrated in The Gardening World, p. 588, vol. i., the fly especially being looked after in order to secure it before it can pierce the plant. Any suspiciously gouty-looking buds of Cattleyas (care being taken to make sure if they are bored or not) or gall-bearing points to roots should instantly be cut off and burnt. As a rule, it is easy to tell the injured buds, as they swell into a bulb-like form at the base, and show no inclination to grow upwards in the usual way. These gall-making insects are a great pest, and as one or two collections having them have been lately distributed, we may be sure they will appear in fresh places. This word of warning, therefore, will not be out of place, as they are to be exterminated if taken in the early stage, but terrible to deal with if once allowed to establish themselves.—*James O'Brien.*

The Orchids at Manchester.—If we were to search Great Britain over at any season of the year, it would be well-nigh impossible to get together such a truly grand display of Orchids as has been on view in the Botanical Gardens at Old Trafford during the past week. They were essentially the leading feature of one of the best exhibitions the Manchester Botanical and Horticultural Society has had since the Whitsuntide series was commenced nineteen years ago; and than the magnificent examples staged by Mr. George Hardy, of Timperley, probably nothing finer has ever been seeu anywhere. Mr. Hardy showed in five classes, and scored four firsts and a secoud, au achievemeut of which both he and his clever gardener, Mr. J. Hill, have every reason to be proud. Mr. Hardy's first prize collection of fifteen will long be remembered by the Orchid fanciers who saw the plants, and they worthily held the post of honour in the new show house. The collection comprised Odontoglossum vexillarium, a sheet of blooms 3 ft. over; Dendrobium Wardianum, with fourteen long spikes of flowers; Dendrobium Paxtoni, 5 ft. through, and nearly as high, and superbly bloomed; Lælia purpurata, with a dozeu spikes; Odoutoglossum vexillarium roseum, 2 ft. over, remarkably fine; Cattleya Mossiæ, 3 ft. in diameter, a dense mass of flowers; Vanda suavis, with seven spikes; Cypripedium superbiens Veitchii, with twenty blooms; C. caudatum, with eight fine flowers; Aërides odoratum, a good mass; Cattleya Meudelii, a grand plant with fourteen flowers; a splendid mass of Cypripedium Lawrenceanum; a good Dendrobium suavissimum; and Cypripedium Stonei, with six spikes, a wonderfully beautiful plant. The second prize was takeu by Mr. J. Cragg, gardener to A. Heine, Esq., Fallowfield, who is coming to the front iu good style, but was rather weak in this class, having thrown his strength into the next class, for nine. Mr. A. Cole, gardeuer to J. Broome, Esq., Didsbury, was third.

The leading collection in the class for nine, set up with good judgment by Mr. Cragg, included a grand specimen of Calauthe veratrifolia with twenty-one spikes; a Cattleya Mossiæ, nearly 5 ft. over, with about 125 flowers, a splendid mass; a very fine C. Mendelii; Dendrobium Devonianum, a wonderful mass of spikes, 4 ft. through; Deudrobium Paxtoni, 5 ft. high and 4 ft. through, splendidly bloomed; a remarkably good mass of Cypripedium Lawrenceanum; and a mass of Odontoglossum crispum, 4 ft. through, but horror of horrors made up of all sorts of varieties. The leading plants in Mr. Hardy's second prize group were a beautifully-bloomed piece of Dendrobium Jamesianum, a glorious mass of Odontoglossum vexillarium roseum, 4 ft. in diameter, Cypripedium Parishii, with eleven spikes, and a splendid mass of Masdevallia Harryana. Mr. Elphinstone, gardener to Johu Heywood, Esq., Stratford, was third, with a neat collectiou of small,

well-grown plants. With six plants Mr. Hardy again came in first; Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, second; and Mr. Elphinstone, third. The next class was one for ten plants, *bonâ fide* specimens, and here Mr. Hardy again came to the front, his best examples being of Brassia Lawrenciana and Dendrobium crassinode Barberianum. Mr. A. Cole was second. For six Cattleyas in flower, Mr, Hardy again beat Mr. Heine's gardener, showing three very fine masses of C. Mossiæ, a fine variety of C. Mendelii, and a C. Skinnerii with eighteen spikes, a lovely mass of colour. With three Vandas in flower, Mr. Cole was first, showing one of the grandest plants of Vanda teres Andersoni we have ever seen, a specimen 4 ft. high, 3 ft. in diameter, and superbly bloomed; another splendid specimen, but smaller, of V. teres, and a V. suavis with seven spikes.

In the nurserymen's classes, the leading exhibitors were Mr. Cypher, Cheltenham; Mr. H. James, Lower Norwood; and Messrs. Heath & Son, Cheltenham; Mr. Cypher being first for sixteen, Messrs. Heath & Son second, and Mr. James third; while for ten the awards went to Mr. James, Mr. Cypher, and Messrs. Heath in the order named. All showed well, but were far surpassed by the amateurs' contributions.

Dendrobium thyrsiflorum.—A splendid specimen of Dendrobium thyrsiflorum is now in full beauty at Camp Hill, Woolton, near Liverpool. It is an old established plant in an 8 in. pot, and bears eighteen massive spikes, one of which is carrying no less than fifty-two flowers of good size and colour; Mr. Jellicoe is to be congratulated on the culture of of this fine specimen.—*W.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Having got rid of bedding stuff, the different plants which have been forced such as Lilacs, Roses, and Azaleas (of the Mollis type), which have been stowed away must be attended to, or they will be of little service for next season. Let all be taken to the potting bench and examined as to whether they require potting and, also, to see whether the drainage is perfect; those that require potting should be given the smallest shift practicable, for in all forced plants over-potting is a great injury and a frequent source of failure. After all are examined, if a coal-ash plunging border is not available, choose an open western position in the garden for the purpose, but in plunging in soil it is advisable to place a piece of slate underneath each pot or they will be full of worms in a very short time and cause a lot of trouble, added to which they will not thrive as well; all these plants will be greatly benefitted (Rhododendrons and Azaleas excepted) by a dose of liquid manure once or twice a week, and in the spring give a good return for this little attention.

Salvias will now require potting on, but be careful not to overdo it, they flower much more freely if pot-bound; 8 in. pots are abundantly large. After being potted, if they have been hardened off they may at once be placed outside. A good plan is to grow them side by side with Chrysanthemums, treated in the same manner through the summer months they make really good stuff, which will flower all the winter through and be found most useful. If by any means the Chrysanthemums are not all potted, lose no time in completing the work, it is now quite time this was finished, or else from the unripened, undeveloped wood, when flowering time comes a poor show of flowers will be the result; the plants may be to all appearance right, but depend upon it if the final shift is given too late failure will follow. Look well to the plants in the stoves, and see that insect pests are not allowed to establish themselves or they will play sad havoc, more particularly with the points of Crotous, and the leaves of Dracænas, the last named may be readily cleaned by sponging; the former are better if syringed with paraffin oil mixture as advised some time since.

THE FRUIT HOUSES.

If the early batch of Melons are fairly healthy after the fruit are all cut, the plants should be encouraged to grow as freely as possible, so that plenty of good foliage may be secured and the old be pruned away, or it will soon become dirty; regulate the young growths, and just at the time when they are coming into flower, renew the bottom heat, they will then "set" quite freely, otherwise it may be somewhat difficult to secure a good crop, in fact, very much depends upon the constitution of the plants, and the age of the seed from which the plants were raised; Melon seed, as a rule, should not be used the season after being saved, unless it is a very tender variety, then it is advisable. Cucumbers will now require constant attention or they will speedily over-run; if in frames, water and syringe freely; but at the same time stop freely or foliage instead of fruit will be the reward, being such hungry subjects they must be liberally treated. If grown in houses there is danger of their becoming dirty if not thoroughly well attended to in every way, that is, by frequent light top dressings, and feeding with liquid manure, carefully training and pruning, and also shading from the strong sun, and replanting so soon as the plants shew signs of distress, in this way plenty of good fruit will be secured.

The weather still compels us to keep the fires going for the Vineries, more particularly in the evening, or the houses become very chilly, which must be avoided, of course, on wet or stormy days firing must be resorted to always. We yesterday gave the inside border of the Muscat house a good mulching of manure from the fold yard, and a watering to carry a part of the benefit hoped for to the roots; the early vinery must also not be neglected at the roots as is very frequently the case, for should the border become dry the grapes will not keep colour for any length of time, particularly early in the season, in fact, it is advisable to mulch all inside borders, especially early and mid-season houses.

THE KITCHEN GARDEN.

The stormy weather, although in a measure retarding work, allows of the thinning of the different seed-beds to be carried on quickly, the surplus drawing very readily, any weeds in the rows being of course removed at the same time; the frequent showers greatly benefit newly-planted green-stuff, such as Savoys, Cauliflower, late Brussel Sprouts, and so on, which must be put into their quarters as soon as possible, they will quickly take root, and so save much labour in watering. The storms have prevented us completing the moulding of Potato squares, and we are becoming somewhat anxious as they make such a rapid growth, and unless the weather holds up, it cannot be done, as it rains with us almost every day, and the temperature reminds one of autumn rather than the flowery month of June.

If hoeing cannot be done hand weeding must be resorted to, as if the weeds seed, endless trouble will be given; remember the adage "one year's seeding gives seven year's weeding," so be careful. If the late batch of Celery is forward enough let it be planted out while the weather is favourable; look well to the sowing of all kinds of salads, so that the supply of them may not be short. The trees on the walls will now need attention, Peaches will have been disbudded. Apricots we have finished tacking, also the Cherries which have been netted, to protect from the birds. The greater part of the Pears are finished, and next come the Morello's. The seedling-asparagus beds must now be singled out, in short, use every endeavour to keep work within bounds.—*Walter Child, Croome Court.*

FLORICULTURE.

Pansies and Violas.—What a remarkable feature the Pansies and Violas in pots always are at the Great Whitsuntide Exhibition at Manchester. It is true they are made up plants, but, then, what is allowed in Orchids must be permitted in Pansies. Several plants are put into an 8-in. pot; but in most cases they are so well done that at first sight it might be supposed they were all *bonâ fide* plants carefully tied out. At one time exhibitors contented themselves with putting in flowering stems only; now the specimens must be made up of rooted plants. In the nurseryman's class for twenty-six plants Mrs. Eliza Mellor, florist, Chorlton, was placed first, with all show varieties proper. They did not look so showy as the collections containing mainly fancy varieties, but as the schedule contains classes for fancy varieties, the judges rightly gave the preference to what was obviously required by the schedule. The plants were a little drawn, but the flowers were generally of good quality, and the show varieties are much more difficult to have in good condition than the fancy sorts. Of yellow grounds there were Aldo, Mrs. Harvey, Roebuck, Corsair, Perfection, Navar, Lord Rowton, Prince, and Lord Walden. White grounds: Mary and Maggie. Selfs: Duke of Perth, Cloth of Gold, Mrs. Felton, more properly a fancy variety, and May Queen. Mr. J. Hayward, nurseryman, Cheadle, came second with fancy varieties, as follows: Lord Beaconsfield, Christina, Miss Darling, Fred. Perkins, Queen of Yellows, and the following selfs, mainly bedding varieties: Blue King, King of Purples, Mrs. Laing (white), Mauve Queen, Black Sam, Dr. Hardy, and Blue Stone. Mr. S. Robinson, florist, Sale, had the best twenty fancy Pansies, showing the following in fine form:—Countess of Horne, Mrs. Jamieson, Mrs. E. H. Wood, Charles Rylance, Champion, Mrs. J. Walls, Mabel, Perfection, John Currie, Mrs. Birkman, and Thomas Grainger. Second, Mrs. Eliza Mellor, with some excellent varieties, chief among them being George Vair, Countess of Strathmore, Sovereign, John Stratheir, Mrs. E. H. Wood, Thomas Grainger, Countess of Horne, Mrs. Jamieson, and Mrs. G. Boswell.

Violas.—Violas were equally charming and quite as numerous. Mr. J. Hayward had the best collection of twenty in 8-in. pots, full of bloom, and good blooms too, comprising Archibald Grant, May Kolb, Holyrood, Alpha, Forerunner, Tory, these being blue and purple; White Acme, Alba, Pilrig Park, and Beauty of Sale; Novelty, striped blue and white; Ardwell Gem, yellow; Countess of Kintore, blue edged with white; Duchess of Sutherland, lilac; and Peach Blossom. Second, Mr. J. Mellor, florist, Didsbury, whose best examples were Holyrood, Waverley Blue, Archibald Grant, Admiration, Pilrig Park, Mauve Queen, and Sovereign.

In the amateurs' classes, the best six pots of Pansies came from Mr. G. Wilkes, gardener to S. Low, Esq., Heath Bank House, Cheadle, who staged Mrs. Birkmyre, Golden Queen of England, Dr. Hardy, Lightning, Blue Stone, and Mrs. Felton. Second, Mr. John Blower, Pendlebury, with Mrs. Laing, Cloth of Gold, Dr. Hardy, Capt. Spiers, Chas. Brooks, and John Openshaw. Mr. Wilkes also had the best six pots of fancy Pansies, staging excellent examples of Mrs. Birkmyre, Sultan, Fred. Perkins, Mrs. E. H. Wood, Countess of Strathmore, and P. W. Fairgrieve. Second, Mr. John Blower, with Gold Digger, Champion, Mrs. Jamieson, Mrs. Neilson, John Currie, and La France. Mr. W. Rose, gardener to D. McClure, Esq., Heaton Mersey, had the best six pots of Violets, staging well-done pots of Picturata, Dixon's Yellow, Holyrood, Pilrig Park, Sovereign, and Alpha. Second, Mr. Wilkes, with Archibald Grant, Amethyst, Duchess of Sutherland, Pilrig Park, Spring Bedder (yellow), and Countess of Kintore.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.—*June 11th to 18th.*—It is always pleasant to record a success, and the more so when that success has been well earned, and is of a progressive character. It is nineteen years ago since the council of the Manchester Botanical and Horticultural Society, led by their able Curator and Secretary, Mr. Bruce Findlay, ventured on the first of the series of grand Whitsuntide exhibitions, which have been held annually since then, culminating in the thoroughly representative, and in some respects truly remarkable display which was opened to the public on Friday week, and which we trust has been as great a success financially as it certainly was horticulturally. The two special features of the exhibition were the Orchids, and the hardy herbaceous and Alpine plants; and if we had to decide upon a third we should say it was the show of Pansies and Violas. The Orchid show was a magnificent one in itself, thanks to the splendid lot of specimens, using the term in the most liberal sense, staged by Mr. George Hardy, of Timperley; while the herbaceous and Alpine plants of Messrs. James Dickson & Sons, Chester, and Messrs. Backhouse & Son, York, were in themselves worthy of a journey to Cotonopolis; and the Pansies so well grown round Manchester would have delighted the eyes of any Scotch florist. All these subjects are more fully commented upon in other columns, so that we can here devote a little more of our limited space to other subjects.

Of stove and greenhouse flowering and fine foliaged plants we have seen larger numbers here, but, perhaps, none of finer quality, especially in the amateurs' section, where a young grower competing here for the first time had the gratification of being first in two of the leading classes. This was Mr. Nicholson, gardener to the Earl of Zetland, at Upleatham, who scored first honours for ten fine foliaged plants, and for eight stove

and greenhouse plants in flower, in both cases staged fine, fresh, and well finished specimens. Among the former was the finest example of Davallia Fijiensis plumosa, we have even seen, a perfect plant from 6 ft. to 7 ft. through the head of fronds; Crotons majesticus, Johannis, and Warrenii, large bushes of splendidly coloured foliage; a remarkably handsome Kentia Balmoreana, with beautiful arching fronds, a perfect gem as an exhibition Palm; and well matched specimens of Dion edule, Gleichenia Mendelii, Chamærops humilis, Cycas revoluta, and Kentia Fosteriana. The second prize went to Mr. Roberts, gardener to J. H. Nicholson, Esq., Leek, the third to Mr. C. Paul, gardener to S. Schloss, Esq., Bowden, and so good was the class that an extra prize was awarded to Mr. G. Williams, gardener to J. Baerlein, Esq., Didsbury, all of whose groups deserve the highest commendation. Of flowering plants Mr. Nicholson had a very evenly matched set of specimens of Statice profusa, Clerodendrons Balfourianum, Allamanda grandiflora, well bloomed; Franciscea calycina major, Dracophyllum gracile, Anthurium Scherzerianum, and Aphlexis macrantha purpurea. Mr. C. Paul was second here with a fine group, his most conspicuous though, perhaps, his weakest plant being an immense bush of Chrysanthemum Halleri maxima. Mr. Roberts was third.

In the nurserymen's classes, Mr. Cypher, as usual, held his own, showing in his first prize group of ten a fine, young, healthy specimen of Erica Cavendishiana, well bloomed; Ixora Williamsii, 4 ft. through and superbly flowered; a very fine Erica tricolor elegans, Azalea amœna Prince Albert, a good Hedaroma tulipifera, &c. Mr. J. F. Mould, Pewsey, was second with eight fine foliaged plants. Mr. Cypher was also first, showing some handsome Palms, Crotons, &c. In the class for ten Crotons, Mr. Mould came in first with a well-grown lot, showing bright, fresh, and healthy foliage; and Messrs. R. P. Ker & Sons, Basnett Street, Liverpool, staged the best dozen Dracænas, a class of plants for the cultivation of which they have long had a high reputation.

Exotic Ferns were not so numerously represented as usual here; but what was wanting on the score of numbers was to some extent compensated for in the superb quality of the eight staged by Mr. S. Schloss, which were easily first, and which included one of the largest examples of Gleichenia speluncæ that has ever graced any exhibition, the plant being from 8 ft. to 9 ft. in diameter, and perfect in every way. With this were specimens of G. Mendelii and G. rupestris glaucescens, from 6 ft. to 7 ft. through, and a monster example of the drooping Goniophlebium subauriculatum. The hardy Ferns, both in numbers and quality, were all that could be desired. For twelve, Mr. C. Rylance, Ormskirk, was first, showing a very handsome, level lot of plants, including such fine things as Athyrium filix-fœmina plumosum, A. f.-f. Craigii, a very handsome crested form; A. f.-f. tortile, A. f.-f. Vernonia; Polystichum angulare proliferum, Lastrea filix-mas grandiceps, &c. Messrs. W. & J. Birkenhead, Fern Nursery, Sale, were a good second with larger plants on the whole, amongst them being striking examples of Osmunda regalis cristata, Polystichum angulare plumosum, Adiantum pedatum, Athyrium filix-fœmina corymbiferum, &c. In the amateurs class, the first prize was well won by Mr. R. Tyldesley, of Worsley, a working collier, whose fine collection of these plants has been described in our columns. He staged a remarkably fine lot of plants including a notable specimen of Lastrea filix-mas grandiceps.

Roses in pots were by no means so good as we have previously seen them at Manchester. Messrs. Paul & Son, The Old Nurseries, Cheshunt, were first with a group of twenty plants, and also with thirty, including standards. These were arranged in the form of a circular disc. Some nineteen standards being a part of the thirty, the remainder and all in the twenty were dwarf plants. The leading varieties were Alfred Colomb, Perfection de Lyon, Centifolia rosea, Céline Forestier, Madame Casin, Juno, La France, Anne Oliver, Madame Falcot, Catherine Mermet, Comtessa de Serenyi, all the foregoing being standards. The dwarf varieties were La France, Dupuy Jamain, Madame Victor Verdier, Captain Christy, Edward Morren, François Levet, Madame Lacharme, Leon Renault, and Madame Gabrielle Luizet. There was but one collection of thirty Roses; in that for twenty, Mr. John Hooley, nurseryman, Stockport, was second.

Mr. C. Rylance, nurseryman, Ormskirk, was the only exhibitor of eight show and the same number of fancy Pelargoniums. The former were large well-grown and flowered plants, and consisted of Queen Bess, Prince Leopold (very fine), Venus, Madame Hiliare (purple, with dark spots, very good), Kingston Beauty, Duchesse de Morny, Duchess of Edinburgh, and Edward Perkins (bright orange-scarlet). His fancy Pelargoniums were Evening Star, Duchess of Edinburgh, Sarah Turner, Barbette, Exquisite, Ellen Beck, Roi des Fantasies, and Fanny Gair. It is seldom that Mr. Rylance has any opposition in these classes. The Zonal Pelargoniums were of very poor quality.

The miscellaneous collections, as usual, added considerably to the general effect and interest of the exhibition. Mr. B. S. Williams, of Holloway, who has attended all the previous exhibitions, was, to the great regret of all the regular visitors, unable to be present, we believe through indisposition; but he was represented by an extensive group of choice stove and greenhouse plants mainly in flower. His neighbour, too, Messrs. Cutbush & Son, of Highgate, were also as usual to the fore with a fine group of miscellaneous subjects, notably in their group being the various kinds of hard-wooded plants, for which their Barnet Nurseries are celebrated. The Liverpool Horticultural Co., Garston, contributed a select group of Orchids, a showy collection of double Petunias, and a general assortment of stove and greenhouse plants. Messrs. R. Smith & Co., Worcester, somewhat varied their usual practice by contributing a choice collection of Clematises—small plants in flower—instead of the dozen or so of large specimens which have been such a fine feature at former shows here. Among the numerous varieties represented in flower was a new variety, named Beauty of Worcester, which will become a favourite. It is a very fine double, sometimes throwing single flowers, and grows and flowers with the freedom of Jackmanni. It is a fine bedding variety, and well deserved the First Class Certificate awarded to it. Messrs. F. Sander & Co., St. Albans, sent an extensive group of Orchids, mainly small Cattleyas and Odontoglots, good varieties in fine condition. Messrs. W. & J. Birkenhead, Sale, showed a fine group of small ferns, mostly new and rare species, of which, in their exceedingly interesting nursery, they have a very extensive collection. Messrs. John Laing & Co., Forest Hill, sent a choice group of small single and double-flowered Begonias, mostly good seedlings, and a few new Caladiums, &c. Messrs. R. P. Ker & Sons, Liverpool, staged in the show house a fine assortment of small stove and greenhouse plants; and for the lovers of Rhododendrons, &c., and there are many about Manchester, Messrs. John Waterer & Sons, Bagshot, and Mr. John Hooley, Edgeley Road, Stockport, had large and admirably flowered collections, which were a great feature in the annexe.

First Class Certificates were awarded to Messrs. Backhouse & Son, for Gazania evorgiscarpa, G. pavonia major, and Edrainthus serpylifolius; to Messrs. Paul & Son, for Saxifraga lantoscana superba, and Lithospermum graminifolium; to Messrs. R. Smith & Co., nurserymen, Worcester, for Clematis (double) Beauty of Worcester; to Messrs. Isaac Davies & Co., nurserymen, Ormskirk, for Rhododendron roseum odoratum; and to Messrs. John Laing & Co., nurserymen, Forest Hill, S.E., for Caladium Comte de Germiny.

The fruit classes, considering the lateness of the season, were very well contested, and black and white Grapes were specially well represented. The best collection of eight dishes came from Mr. Miles, Wycombe Abbey, who had very good Black Hamburgh and Foster's Seedling Grapes, a nice Queen Pine weighing four pounds, handsome fruits of Dr. Morier Strawberry, a splendid dish of Lord Napier Nectarine, a Longleat Perfection Melon, Black Circassian Cherries and Stirling Castle Peaches. Mr. J. McIndoe, gardener to Sir J. Pease, M.P., Hutton Hall, Guisborough, was a good second, his principal dishes being Black Hamburgh and Muscat of Alexandria Grapes, Barrington and Bellegarde Peaches, and a good bunch of Musa Cavendishiana. The third award went to Mr. Dawes, gardener to the Hon. Mrs. Meynell Ingram, Temple Newsham, in whose collection the Black Hamburgh Grapes and La Grosse Sucrée Strawberries were of fine quality. The best two bunches of black Grapes were well-finished Hamburghs from Mr. Hollingworth, gardener, Woodseate, Uttoxeter; Mr. Louden, gardener, The Quinta, Chirk, coming in second with larger bunches, but wanting in bloom and the usual signs of perfect ripeness. Mr. McIndoe was third, and ten lots in all, and all good, were staged. A good sample of Buckland Sweetwater from Mr. Miles took the lead in the white Grape class; followed by two nice bunches of Duke of Buccleuch from Mr. Breese, gardener to Mrs. Ackers, Congleton; and Foster's Seedling from W. Brotherton, Esq., Euxton, Chorley. The Pine classes were poor, and the first prizes were withheld in both cases. From among nine dishes of Peaches the judges selected a very highly-coloured sample of Royal George, shown by Mr. Elphinstone, gardener to E. M. Mundy, Esq., Shipley Hall, Derby, for first honours; and placed Mr. Miles second with Stirling Castle, very fine; and Mr. Wallis, Keele Hall Gardens, third with Hale's Early. Mr. Miles' Lord Napiers were irresistible in the Nectarine class, being grandly coloured; and the same variety shown by Mr. Bannerman, gardener, Blithefield, Rugeley, and Mr. McIndoe secured the other awards. Scarlet Hybrid from Mr. Miles was the best of the scarlet fleshed Melons; and Burghley Pet, one of Mr. Gilbert's seedlings, staged by the same exhibitor, came in first among the green-fleshed varieties. The Cherries and Strawberries were very fair, while of the latter fruit there was a capital show of plants in pots, much better indeed than is usually seen. There were six dozen staged, and the premier award was taken by Mr. G. Malcolm, gardener to J. Tomkinson, Esq., Tarporley, with an exceedingly well fruited lot of Cambrian Prince; Mr. R. Dawes coming in second with La Grosse Sucrée, and Mr. Upjohn, Worsley, third with Vicomtesse Hericart de Thury, both very good. In the miscellaneous class, Messrs. Dickson, Brown & Tait, of Manchester, exhibited the new Melon, Penrhyn Seedling, an early white-fleshed variety, of oval shape, good size, golden rind, and excellent flavour; and it was awarded a First Class Certificate. Mr. B. S. Williams, showed that popular market variety, Harefield Grove, a round smooth-skinned, white-fleshed sort, of good quality; and specimens of the Harefield Grove yellow Tomato, which is one of the best of croppers.

On the lawns there was a large and varied collection of greenhouses, frames, boilers, seats, and other garden requisites, which we shall have occasion to allude to later on.

QUESTIONS AND ANSWERS.

Double Petunias.—*R. G.*: The double-flowered seedling Petunias are all good, and the largest one, No. 3, especially so. They are full double, beautifully fringed, and delicately coloured. No. 3 is worth naming, if the plant is of good habit, the flower being large, full, finely fringed, and the petals, a pretty shade of rosy purple at the base, margined with blush tinted white.

Names of Plants.—*J. McPhail.*: So far as the specimen sent goes, the plant is true to name, Shepherdia argentea. It should bear yellow flowers, and afterwards scarlet berries. Is this so? —*J. Jones*: Gnaphalium lanatum.—*F. Gray*: 1, Orobanche major; 2, Stellaria Holostea; 3, Asperula odorata; 4, Lychnis viscosa var.; 5, Smilax spicata.

Communications received.—R. G.—W. C.—Ch. Joly, Paris. —J. B.—A. P.—D. C.—E. J.—A. W.—J. R.—D. P. L.—G. K.—W. T.

TRADE CATALOGUES RECEIVED.

Ewing & Co., Sea View Nurseries, Havant, Hampshire.—Roses, Ivies, and Hardy Climbing Plants, &c.

Max Deegen, Junr., Köstritz, Germany.—Tea Roses, Dahlias, &c.

LONDON SEED TRADE.

June 16th, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report Clover Seed trade apparently over for present season, with no change in values worth noting. Trifolium promises to be plentiful. Clover Seeds are firmly held, and continental reports state that the growing crops do not promise well. There is a fair inquiry for Mustard and Rape at full prices. Canary, Hemp, Linseed, and Millet sell slowly at rates current last week.

COVENT GARDEN MARKET.

June 17th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes ... per lb.	2 0	4 0	Pears ... per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries .. per lb.	1 6	3 0
Peaches, per doz.	2 0	10 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	1 6	2 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ... per doz.	2 0	2 6	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	4 0	6 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket	1 6	2 0
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			New Turnips, per bun.	1 0	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	12 0	18 0
Blue Bells			Pansies, 12 bunches	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Camellias, 12 blooms.			— scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen	4 0	6 0	Primroses		
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Gardenias, 12 blooms.	2 6	4 0	Ranunculus, 12 bches.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Rhododendrons, 12 bunches	3 0	6 0
Iris, various, 12 blms.	1 0	3 0	Roses (coloured)	2 0	4 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilac, English, 12 bunches	4 0	8 0	Stephanotis, 12 sprays	1 6	3 0
Lilac (French), bunch	5 0	7 0	Spiræa, doz. bunches	6 0	9 0
Lilies, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	3 0	6 0	Tuberoses, per dozen.	0 6	1 6
Marguerites, 12 bun.	3 0	6 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Genista, per dozen		
Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lilies of the Valley, pots, per dozen		
Calceolaria, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Cineraria, per dozen			Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	6 0	8 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	3 0	5 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	5 0	8 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
Fuchsia, per doz.	6 0	12 0	Spiræa, per dozen	9 0	15 0

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CRYSTAL PALACE. GREAT ROSE SHOW of the Season, Saturday, July 3rd. For Schedules, Entry Forms, &c., apply to Mr. W. G. Head, Garden Superintendent, Crystal Palace, S.E.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 26, 1886.

THE LIVERPOOL SHOW.—On Tuesday next will be opened at the huge and magnificent seaport town of Liverpool, the first of a new or second series of provincial flower shows, organised by and held under the special auspices of the Royal Horticultural Society. Some years since, under happy inspiration, the council of the society of that day promoted a provincial show at Bury St. Edmunds, not, perhaps, the most attractive place in the kingdom for that purpose, and yet that exhibition was so successful that several other similar exhibitions followed, all with more or less of success; then suddenly the series collapsed. Once more the country air is sought, and it is hoped with happy results. Too long dependence upon the patrician element of South Kensington, and constant breathing of the somewhat enervating air of that æsthetic locality, has not been good for the society's health, and it has begun to loose strength and vigour. This it is hoped the strong and beautiful air of Lancashire will restore. Most certainly we trust that the country visit, if of but a week's duration, will be attended with the best results, and that the society may be inspired amongst its renewed efforts to promote horticultural science to make its country outings annual and permanent.

It is greatly to be regretted that the Borough elections will be held the same week, for there can be no doubt this will seriously diminish the receipts. The Liverpool Horticultural Association had to face a similar difficulty at their last autumn show in St. George's Hall, when the ticket and gate money received was over £100 less than the corresponding show, held in 1884. However, we all hope for the best, and should the air of Liverpool, happily, prove to be a powerful and strengthening tonic, the choice of place next year may be perforce in a more southernly direction, perhaps more eastward, or nearer home. In any case the site for the great horticultural picnic of the Royal Horticultural Society in 1887 cannot too soon be decided upon,

after the obligations arising from the Liverpool visit have been disposed of. But these provincial meetings of the Royal Horticultural Society should be something more than ordinary flower shows. It has too often, although without good cause, been urged that the society's London meetings are practically for metropolitan people, and that the country has no share or part in them. In the same sense, of course, every great country society finds its annual exhibitions evincing some considerable smack of localism. That is inevitable, hence all ordinary flower shows are generally but gatherings of those resident within the radius of their respective operations, and not from a wider area. But this great provincial show, which opens at Liverpool on Tuesday, whilst having its location at that town, is yet no more a Liverpool show in the ordinary sense than is the great annual exhibition of the Royal Agricultural Society—a show of the locale in which it is held, and that alone. We look for and expect to find at Liverpool, a representation of the horticulture of the United Kingdom, and it is certain that if our hopes in that direction are realised, we shall find that the gardening fraternity of the kingdom is represented also. We hope, even, that those taking part in this gathering will for a time forget that the show has a location, and that it is of the kingdom alone.

But whilst striving to exhibit such broad and almost cosmopolitan ideas, we shall certainly not overlook the fact that Liverpool offers in and all round it material—horticultural, mercantile, nautical, and general—so much that is wonderful as well as instructive, that outside of the flower show it will not be possible for us to forget that we are in busy active Lancashire, and amidst a wondrously energetic and enterprising portion of the English people. To myriads whom we hope will visit the show the provincial air will be no change, but the life and activity seen around Liverpool will prove none the less stimulating and helpful. Those who have become comatose, perhaps, almost deadened under the influence of a quiet plodding existence in gardens, perhaps remote from active life and the busy scenes which great towns provide, will find in a trip to Liverpool not only professional interest stimulated to the highest degree, but will have their minds expanded, their intellects awakened, their curiosity aroused, and their entire lives animated and sweetened by contact with the energy, vigour and force seen on every hand on the banks of the Mersey. To many men who suffer from mental strain, a holiday of actual change and mental rest is essential. To far many more, however, holidays from their plodding and monotonous toil should rather take the form of mental activity, because just as the pure ozone of the sea brings back a healthful glow to the emaciated frame, so may the mental ozone of busy scenes and stirring activity revive and even renew the dull and inert brain.

We have the widest conviction that the exhibition will in all its many and varied features be a remarkable one. Apart from those ordinary elements of plants, flowers, fruits, and vegetables which we meet with at all shows, there will be garden implements and requisites, glass erections, boilers on trial and their essential fittings, literature, as it relates to horticulture, a novel and exceedingly interesting feature; floral paintings, and many other things calculated to excite the interest of all who find pleasure in gardening, or with it livelihood. Contact with such associations, especially if attentively studied, can hardly fail to excite interest in the breast of even the dullest, and certainly we are assured that gardeners of every grade will study these things, anxious to carry back with them to many a distant home some ideas that in their vocation will be of service in days to come. But many a gardener, as he reads these lines, will sigh for the needful holiday, and the means to enable him to visit Liverpool and join the throng of gardeners there, and we fear will sigh in vain. With all such go out our hearty sympathy. To all such no better consideration could be shown by employers than that for once they should give to those who have, perhaps, long and faithfully served them, not only the days, but the means to join in a truly national horticultural gathering.

It is hard to be helpless financially as so many gardeners are, for their pay is not too liberal, and their opportunities for getting change and instruction are not too many. We could have wished that the council of the Royal Horticultural Society had issued a special appeal to employers on gardeners' behalf, as we are sure it would have been productive of the best results. The council may have thought, even assuming for the moment that it did give the idea consideration, that to do so was outside its duty. In any case it is not outside ours, and we, in this humble way, do our best to supply the omission. We have, probably, no more sober, intelligent or industrious body of workmen in the kingdom than our gardeners, and as evidence of their professional interest we have but to quote the fact that they maintain the largest and best professional press in the kingdom. Such a fact alone should tend to show to all who employ gardeners that it is as much to their interests as to that of their dependents that such a grand opportunity as this Liverpool show offers should not be missed, and that every willing man should have leave and means to enjoy it to the best of his ability.

In another column will be found a plan of the show ground, and as much information as we have been able to glean as to what may be expected to be on view during the week. For the convenience of visitors, we also publish a list of hotels, and name some of the horticultural establishments in the district that are worth visiting, which, together with some brief hints as to tram and train services, we trust will will be found useful.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* Royal Horticultural Society's Provincial Exhibition at Liverpool opens (continued to July 5th); Twickenham Flower Show, Bagshot and Windlesham Horticultural Society's Exhibition, Diss Horticultural Society's Exhibition, Canterbury and Kent Rose Society's Show. *Wednesday:* Croydon Horticultural Society's Show, Farningham Rose Show, Royal Botanic Society's Evening Fête, Lewisham Horticultural Society's Exhibition. *Thursday:* Shepperton Flower Show and Reigate Rose Show. *Friday:* Tunbridge Wells Horticultural Society's Show, Annual Festival of the Gardeners' Royal Benevolent Institution at the "Albion," Aldersgate Street. *Saturday:* Rose Shows at the Crystal Palace, Eltham, and Dorking.

Gardeners' Royal Benevolent Institution.—On Friday evening next, July 2nd, the forty-third anniversary festival of this admirable institution will be celebrated at the "Albion," Aldersgate Street, when for the first time in the history of the institution, the chair will be taken by a member of the seed trade, Mr. N. N. Sherwood, of the firm of Messrs. Hurst & Son, who is also one of the trustees. We trust, in the interest of the charity, and not less for the credit of the trade, that all who can afford a trifle for so good a cause will send the same at once to Mr. Edward Rodger Cutler, to be placed on the chairman's list. It is unfortunate that the festival should be held in the same week as the great provincial show at Liverpool, at which so many business men will be engaged, but it is sincerely to be hoped that all who possibly can, will make it a point of being present to support Mr. Sherwood on Friday evening, and to assist in making this festival the most successful yet held.

Aberdeen Horticultural Association.—The last meeting of the session of the Aberdeen Horticultural Association was held on Friday evening, 18th inst., in the Upper Hall, Christian Institute, Aberdeen. Mr. Peter Harper (Duthie Public Park), president, occupied the chair. There was a large attendance of members, and Messrs. Milne, Ellon Castle; Arthur, Inverdon; and Archibald, Aberdeen, were admitted as members of the association. Mr. Alexander Murray, Causewayend, Aberdeen, read a most interesting paper on "Lichens," for which, after a lengthy discussion, he was accorded a hearty vote of thanks. Several exhibits were adjudicated upon by the committee, and the following awards made:—Calceolaria, shown by Mr. Taylor, Aberdeen (amateur), Cultural Certificate; Crassula, exhibited by Mr. A. Gregor, vote of thanks; two Lettuces, shown by the last mentioned gentleman, commended; Pelargoniums, sent by Messrs. James Mavor & Sons, Holborn, Aberdeen, vote of thanks. The meeting then resumed discussion of the paper on "Peas," read at the last monthly meeting by Mr. Farquhar. The usual vote of thanks to the president terminated the proceedings and the session, which, it must be added, has been a most successful one.

The Show Season.—The week from Tuesday June 29th to Tuesday July 6th will be one of the busiest for horticulturists in the present season, especially for those who are exhibitors or who visit the principal shows. Upon the first named day the Royal Horticultural Society's Provincial Exhibition at Liverpool will be opened, and this will continue open to the public until the following Monday evening, with the exception of the intervening Sunday. This alone will attract a large number of horticulturists from all parts of the country, and will constitute an important event that will not be equalled this season elsewhere. Upon the opening day the Rose exhibiting season commences with shows at Bagshot and Canterbury, at both of which places the displays of the queen of flowers are usually extensive and good. On Wednesday, June 30th, the Royal Botanical Society of London will hold their annual Evening Fête in the gardens at Regent's Park, on which occasion, also, there will be a display of floral decorations. This fête, is when the weather proves favourable, the most delightful affair of its kind in London, and those who have the opportunity should by all means see it. Upon the same day there will be Rose shows at Diss, Farningham, and Croydon, but the last named is not confined to Roses, plants, flowers, and fruit invariably constituting a large portion of the exhibition. The Reigate Rose Show, and Shepperton Horticultural Society's Exhibition are fixed for Thursday, followed by Tunbridge Wells on Friday, one of the best local shows in the home counties. The Crystal Palace Rose Show, which is generally an extensive and thoroughly representative display is announced for Saturday, July 3rd; smaller exhibitions being fixed for the same day at Eltham and Brockham. Then on Tuesday, the 6th July, we have the great event of the Rose season, the National Society's exhibition at South Kensington, at which most Rosarians endeavour to be present.

The Wind.—The current phrase is "the wind bloweth where it listeth," but that is not literally true although it seems to be so. That such is not the case is evident from the fact that the wind bloweth or travelleth only in one direction at a time; but to assume that the wind goes where it lists, is to assume farther that this active air is endowed with some intellectual capacity, and has special appreciation for a frolic, revelling in bursting here, careering there, and at times passing over the surface of the earth like a gentle zephyr. Really the wind does not go where it lists, but where it is impelled, not as it were by its own inherent velocity, but by the force of absorption, for when the air, which we call wind, rushes madly by us with terrific force, seeming as if it would bear all material things before it, it is not driven from behind, but is attracted by some of these vacuums which nature is said to abhor, and which it is but the business of this rushing wind to fill up as speedily as possible. We have had much cold and uncomfortable wind of late, and trust that the wondrously created voids somewhere, which it was commissioned to fill up, are now satisfied, and that quiet in atmospheric spheres is restored. With the wind, too, has come clouds, and obscuration of the sun at this season is far from being good, for all things in nature seems to need the vivifying influence of warmth and light. Strawberry fruits, need warmth to ripen them, for they are late and yet in plenty. Peas, too, should be plentiful, and will be after a few days more of warmth, be in great abundance, and cheap to all. Then vegetables and flowers have on cold soils been checked, but where the wind has met with checks in belts of trees, and found that it could not always blow where it listed, the sheltered plants have suffered less, although the sunshine there still was wanting. A burst of April, almost, indeed, of October, seemed to have fallen suddenly into the middle of June. A strong north-easterly wind blowing for several days and nights, with clouds heavy, cold, and blue, are not quite the features we look for at midsummer.

HUMEA ELEGANS.

This good old-fashioned plant has for many years been a great favourite of my employer on account of its peculiar balsamic odour, and, with the exception of some two or three seasons, we have always been very successful with it. I have been unable to account for our want of success in the period named, as we treated them the same as before, and as we do now; but it was all to no purpose, the plants seemed to be sick of the place or the soil, and grow kindly they would not.

We sow the seeds early in March in an ordinary potting compost of good loam, leaf-soil and sharp sand, and stand the seed-pots in the Cucumber-house until the seedlings are large enough to handle, when we pot them singly into small 60-sized pots, and after a few days longer in the Cucumber-house to enable them to root into the fresh soil, they are transferred to a warm frame, and kept close to the glass. This position suits them admirably for the first season, but to do them well, and keep the foliage on down to the soil, they must be frequently syringed, especially on the undersides of the leaves to keep down red-spider; must never be neglected in the matter of watering, and must be regularly potted on as the pots get full of roots. We never use larger than 8-in. pots, and into this size they are shifted by the end of August, by which time they will want more head room, and are then put on a shelf in a light greenhouse, and in spring are watered occasionally with weak liquid manure. They soon throw out their plumes of small rose-coloured blossoms.—*Hortus.*

Humea elegans.

THE STRAWBERRY.

A celebrated wit (Sidney Smith, I think it was), who evidently knew what was good, once facetiously remarked that "God might have made a better fruit than a strawberry, but for some reason did not." Be that as it may; few, however, will attempt to gainsay the assertion who understands how very useful a fruit it has become in the hands of the skilful horticulturist, especially through the winter and spring months, under glass.

Our honoured ancestors, poor simple souls, who may possibly have imagined they were highly favoured with most of the good things of this world in their day, patiently groped about where Nettles grew, and among Thorns in the wood, for the few small Strawberries they perchance discovered there; or assiduously hunted for them among the unproductive kinds, which, for convenience sake, had been transferred from thence into the garden.

We learn from honest old Tusser's *Five Hundred Points of Good Husbandry*, written in the time of "Our Good Queen Bess," that the wild and inferior kind was then considered "excellent good." This indefatigable cultivator—who, from the inferences we draw from his famous maxims, appears never to have eaten the bread of idleness, but was always "up and doing," knowing that "the hand of the diligent maketh rich," seems to have found a suitable job for good Dame Tusser too, and whom we may fancy was an industrious and frugal woman, and thus gives directions how his hopeful helpmeet should do it:—

"Wife, into the garden, and set me a plot
Of Strawberry-roots, the best to be got;
Such growing abroad, among Thorns in the wood,
Well chosen and picked, prove excellent good."

Although so many eventful years have rolled over the Strawberry-producing world since then, we sincerely hope our right worthy predecessor, honest old Master Tusser, and his well-beloved wife—who seem to have sensibly pulled together, both in field and garden—derived as much real satisfaction in their day, when feasting upon the meagre wild wood Strawberries, as their successors are doing with the many improved varieties they regale themselves with now.

That Shakespeare, who also refers to them, during the reign of the "Virgin Queen," must undoubtedly have often picked them in their umbrageous habitats, in the woodlands of Warwickshire and adjacent counties, we may naturally infer, from thus alluding to them:

"The Strawberry grows underneath the nettle;
And wholesome berries thrive and ripen best,
Neighbour'd by fruits of lesser quality."

And to prove how uncommon a sight it was to see Strawberries under cultivation in a garden at that period, Shakespeare remarks:

"My Lord of Ely, when I was last in Holborn,
I saw good Strawberries in your garden there;
I do beseech you send for some of them."

This poor and small fruit, about the size of ordinary Cranberries, we may suppose, had a slight strawberry taste about them, and some of the odour; and but little more, when compared with the deliciously flavoured, large, handsome and productive varieties under cultivation now. And under the most favourable conditions possible, the fruiting season of which must have been a brief one.

The most skilful herbalist of those days, John Gerard, who had charge of the botanical garden of the College of Physicians in 1587, for the cultivation of rare plants of medicinal value, and was maintained at the cost of "forty marks English money" a year, alludes to only three kinds under cultivation in 1597; and which appear to have been newly introduced from a wild state to the gardens, such as they were at that period, and thus speaks of them in the quaint phraseology of the time: "Strawberries do grow upon hills and vallys, likewise in woods, and other such places as be something shadowie. They prosper well in gardens; the red strawberry everywhere; and the other two, white and green, more rare, and are not to be found save only in gardens."

If the mind's eye will only glance back to the rudimentary Strawberry beds of our forefathers, and think of what poor miserable sorts they had to make shift with, and then look at the thousands of broad acres of them in various parts of the country, of such splendid varieties as were ever dreamt of, even fifty years ago, they will be amazed at the wonderful progress on every side. Such a gradual state of development, or transition, from a lower to a higher type of plant life, as has been slowly going on from the time Virgil, Ovid, and Pliny first mentioned the Fragaria, or Strawberry, until it has finally evolved into the modern Keen's Seedling, Sharpless or Parry, ought to convince the most sceptical, that the doctrine of evolution is not the myth or chimera they would fain make us believe.—*W. T. Harding in Gardeners' Monthly.*

TWO WELSH GARDENS.

Shimdda Hir, Llandudno.

Shimdda Hir, freely translated "Chimney Long," is the North Wales residence of Samuel Barlow, Esq., J.P., of Castleton, near Manchester. It is about two miles from Llandudno station, and eastward of Llandudno Bay, lying in a peaceful valley on the road to Colwyn Bay. The mansion, which is substantially built, elegantly furnished, and filled with many beautiful objects of art, that denotes the man of taste, faces the north; before it, and not much above a stone's throw from it, rises the Little Ormeshead, dividing Mr. Barlow's estate from the sea. To the right the road winds away to Colwyn Bay, and on the left lies Llandudno, with the Great Ormeshead standing out to sea like a huge western fortification—a noble pile of mountain, rising up tall and strong against the everlasting sky, and as far as men know, has so stood for cycles of ages past—and between Little and Great Ormeshead lies the beautiful Bay of Llandudno, with the Irish Sea stretching away until it washes the shore of the Sister Isle. On the left of the mansion is a piece of pleasure ground, and a large paddock walled in on three sides, and against the walls are planted various fruit tree.

In front of the mansion is the lawn and flower garden; to the right the kitchen garden and offices, and another paddock; behind, a steep hillside rising up to a hill crest, which falls again into a fertile valley; and beyond this another mountain range of immense extent. On the mountain sides, and in the fields, is a great wealth of wild flowers. Geranium sanguineum literally hides the pasturage from view, so manifold are its blossoms, and the Scotch Rose (Rosa spinosissima) is abundant on the summits and sides; some pure white, others white, with rosy and crimson spots. It is just the place for a wearied man to rest from the cares of business, and recruit himself bodily and mentally. The exquisite freshness of the air makes the mere act of living and breathing a luxury. In the veering sun and shade the mountain sides gleam, and the hanging woods darken in changing tones, which seem to vary, not only from hour to hour, but from moment to moment, and lowest of all lies the blue sea in the magnificent bay, that has gone on ebbing and flowing for unnumbered ages.

What a change, to pass from smoke-begrimed Stakehill, where man's skill and resource in developing plant-life, is but one constant fight against powerful opposing forces, to this lovely spot in Wales, where plants and flowers flourish with a vigour and beauty as fresh as surprising in their lavish wealth of colour. That the gardens at Shimdda Hir are well cared for, and replete with many things of an attractive and interesting character may be assured. One leading feature is the Tea-scented and Noisette Roses, and they

are planted against the dwelling house, against the walls of out-buildings, and in the open ground. To go from Stakehill, when the Roses looked in the cold, dull, retarding weather, almost as if they had been scathed with fire, to Llandudno, where they were growing luxuriantly, and already full of rapidly expanding buds, is a change, indeed. On walls could be seen luxuriant plants of Belle Lyonnaise, Maréchal Niel, Saffrano, Madame Berrard, Cheshunt Hybrid, Gloire de Dijon, one plant of which on the front of the house is scarcely ever without flowers; William Allen Richardson, which comes grandly coloured here; the fine old white La Marque, Reve d'Or, Reine Marie Henriette, the last named blooming grandly; and others. On a south wall, in front of the mansion, some of the foregoing are growing, and in such a position Tea Roses are seen to perfection. In front of this wall is a long border, about 3 ft. in width, and here could be seen Buddlea globosa, doing splendidly. Some huge clumps of Helianthemums covered with blossom—huge cushions of striking colours: Ixia viridiflora, double German Wallflowers, &c., with Phloxes, Pentstemons, Carnations, &c., coming out for summer bloom. On a bold stretch of grass plat, are several beds filled with Pansies and other things; Pansies are perfectly at home here, and some beds of Holyrood are striking patches of purple-violet.

At the back, on the grassy hill side, are many Cowslips and choice wild flowers, and Mr. Barlow has planted among them a large number of Dean's Hybrid Coloured Primroses, that are doing well upon the slopes planted in the pasture. A good space of natural rockwork is covered with Helianthemums, choice Sedums, and Saxifrages, Ivies, &c., while a fringe of the large blue Periwinkle, planted at the crest of the cliff, will, in course of time, hang down in masses of blue blossoms. This grassy bank runs past the house and into the enclosed garden, which is two-thirds kitchen and fruit, and one-third flower garden; and on it Mr. Barlow has naturalized some of the choicer double Primroses. It is refreshing to see how well the old double Crimson Velvet flourished planted among the grass. In odd corners there are clumps of Orchises and other pets gathered in course of rambles over the hill sides.

In the enclosed garden are large beds of Tea and Hybrid Perpetual Roses, margined with varieties of the Polyantha Section, single varieties, &c. It is marvellous what rich tints the young growths take on; it reminds one of Amaranthus melancholicus ruber in its best form. They all grow so vigorously and flower so freely, that in the season Mr. Barlow can gather many bushels of bloom. There are three beds of Tulips, the flowers attaining to a very large size, the soil suiting them exactly; there is a bed of the finest strain of Ranunculus just coming into bloom, and near it a frame in which are planted out some of the choice varieties of named Gold-laced Polyanthus, among them a few choice seedlings raised by Mr. Barlow.

There is a good plantation of pyramid and bush Apple trees, and also large pyramid and standard Pears and Plums, with bush fruits; and the kitchen garden is well cropped; close by are two cottages for those who are employed in the garden, and above these, at a higher level, an Asparagus and vegetable garden. Eastward is a paddock, a portion of which it is Mr. Barlow's intention to convert into an orchard. The Estate includes a small farm or two, portions of mountain land, from the elevation of which charming views can be had; a stone quarry, &c.

Such is a brief outline of this charming spot. It is full of tender and wild beauty: a spot where nature appears to present herself in seductive moods. The gardens are being rapidly improved under Mr. Barlow's fostering care; and this account shall be closed with the remark that only out-door plants are grown at Shimdda Hir, for there is no glass under which to rear tender ones.

An Amateur's Garden at Conway.

My second Welsh Garden is a much more modest and unpretentious one, but full of interest to any who would understand how much a garden can do to restore health and vigour to a body and mind overtaxed and debilitated by the anxieties of business. It is small and irregularly-shaped, lying upon a warm slope, and bounded on one side by the ancient walls of Conway Castle. Some five or six years ago, Mr. Robert Houlgrave, of Liverpool, was compelled by reason of failure of health to leave this busy city, and he was advised to seek the restoration thereof in Wales. Visiting Conway in his tour, he made his quarters at the Castle Hotel, and taking kindly to the neighbourhood and the people with whom he came into contact, resolved to make it his abiding place. Presently, a small plot of ground being vacant, he took it and converted it into a garden, and helped by a growing love for plants and flowers, he has gradually formed one that seems to present to view the *beau ideal* of what an amateur's garden should be:—a place where some of the highest of pleasure is reaped from tending the plants, sowing seeds, putting in cuttings and making layers, rearing these until they fructify into blossom, rejoicing over the fresh and inspiring beauty they develope—illustrating in manifold ways how much a garden tends to the refreshment of the spirit of man.

There is a grass plat to be mown, gravelled walks to be swept and rolled, digging to be done, and other heavy work to be performed; this is accomplished by a labourer, and I quite understand Mr. Houlgrave's feelings when he stated that it was a great relief to him when he was able to dismiss his helper and lock the door upon him. Against the walls are some fruit trees, chiefly Pears, Roses, &c.; in one part, under the old Castle walls, a fine plant of Ceanothus azureus was wreathed in blossoms of a lovely pale silvery blue hue.

There are shrubs, perennials, biennials, &c, and a goodly number of Carnations and Picotees, which do well here, and are great favourites with Mr. Houlgrave. Among them is a new scarlet bizarre Carnation named Robert Houlgrave, raised and named by his friend, Mr. Samuel Barlow, of Stakehill House, Castleton, Manchester. There are many odds and ends of plants, among them some fine bushes of Lavender, and many a bunch of fragrant flowers is given to friends and neighbours.

One of the greatest enemies to the garden Mr. Houlgrave has to contend with is snails, for they can hide themselves in the openings in the old castle walls, and other places, and from there issue forth preying upon such things as they most fancy. One cannot resist a smile in walking round the garden, as they come upon various wooden boxes, bottom upwards; these are snail traps. A piece of linseed cake is placed on the ground, and a box is inverted over it, leaving space for the snails to creep under; here they are trapped and destroyed.

I may never look upon the garden again, but I shall never forget the sensation of acute pleasure I experienced in walking round it. Here was real, substantial, satisfying, pure love for the garden, and I could see in the kindling eye and animated face of the proprietor, what tranquil hours were spent, and solid delights experienced in making this garden such a source of supreme refreshment to both mind and body.—*Quo.*

PYRETHRUMS.

These plants are recognised favourites in gardens now, and the numbers of varieties are becoming quite formidable, long lists being issued by some firms describing a host of different forms. The single varieties are much the brightest, the rose, carmine and crimson tints being extremely rich, but some prefer the doubles for their substance and soft pure colours. All are beautiful, and they are worth a place wherever bright handsome flowers are valued. Some have stated that they are difficult to grow satisfactorily, and this may be so in certain soils and situations; but happily we have no such troubles to contend with, the plants thriving as vigorously as Delphiniums, German Irises and the common double white Pyrethrum parthenifolium with which they are associated.

Some of the roots are dense masses 2 ft. in diameter, and have been undisturbed for several years, the only attention they received being a mulching of old manure over the roots in early spring before growth commences, and a supply of water throughout the summer whenever the weather is hot and dry. The soil in which they are growing is an ordinary border of dark loamy mould, moist but well drained, sheltered towards the east and north, but quite open in all other directions. A stout stake is placed to each clump at the back, and from this a piece of string is passed round the stems and secured to the stick at the back. They are not tied in too tightly, and the string is taken round rather below the centre of the clumps, so that they are not rendered too formal in appearance. They look, in fact, extremely well, and this season they are better than usual, though after such an unfavourable spring we might have expected the reverse.—*H. B.*

PHENOMENA OF VARIATION, WITH SPECIAL REFERENCE TO FERNS.

(*Concluded from p.* 664).

In connection with the power of crestation I would ask, what is the parallel phenomenon in flowering plants? Hardly, I think, the doubling of the flowers, though that suggests itself as a near approach; yet from the fact that the sterility which is usually attendant upon such doubling is associated in the Ferns with the plumose and not the crested varieties, I think the connection should be looked for there; the extremely foliose character of such forms seeming to absorb all the vigour of the plant, so that spores are either altogether or almost absent, precisely as the multiplication of the flower petals seems to affect the seed producing parts of the flower. This idea I only throw out for discussion.

Here again the most marked instances of variation in the plumose direction have been wild finds. Dr Will's Scolopendrium crispum, for instance, has deeply curled fronds of normal strap-shaped outline, but much wider—over 4 ins. in some cases. The Axminster and Horsfall plumose Athyria were also found wild, and to cut this part of my paper short, so were the greater part of the abnormal forms in cultivation; though thanks to the selection of some of our careful cultivators, such as Col. Jones, of Clifton, and others, the offspring of such finds have been found to develope their characteristic beauties to a far greater extent than the parents, some of Col. Jones's Polystichums especially, the result of selection and hybridisation being apparently the ne plus ultra of feathery delicacy.

I have alluded several times to the constancy of such variations, but there are some curious exceptions to this rule, as every Fern-hunter knows to his cost. Many of the most marked and beautiful forms yield common progeny, and also are apt to "sulk" as it is termed, and refuse to produce anything but normal fronds unless grown exactly as they like it. One of my own best finds affords the most remarkable instance of this instability that I know of. In 1884 while in Scotland I found near Kilmarnock a really splendid form of Lastrea Filix-mas polydactyla; in fact the most polydactylous form by far which had been seen. The plant had five or six huge fronds, all with beautifully pendulous pinnæ tasselled with as many as twenty divisions. I brought it to London and displayed it with great pride to some of the best judges, who one and all decided that it was a thoroughbred beauty. As it was profusely covered with spores, I carefully gathered some from the best parts of the frond and sowed them. The plant being deciduous the foliage disappeared in the winter, and the following season I watched the rising crown in confident anticipation of a finer and more symmetrical plant than the removal and travelling had permitted it to be the previous season. Judge, then, of my disgust when a common Filix-mas was slowly developed without even the simple merit of the normal form, for many of the pinnæ were deformed and depauperate. Later on a frond or two arose with faint signs of division on the apices of the pinnæ. Meanwhile the young ones began to arise from the spores, one and all common male Ferns. Another exactly similar plant found at the same place, but some 20 yards distant, in the succeeding week by a cousin of mine, showed slightly crested pinnæ here and there, and that was all—verdict, a rogue. Still I would not despair, and though this year perhaps it might get over its sulkiness, the spring comes, and slowly rises the shuttlecock-like circle of frods, all common again except a few deformities; then an odd frond rises, pinnæ slightly crested, then another, and oh! it is heavily tasselled and as beautiful as could be desired.

Meanwhile the seedlings have been developing fronds 4 ins. to 6 ins. high, all common with the exception of two, which in the prothallus stage had been transferred to a Todea superba frame; these two heavily tasselled from the beginning. I wait a little, and behold here and there generally there are fronds arising among the seedlings which promise not only to equal the parent at its best but even to surpass it. Here is inconstancy with a vengeance, but by no means one of the worst cases, for many a presumed good find has reverted altogether when removed from its birthplace, never displaying its peculiarities again.

That this capacity of sudden variation is not always confined to a single spore is evidenced by the fact that under cultivation instances have been known where a

number of exactly similar plants have appeared which have been extremely different from the parent. I had a very dwarf and congested form of Blechnum spicant, raised from B. s. strictum of Barnes, of which I am informed by the raiser fifteen plants made their appearance, yet no one would credit the parent with such offspring unless on the very best evidence. A still more remarkable case occurred some short time back amongst my own sowings. I sowed spores from a very finely cut form of plumose Athyrium (A. F.-f. plumosum elegans, *Parsons*) of purely normal outline, yet among a large batch of plants only one resembled the parent; the whole of the rest were heavily crested on tips of frond and pinnæ, most of them symmetrically, but some were irregular. As the sowing was a very special and unmixed one and duly registered, and as, moreover, I have never sown spores from a plant similar to the resulting ones, I am quite sure of their origin. They all, moreover, possess the plumose character of the parent.

It is a well-known fact that Ferns otherwise normal develope occasionally some local eccentricity which is liable to affect the spores borne in its immediate vicinity. There is, for instance, a very finely crested Gymnogramma (G. Lancheana grandiceps) raised by Messrs. Dixon, of Hackney, some years ago, and the raiser informed me that upon an ordinary plant of G. Lancheana he noticed the tip of one of the pinnæ was merely dilated, and as it bore some sori he sowed it, the result being a house full of densely crested plants. It has, therefore, suggested itself to me that many of the varieties found may originate in a similar way, though this of course does not detract one iota from the singular transformation of the germ which must precede the appearance of the transformed plant. It is also manifest from the case of the plumose Athyrium just described that the abnormality is by no means necessarily visibly shown in the parent. The most common form of variation is that of Cristatum, varying from merely division of the tip of the frond to an indefinate ramification of parts forming a ball like Athyrium F.-f. acrocladon. The other forms are enumerated, but may be roughly classed under the following heads—Depauperation, the extreme form of which is the reduction of the plants to mere mid-ribs; Dwarfing, implying merely reduction in size; Congestion, where the spaces between the divisions are so reduced that the parts more or less densely overlap and crowd each other; Plumation, which is generally accompanied by partial or entire absence of spores, and which consist in a greater foliaceous development, apparently produced at the expense of the spores. Several of these classified eccentricities may be conjoined in one and the same plant, as, for instance, in L. F.-m. angustata cristata congesta, where the ordinary lanceolate frond of the male Fern is narrowed to about an inch in width, is extremely congested and finally crested, this being, I believe, the result of three separate sports; first a natural wild sport, viz., the crested but otherwise normal form, a spore of which gave a narrowed form from which, I believe (though I have not its history), the congested form was raised. Besides these classified forms of varieties, there are hundreds which can only be ranked as oddities; such as, for instance, the cornute forms which have arisen in several families, where the midrib is suddenly extended from the surface of the frond, like a Thorn; the proliferous forms, where young plants bud out in the most unexpected places; the serpentine forms, where the ordinary shuttlecock shape is resolved into a sort of Medusa's head, each frond coiling away from the crown and twirling about like a snake. Mr. G. B. Wollaston has a Polystichum answering this description exactly. Then there are the marginate forms, where regular ridges are developed on either side of the frond; pocilliform and truncate varieties, where the frond suddenly stops and developes a pocket, and so on *ad libitum*.

With regard to proliferation, I should like here to record the fact that in my collection I have recently found a seedling Lastrea dilatata bearing a young plant on the first frond evolved from the prothallus. A plant of Asplenium adiantum nigrum var. microdon has developed a young plant in the axil of one of the pinnæ. So far as I know proliferation has not been recorded in connection with either of these species.

Having drawn your attention thus to the main forms of variation to which Ferns are subject, and some of the peculiarities attending their occurrence, I will reserve further observations on the subject until after the discussion.—*C. T. Druery.*

Scottish Gardening.

On Watering.—There are few operations connected with the cultivation of plants more important than that of watering. How simple it appears to a casual observer to apply water to the roots of plants; yet there is much mischief done to plants by the misapplication of water, or the making of soil cold, sour, and soddened by over-doses given at inopportune times. Take as examples Heaths, Azaleas, or any other hard-wooded plants (New Holland plants especially). How frequently they seem to go wrong at the collars and suddenly die off. The blame is put upon the man in charge, and "Watered to death" is the verdict. We and others whose experience has been very extensive have again and again proved to ocular demonstration that the fault was not that too much was given, but that it was given in homœopathic doses, dribbling the surfaces only, while the roots at the base of the pots were starving, but chilled and soured where they did not require sustenance; and while the plant could not get support death was gradually taking place, and in course of time they collapsed.

Cinerarias, Calceolarias, Primulas, and some other plants during winter often fall victims to this treatment. Bad drainage clogged by worms is certain to end in bad health or death. Strawberries in pots often flag and gradually die off, and in most cases this is due to watering in some form not conducive to health. Half the upper portion of the ball of earth has been fairly moistened, but at the bottom of the pots the roots are matted and are dying of starvation, while the upper roots are soddened to rottenness. Orchard-house trees in pots are often found in the same state, especially while their roots have not filled the pots; but when the roots have filled the pots they can hardly be over-watered, as moisture runs through the fibres as it would through a sieve. All the mulching they may have applied will not save them from red spider, small flavourless fruit, or untimely dropping. A check from want of water also causes inferior colour and defective flavour, especially during the period of second swelling. When ripening is taking place less harm from absence of water will be sustained; this applies, however, more to what is known as stone fruit than to Grapes or Figs. The latter two being gross feeders, must not be stinted severely; but if their roots are in sour and soddened soil the fruit will be proportionately bad.

We remember, many years ago, having a house of supernumerary Vines, which were bearing a very heavy crop, and to be ripe within the year after planting. They evidently were in distress while struggling under such a heavy impost; the fruit was streaked, and showing symptoms which the practised eye knows too well precedes failure. We gave the borders, all the roots being inside, a thorough soaking with soot and guano-water—repeated the dose in course of ten or twelve days afterwards, and again before the fruit were finished. The ventilators were kept open night and day with sufficient fire heat to keep the air moving; the colour, and size of berry, was all we could desire; flavour was not inferior, but pure manure-water applied in this way, and in a warm state, say 80° to 85°, is very different to the clotted mixture frequently seen in gardens, and supposed to be the life of plants, while it is positively downright poison. Application of such liquid is, however, very different in its effects when applied to plants in pots compared with those in the open ground where the air has free access to the roots, and foliage receiving nature's best gifts; soil crammed in a pot which is in a stifling atmosphere under glass should have liquid manure, when necessary, which would not become poisonous to the roots, or render the soil impure, and such as the feeders cannot assimulate. Inanition of plants often takes place by applying solid manure in soil when the plants are exotics, and have to be grown with a minimum of air, also when they are subjected to drenchings of offensive liquid manure. At this season one can almost apply it *ad lib* to growing crops in the open ground, but a difference must be made between strong clay land, and sharp sandy soil; the former is easily injured while it would be difficult to overdo the latter. We prefer, however, to give a good soaking and mulch before the surface becomes baked with sun and wind, and in every case to avoid "dribblings."

It is a great mistake to give plants manure water before they have plenty of roots to consume it. We have actually seen practical men feeding Vines and fruit trees in general, with solid and liquid manure, when the soil was dank, sour with humus, and the roots in a state of decay. Both animal and vegetable nature requires a healthy digestion before rich nutritious food (either in liquid or solid form) can be administered with safety. Newly planted trees and shrubs are very often drenched to death. We know where many large trees were transplanted to positions varying in altitude, the soil was very heavy and "holding," like a quagmire when wet, but like bricks for hardness and solidity when dry. The water cart was used with a vengeance, not the fault of the men in charge, as written orders were given on the matter. The trees nearly all died the season after they were planted; those in the low lying parts taking their departure first. I pointed out to the proprietor and others interested, that the trees situated on the high positions, exposed too, had survived, and were doing tolerably well. The reason was a very significant one; the water cart could not be taken up the hill, and the trees had no water but what fell from the clouds, thus escaping death from over attention. Many plants, such as coniferæ, are placed in large holes well supplied with good soil at planting time, and never move into free growth at all. The drenchings which they receive in summer is often confined about the roots by the tenacious soil, until the plant becomes stunted by the roots being chilled.—*M. T.*

The Amateurs' Garden.

THE FLOWER GARDEN.

Most of the plants have now been out for a fortnight or more, but they have made very little progress; indeed, the majority seem to have suffered to some extent. The nights continue very cold—remarkably so for the time of year, and with a cold north-east wind and leaden skies it is not surprising that the plants are backward. Unless the weather changes very soon the bedding season will be a short one, and in any case the advantage of rather close planting will be apparent. If there is a stock of well-hardened tuberous Begonias that have been started into growth very gradually in a cool house or frame, some of these should be now planted out, and they will prove most useful later in the season. The qualities of these plants for bedding-out have been well proved, and they are rapidly gaining favour for this purpose. They stand both sun and wet better than most other plants employed in a similar way, and can be used in any part of the kingdom. If Verbenas are making some advance in beds the shoots may be pegged down; but it is not advisable to do this immediately they are placed out, as a check sometimes results from which they do not recover very quickly. Carpet-bedding plants are not likely to need much attention just yet; but they must be looked after closely if it is wished to keep the design clearly defined, and an occasional pinching will readily effect this.

Where chance Primroses, Polyanthuses, or Alpine Auriculas have been flowering out of doors, they will probably have formed some capsules without artificial fertilization, and it is desirable to save as much seed as possible of any good strain. The seed pods should be examined daily, and as soon as they are changing colour and becoming ripened, gather them carefully, and place them on paper or in a saucer on a shelf in a sunny place, where they are not likely to be exposed to wet, or damaged in any way. Immediately the seeds are well ripened, sow them in pans of light sandy loam, or if a sheltered position can be found, out of doors. The former is, however, the safer plan, and the pans may be placed in a cold frame, dibbling the young plants out in early autumn, when they will have time to become well established before winter.

Roses are coming on fairly well, but suckers from the stocks are rather abundant, and must be kept trimmed off; also, if large blooms are wanted, the buds must be thinned in good time. Except for exhibition purposes this is unnecessary, as flowers are constantly wanted for vases or bouquets, and this thins them quite enough. For weakly plants, a supply of liquid manure will prove beneficial, especially if the weather becomes hot and dry. Rhododendrons are now mostly out of flower, and require to be picked over, removing all the remains of the flowers, or any seed-pods that have formed. This is also a good time to thin the plants, if they have grown together too thickly; and the growth now commencing will have more space for development and maturation. Such plants as these need periodical attention in this way, but thinning should never be done excessively at one time; a moderate thinning every three years will be sufficient, and will prevent the beds having a bare appearance, as they are liable to have if treated somewhat rigorously at longer intervals.

ROSES IN JUNE.

After the heavy rains that have visited almost every part of the country during the past month, we may reasonably expect a time of heat and drought. This last condition of the weather is trying to Roses, and its probable advent should be prepared for by getting some mulching material ready, and spreading it over the surface of the Rose-beds 3 ins. or 4 ins. in thickness. The fibrous roots of the Roses seek their sustenance near the surface, and that they may do their work properly, and fully sustain the plants, the surface of the soil should be kept cool and moist, and this can best be done by applying a mulching. The Rose takes kindly to strong food, and we have known fresh pig-dung applied with advantage on light ground; but such a dressing should not be put on too near a dwelling, or the smell arising from it will probably prove disagreeable. In this case some partly decomposed manure should be employed; but a mulching is absolutely necessary. None can expect Roses to go on flowering in hot drying weather unless they are helped by a surface dressing.

In cold and exposed localities, like parts of Lancashire, Yorkshire, &c., the Roses had to bear a severe trial while the cold wintry winds of February and March lasted, and they broke into growth very late. A mulching will greatly help these, and they should be encouraged to grow in every possible way; and more especially is this true in relation to the more delicate Tea-scented varieties. Before the mulching is applied the hoe should be passed lightly over the beds, so as to nicely loosen the surface, but taking care not to go deep enough to injure the young roots. A good mulching for Roses can be made of short dung and spent Hops mixed together; the latter is regarded by us as a valuable manure, but it is not easily obtained. The market gardeners round London use spent Hops from a brewery largely for manurial purposes.

What an effect localities and climate has on the growth and blooming of Roses has been shown in our own experience a week or two ago. The opening days of the week we spent in the Rochdale district of Lancashire, and there the Roses had put forth a puny and weakly growth, and were sadly in need of sun and warm weather to bring them on into a healthy growth. From thence we went to Llandudno, in North Wales, and here we saw Tea Roses against walls in the open air actually in flower. The plants were putting forth a vigorous growth of young shoots, laden with large and promising buds. The change was marvellous. In the one case, nature appeared to be at open war with the cultivator; in the other, its most potent influence was on his side. What a difference in a stretch of some one hundred miles!

Hot and drying weather will bring with it caterpillars, green fly, &c.: if good blooms are to be had, these must be exterminated. Sprinklings overhead with clear water will be found of value; washing with soft soap and flour of sulphur; tobacco juice properly diluted; or any suitable insecticide will be necessary in the case of plants badly affected. You cannot possibly have good Roses from plants infested with vermin.—*R. D.*

THE LIVERPOOL SHOW.

On the opposite page we give a plan of the Botanical Gardens and Wavertree Park, Liverpool, in which the Royal Horticultural Society will next week hold its first provincial exhibition in the famous seaport, and which will, no doubt, prove of much service to readers attending the exhibition. The present Botanical garden is the second which Liverpool has possessed—the first, which was made about the commencement of the present century, having to be abandoned some thirty years later owing to the rapid growth of the city. The present garden was laid out by a private company in 1831, and became the property of the corporation in 1846, and, with Wavertree Park, is thrown open to the public. For many years the garden was under the charge of Mr. J. L. Tyerman, an able and experienced horticulturist, and since his retirement, several years ago, has, with other public parks belonging to the corporation, been under the skilful management of Mr. J. Richardson, a courteous gentleman, who shares with Mr. Barron the onerous duties of superintending the arrangements for the exhibition.

What is shown on the plan as the conservatory is really a fine range of glass consisting of five houses, with a Palm-house in the centre, and a broad terrace walk in front of the whole, while at the rear are the usual offices and frame-ground, containing a number of useful span-roofed structures, in which are grown a great quantity of bedding stuff, and numbers of useful decorative plants, which are largely in demand for decorating the public halls on the occasion of public ceremonies. The Palm-house is 50 ft. long, 50 ft. wide, and 50 ft. high, and contains some handsome specimens. The span-roofed houses forming the wings are each 68 ft. long, 30 ft. wide, and 20 ft. high, and contain good examples of many kinds of Ferns, Camellias, and stove and greenhouse plants, as well as many subjects classed as "medicinal," and only seen, as a rule, in botanic gardens. Considering the great difficulties that have to be contended with in the way of smoke, the houses and grounds are maintained in admirable order.

We learn from our Liverpool correspondent, that as the ground work, erection of tents, and shedding, &c., nears completion, a good idea may be gained of the extensive preparations that have been made by the Council of the Royal Horticultural Society. The ground occupied covers an area of 20 acres in extent, and besides the large tents erected for the display of the plants, fruits, cut flowers, vegetables, garden literature, &c., in the positions shown on the accompanying plan. Plant houses, frames, &c., will be found exceedingly well represented, from the large and substantially built conservatory to the small but useful tenant's fixtures built for amateurs. The tents are on an unusually extensive scale, the largest being 260 ft. long and 130 ft. wide. This has been laid out according to a design by Mr. Barron, and under the personal supervision of Mr. Richardson, Curator of the Liverpool Parks and Gardens, the work has been well done considering the obstacles that had to be contended with in the way of drains already laid. The arrangement of the beds and paths is somewhat in the natural style, and in the centre is an artificial rockery, with waterfall constructed by Mr. W. Clapham, of Stockport.

A tent 200 ft. long and 40 ft. wide will contain the Roses and other cut flowers invited in the schedule, and any other subjects for which space cannot be found in the large marquee. The fruit and vegetable tent is 100 ft. long and 40 ft. wide; and an oval tent 90 ft. by 40 ft. will be devoted to the competition for dinner tables completely laid out for eight persons. This is a new feature at Liverpool exhibitions, and is expected to prove very interesting to the local visitors. Tents for the Conference on Wednesday, and other purposes, will also be included in the huge display of canvas, which Messrs. J. Unite & Co., of Edgware Road, London, have been instructed to provide. The erection of the woodwork is in the hands of Messrs. Brown & Backhouse, and Mr. Andrew Howard, of Liverpool, has charge of the canvas.

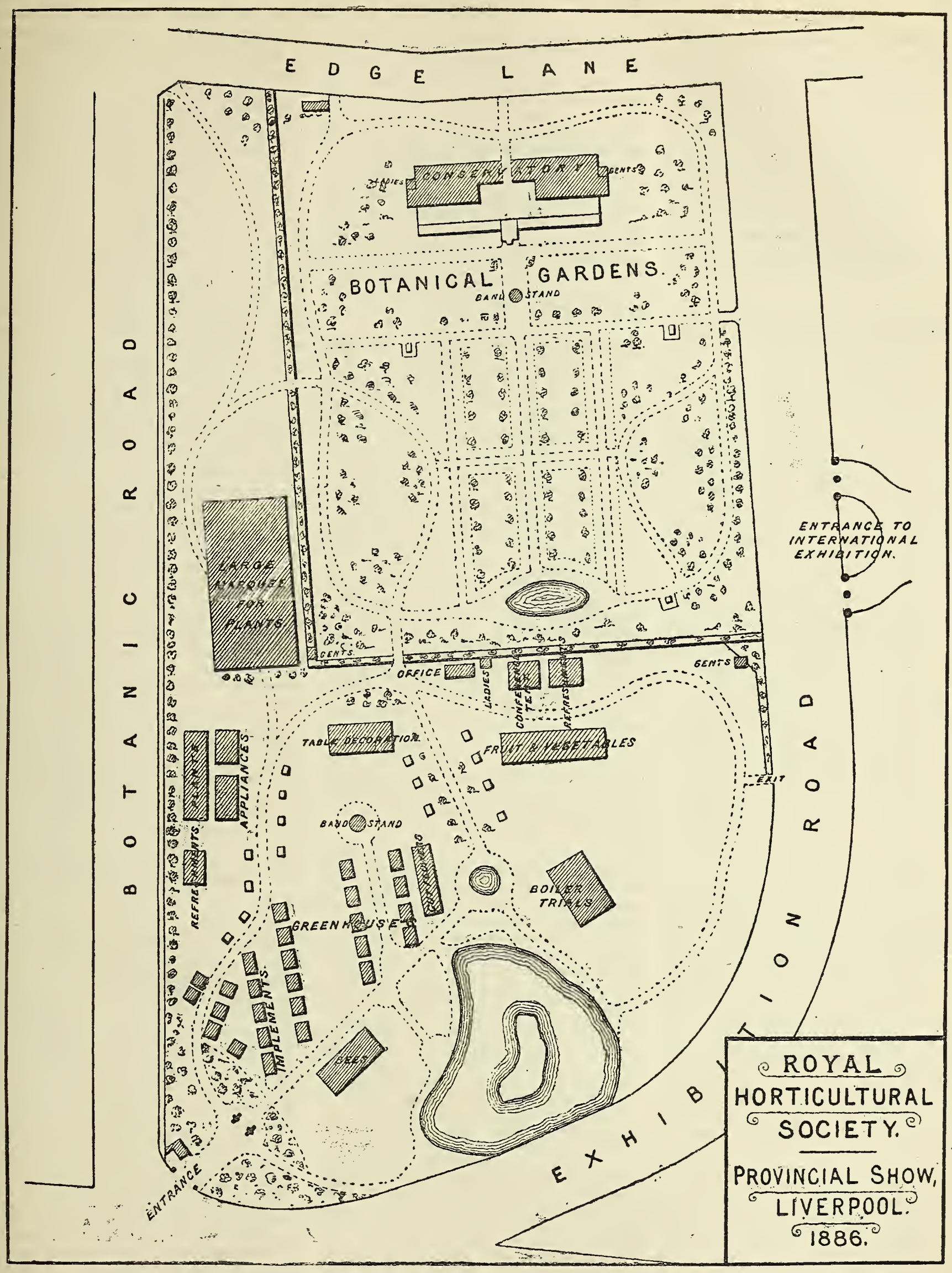
Horticultural structures, &c., will be exhibited on a scale hitherto unknown in Liverpool, some sixty entries having been received. Plant-houses, frames, &c., will be shown by Messrs. Halliday & Co., Middleton, Manchester; Messrs. Messenger & Co., Loughborough; Messrs. Richardson & Co., Darlington; Messrs. Peel & Sons, Wood Green, Edinburgh, and Bradford; Messrs. Wrench & Son, Ipswich; Messrs. Foster & Pearson, Beeston, Notts.; Messrs. D. Lowe & Co., Edinburgh and Manchester; Mr. John Webster; Mr. T. Crispin; Mr. J. Goddan, &c. Of boilers, pipes, valves, &c., a most extensive display is expected, notices of their intention to exhibit in this department having been received from Messrs. Halliday & Co., Messrs. Messenger & Co., Messrs. Richardson & Co., Messrs. John Weeks & Co., Messrs. Foster & Pearson, Messrs. J. & F. Mee, Mr. J. Witherspoon, Mr. J. G. Wagstaff, Mr. J. Bramham, Messrs. Green & Sons, Mr. James Gray, Mr. Wood, Mr. S. Deards, Messrs. Lowe & Sons, Mr. Crispin and Mr. Goddan. Those interested in lawn mowers will find exhibits from Mr. Bramham, Messrs. Samuelson & Co., Messrs. Chadborn & Coldwell, Messrs. Barford & Perkins, Mr. Goddan and Messrs. Glassey & Co. Of wire-work, garden seats, &c., there will be displays made by Mr. Bramham, Messrs. Green & Sons, Messrs. Keyworth & Co. and Messrs. Brooks & Co.; and Mr. John Matthews, of Weston-super-Mare, Mr. Beesley and Mr. E. Sydney will exhibit garden pottery.

Among miscellaneous subjects exhibited will be Parisian greenhouse blinds, seeds, and models, by Messrs. Sutton & Sons; rustic summer houses, teak-wood baskets and tubs; anthracite coal, by Mr. W. H. Essery; tree pruners, folding postal boxes, Orchid peat, by Mr. H. G. Smyth; insecticides, garden tools, and cutlery, meteorological instruments, &c. In the boiler contest, a keen competition for the medals is anticipated, several firms of good repute having entered.

How to get to the Exhibition.

Strangers to Liverpool may be glad to know something of the means of locomotion available for getting to the exhibition from the principal railway stations. The nearest station to the Botanic Garden is that erected by the London & North Western Railway Co. especially for the International exhibition, or, as it is locally called, "The Shipperies." The entrance from this station is from the Exhibition Road or Queen's Boulevard, which divides Wavertree Park and the Botanic Garden from the exhibition, but we presume it will only be available for excursions and special trains. Edge Hill, L. & N. W. R., is about seven minutes walk from the horticultural exhibition. Visitors residing near the stations of the Great Northern, Midland, and Cheshire lines committee, should book to the Central Station, and then take a tram car in St. John's Lane to the Exhibition Gate. Passengers by the Great Western Railway will alight at Birkenhead, cross the Mersey by the Woodside boat to the St. George's landing stage, and then go by tram; while those arriving by Lancashire and Yorkshire trains, will find trams within two minutes of the Exchange Station. The distance from the Pier Head to Wavertree Park, is rather more than two miles, or twenty-five minutes ride. At the entrance to Wavertree Park, a fine view is obtained of "The Shipperies," and in this exhibition horticulturists will find much that is interesting and instructive.

Name of Place.	Gardener.	How to Reach It.
Elm Hall (W. H. Watts, Esq.)	Mr. A. R. Cox	By train to Wavertree.
Dudlow House (Bernard Hall, Esq.)	Mr. Crosbie	By train to Wavertree.
Wavertree Nursery (J. Davies & Co.)		By train to Wavertree.
Wyncote, Allerton (C. W. Neumann, Esq.)	Mr. W. Mease	By train to Mossley Hill, L. & N. W.
Cleveley, Allerton (T. S. Timmis, Esq.)	Mr. B. Cromwell	By train to Allerton, L. & N. W.
Camp Hill, Woolton (F. H. Gossage, Esq.)	Mr. J. Jellicoe	By train to Hunt's Cross, Cheshire lines, or 'bus to Woolton.
Woolton Wood, Woolton (Holbrook Gaskell, Esq.)	Mr. Alexander	
Roseleigh, Woolton (A. Tate, Esq.)	Mr. R. G. Waterman	By train to Gatacre, Cheshire lines, or 'bus to Woolton.
Sefton Park		By tram or 'bus.
Otterspool (Sir T. Moss, Bt.)	Mr. D. Lindsay	By train to Otterspool, Cheshire lines.
Riversdale, Aigburth (E. Harvey, Esq.)	Mr. T. North	By train to Otterspool.
Aigburth Nursery (Messrs. R. P. Ker & Sons)		By train to Cressington, Cheshire lines, or 'bus.
The Vineyard, Garston (Liverpool Horticultural Co.)		By train to Garston, Cheshire lines or 'bus.
Norris Green (Mrs. Heywood)	Mr. W. Bardney	By train to West Derby, Cheshire lines or tram.
Sandfield Park (W. D. Holt, Esq.)	Mr. F. Roberts	
Sandfield Park (J. E. Reynolds, Esq.)	Mr. T. Wilson	
Winter Gardens (New Brighton)	Mr. C. Finnigan	By New Brighton boat.
Montpelier House (New Brighton)	Mr. E. Bennett	
Larchwood, Rockferry (T. B. Hall, Esq.)	Mr. C. Gittens	By Woodside boat or Mersey Tunnel to Birkenhead, thence by 'bus or train.
Spital Hall (H. H. Nicholson, Esq.)	Mr. M. Playfair	
Birkenhead Park		



Gardens worth visiting.

For the information and convenience of those who would like to see some of the private gardening establishments and nurseries in the vicinity of Liverpool, we publish on the opposite page a list of gardens worthy of a visit. In order to make the list as serviceable as possible we have limited the number to what it is not impossible for anyone to visit in a few days. The first eight places mentioned in the district of Wavertree, Allerton, and Woolton, would take a day to see comfortably, taking them in the order named. Sefton Park, and thence to Garston, would form another day's excursion; and the West Derby district an enjoyable third. When at West Derby the visitor will find himself within measurable distance of Croxteth Park, the Earl of Sefton, gardener, Mr. Barham; and Knowsley, the Earl of Derby, gardener, Mr. Harrison.

The numerous fine seats in Cheshire are somewhat more scattered, but would prove an agreeable change, affording an opportunity for seeing the new tunnel, and the various views on the Mersey.

Liverpool Hotels.

The following hotels are within a few minutes' walk of the principal stations, and close to the line of trams running to the Exhibition:—L. & N. W. R., the "Adelphi," the "Grand," and the "Imperial," in Lime Street; the "Waterloo," the "Neptune," the "Union," and "Laurence's Temperance," in Clayton Square; the "Compton," Church Street; the "Saddle," Dale Street; the "Star" and the "Bee," in St. John's Lane; the "Stork," in Queen's Square; and the "Salisbury" (Temperance), in Mount Pleasant.

CULTURE OF THE CALANTHE.*

Amongst the many good winter-flowering plants now in cultivation, few, if any, are more worthy of the attention of the gardener than these showy terrestrial Orchids, for their variety of colour, great beauty, the length of time they remain in bloom, and great decorative qualities, render them very valuable from November to January. They are by no means difficult to cultivate, and will repay those who may have the means of growing them for any labour and care they may bestow upon them, and they are most acceptable for table decoration, for bouquets, ladies' hair, or button holes. They throw up their spikes from 3 ft. to 5 ft. in height, and when tastefully arranged with Ferns, and other foliage plants, they are indeed handsome Orchids.

Most of the Calanthes are natives of India, and I shall confine myself to noticing only Calanthe vestita, the flowers white with a blotch of rich crimson in the centre, from Moulmein ; C. vestita luteo-oculata, flowers white with a blotch of yellow in the centre, from Java ; and C. Veitchii, a hybrid raised by Mr. Dominy, from a cross between Limatodes rosea and Calanthe vestita. It is one of the best of the class to which it belongs, and the flowers are of a rich rose colour. Bulbs of this variety are very large, being from 12 ins. to 18 ins. in height, and the flower spikes are from 4 ft. to 6 ft. in height, a truly beautiful plant for many purposes.

The Calanthes enumerated are all deciduous, and require a good season of rest, which should be about three months in a temperature not below 55°, care being taken not to allow any water to fall upon them ; they must be kept quite dry. Some gardeners put them under stages, or other out of the way places, but this practice I consider unsafe for this reason, if the bulbs commence growing and are left in the dark, in a few weeks they become drawn, and are never so fine afterwards. I leave the pots in the full light when resting, and strong breaks and fine bulbs are the consequence.

Propagation.—Calanthes are increased by the bulbs producing from two to four growths, each growth forming a bulb. By cutting vestita in two, crossways, and Veitchii into three or four, according to the number of rings or joints, the number is easily increased ; place the cuttings on a dry shelf in a stove for a day or two for the wounds to dry up. Insert in pots or pans of sand, and place them on a shelf in a well-heated stove, where they will receive plenty of light and sun, also keep them dry or decay might set in. They will be ready for potting in about six weeks, and should then have the same treatment as the other bulbs.

Cultivation.—The best time to pot Calanthes is when the growths are about half an inch long, and the compost should consist of equal parts of fibrous peat and turfy loam, broken up by the hand. Put this into a half-inch riddle and sift out all the fine soil, and add to this a fourth of well-decayed manure in a dry state, with a liberal dressing of charcoal broken into small pieces and a good dressing of sand. Fill a third of the pot with drainage, whatever the size may be. Over this place a good layer of sphagnum, fill the pots to within 1 in. of the rim, and put three bulbs in a 5-in. pot, and four or five in 7-in. pots. Place the bulbs round the edge of the pot with the growths to the rim, work-in about half an inch of the compost and make them very firm ; this applies to C. vestita. C. Veitchii should have only one in a 5-in. pot, and three in a 7-in pot.

The whole of my plants were potted on the last Friday in February, and were not watered until the new roots commenced growing. When the roots are quite active they should never know the want of water, and they should also have plenty of heat after this, with light and atmospheric moisture ; but avoid, as far as possible, any water dropping on the young growths, as they are very liable to decay at this stage of their growth. As the season advances, slight shading will be required to prevent the points of the leaves being injured. As they advance in growth, and the pots become filled with roots, give them liquid manure, or guano-water water two or three times a week, care being taken not to give it too strong ; this is of great importance, as fine spikes of bloom cannot be produced without it.

Scale is very fond of this plant, and if it makes its appearance sponge the leaves carefully with soft-soapy water. If green fly makes its appearance fumigate with tobacco-paper. The syringe should never be used for these plants. About September they will throw up their flower-spikes, and many of their leaves will begin decaying, but they should not be pulled off until quite dead. The Calanthe at this stage is a most unsightly plant, but you must have patience with it, and it will repay you by and bye ; the action of the roots will also cease in a great measure. Very little water will now be required—say, once a week until about the middle of December ; after that the spikes will derive their support from the bulbs, so that resting and flowering will be going on at the same time. The temperature at this time should range from 55° to 60°, and the house should be kept dry or the blooms will become spotted.—*John Marsden.*

*A paper read by Mr. John Marsden, Westbourne Conservatories, at a meeting of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society.

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—XI.

Having treated each class of Chrysanthemum separately so far as the cultivation is distinct I will now give directions which are applicable to all the classes alike. Growers will now be busy potting their plants into the blooming pots, directions for which were given on p. 296, but as this is a most important stage in Chrysanthemum culture, I must, at the risk of repetition, make a few remarks. The pots to be used should be perfectly clean ; if they have been previously used they should be thoroughly washed, and it is a good plan to lay them in water for a day before cleaning them, as the dirt can then be very easily scrubbed off. For this purpose we use brushes made of coir which last a long time, and every part of the inside of the pots can be very easily cleansed. The pots after being washed should be well dried before being used ; great care should be paid to drainage ; the compost for this final potting is described on p. 296. In potting, well ram the soil evenly all round the pot, and leave sufficient space (about 1 in.) to admit of top-dressing later on in the season ; finish off by leaving the surface perfectly even.

The plants should then be stood in their summer quarters, and be treated according to the directions given on p. 296. For the first fortnight after this potting, the plants should not have any more water than is necessary to keep them from flagging, and the roots will then very quickly work amongst the new soil.

I now come to a most important stage in the cultivation—viz., feeding the plants. Up to the present time I have not given directions for this operation simply because if the plants are potted and attended to as previously directed, they will not require any feeding until the buds are set, except that when the pots get full of roots a little clear soot-water may be given occasionally ; but as soon as the buds are set, then is the time to commence feeding. The best time to apply manure-water is in the evening, after the plants have been watered, as usual, with clear water.

Although the Chrysanthemum will take a large quantity of manure, yet great discretion should be used in applying it, as it is always better to give two weak doses rather than have the plants injured by using the manure too strong.

As to the kinds of manure to use I will here give a few kinds, and the grower can select for himself ; at the same time it should be mentioned that the plants like a change of food, so that where convenient the grower should change the manure a few times during the season, An excellent manure is made by putting into a barrel (holding about forty gallons) two bushels of sheep manure, and about a peck of soot, over which pour enough water to cover the manure, and then with a stout stake mix the whole well together. When this is done fill up the barrel with water and let it well settle before using. In very hot weather the plants can have occasional waterings with manure water made by using cow manure instead of sheep's manure as above.

Manure water made as above will necessitate the grower having a tub always standing in the garden. This is not convenient in all gardens, so where such is the case resort must be had to artificial manures, and with ordinary care equally good results follow from the use of such stimulants. In my next I will mention a few kinds, with directions for using them.—*W. E. Boyce, Archway Road, Highgate, N.*

FUCHSIAS ON ARCHES.

Fuchsias are useful for many purposes when grown in pots, and large numbers are now propagated every year for the decoration of window boxes, rooms and conservatories. The market growers who make plants a speciality mostly include a good proportion of Fuchsias, which are at their best in May and June, the general nurseryman finds them an essential part of his stock, and to the gardener they are indispensable where abundance of useful plants is needed. Bushy little specimens, a foot in height, in 48 size pots, are most valuable, such in fact as those shown from the Royal Horticultural Society's Chiswick Gardens, which were excellent samples of their kind. In large conservatories and winter gardens, Fuchsias are often planted out in borders and trained to stakes 4 ft. to 8 ft. high, in upright cordon fashion, being cut in each year to the one main stem, they are also grown in similar positions in the form of standards of various heights, both these forms taking less space than the bush or pyramid methods of training. Out of doors a bed of free flowering dwarf Fuchsias is occasionally seen, but the variegated Sunray and Golden Treasure are most frequently used for bedding. The hardy shrubby Fuchsias render many homely gardens in the south of England, such as in the Isle of Wight, extremely gay during the early summer months, but it is seldom that the ordinary tender Fuchsias are grown in a way for which they are capitally adapted, namely, on arches out of doors. We have seen a garden where this method is adopted with admirable results, and it is surprising that the plan has not obtained more general notice. The plants are grown with a single stem in the cordon style already mentioned, the stems of the largest 7 ft. and 8 ft. long from the pots or more, according to the height of the arches.

These are ordinary iron ornamental arches, and the pots are either stood on each side, or if the stems are long enough, are plunged, a preferable plan, as the plants are less likely to suffer from want of water in dry weather than when the pots are exposed. The stems are trained up and over the arch to meet in the centre, tying them securely as they are very liable to be damaged by wind if loose, and the arches should not have an exposed position or the plants will be unsatisfactory. Fuchsias grown in this way should be grown in a cool house, have a good season of rest, and not be placed out until all danger of frost is past, when, if they have been kept cool, the shoots will be short and sturdy, soon advancing in warm June weather if kept well supplied with water and liquid manure, occasionally syringing them in the evening after hot days. They will flower abundantly and render the arches very ornamental in the early summer.—*J. Staines.*

HARDY PLANTS IN FLOWER.

With what pleasure one can pen a few more remarks on these ever increasing popular plants after reading the reports of the Whit-week show at Manchester ; for some years the Botanic Gardens at Old Trafford have held the sway in bringing together collections of plants of all classes, and year by year it appears to be in the ascendent. What greater pleasure can be recorded than "The Orchids and Hardy Herbaceous Alpine and bulbous plants were the main attractions of the show," to the advocates of either group, and still greater to those whose privilege it is to be not only advocate, but cultivators of both. But what shall I first write about? this question is quickly answered, for one of the brightest bits of colour in the garden now is

Myosotis Imperatrice Elizabeth.—This kind is distinguished from all the other members of this favourite group of spring plants, by its erect and stout somewhat branching stem, to a height of about 9 ins. On these are situate numerous heads of purple-blue flowers, so very distinct, and so rich—a luxury in fact in the garden at the present time. This is a summer-flowering plant, and lasts many weeks in perfection ; it is a true perennial, and may be increased by seeds and division of the roots. Among old garden favourites may be seen

The Old Fraxinella, Dictamnus fraxinella, and its white variety, both first-class border perennials attaining 2 ft. or more in height, and as much through. They root deeply in stiff loamy soil, and produce, well above the foliage, their pyramidal spikes of singular red and white flowers, which are highly fragrant.

There is yet another kind, though somewhat rare; this is D. fraxinella var. taurica (it may be that this latter is a true species), it is taller and somewhat bolder than the first named, and has flowers of a deeper red.

LINUM PERENNE ALBUM.—What a charmingly pleasing plant we have in Linum perenne album! Its generally fragile growth, and silver-grey flowers wafting in the breeze, render it so very distinct as to demand the notice of every passer by. It is about 2 ft. in height, and begins flowering early in the month of June, and continues for weeks in succession. It is a free seeder, perfectly hardy, and having the qualities I have named, should make it deservingly popular.—*J.*

FRUITS, FLOWERS & VEGETABLES.

Cottagers' Flowers.—Many of our cottage gardens are now beautiful with the simple flowers usually grown in them, one I have just passed is lovely, and yet there are not more than half a dozen species in bloom. There are some dozens of large patches of white fragrant Pink, some rows and patches of London Pride, a dozen or so clumps of Purple Rocket, some large wild-growing bushes of Roses, many tall spikes just expanding of white Lilies, some crimson Authirrhinum, and a few other hardy flowers, and that is all at present in bloom; but what a delightful garden they make. Soon the Honeysuckles will be in, and the Iris and other things, and then the appearance of the garden will be quite different to what it is now, but equally lovely. Back in the spring there were many hundreds of common single and double Daffodils in flower, a very charming sight, extending away back among the grass, under the old Apple trees, and then came the show of snowy Arabis. In many of these cottage gardens we find much beauty produced at a very small cost.—*M. A. Camb.*

Ramondia pyrenaica.—Although this is one of the choicest of Alpines, it is more conspicuous by its absence in gardens than it ought to be, considering its hardiness, its individual beauty and neatness of habit. It is one out of the two representatives of the Gesneraceæ family in the European flora, a family in all probability more numerously represented there in former ages, when the conditions as to temperature were more favourable to that kind of vegetation which has now all but died out. It succeeds admirably in a cold frame, but withstands our winters in the open unprotected when placed in the crevices or other parts of the rockery where it can obtain a sufficiency of moisture for its roots without stagnation about its rugose shaggy leaves, which form a dense rosette spread flatly on the ground. It has been cultivated in the full sun on a rockery, but seems happiest where the direct rays of the sun do not fall upon it. A large clump is now in full beauty, planted amongst the crevices of the rocks, and shaded from all save the early morning sun by tall Hollies and Lime trees. The purple flowers, backed by the deep green foliage showing here and there its shaggy rust-coloured undersurface, exhibit a very pleasing picture in the shady recess where they are grown.—*J. F.*

Cytisuses Flowering Twice.—Early this spring I purchased some plants of the common yellow Cytisus, which were then flowering, and they continued bright in a greenhouse for some weeks. After the flowers had faded the plants were trimmed up closely and placed in a warm frame, syringed freely, and watered as necessary. They soon commenced growth, and produced spikes of flowers abundantly, being now covered with bloom as handsome as before. This time, however, we have them in the window with other plants. This second flowering may not be new to some readers of THE GARDENING WORLD, but I fancy there are other amateurs like myself who have not observed it before, and for this reason the fact may be worth recording.—*Amateur.*

Geranium argenteum.—Although introduced in 1699, from South Europe, this species of Crane's Bill, has never made much headway in the gardens of this country, nor apparently will it ever do so. Its rate of growth is slow, and the annual increase quite insignificant. That this should be the case is to be regretted, for the ease with which a plant can be propagated, determines in a great measure whether it can be rapidly disseminated and popularised. Another great factor in the case is the relative hardiness of the plant, namely, its power of resisting our severe winters unprotected and with no more attention than is usually accorded hardy herbaceous plants. Formerly it was described as necessitating the protection of a cold frame, but it has now withstood the past three or four winters unprotected on a rockery. The dwarf almost stemless habit of the plant, coupled with the comparatively small silvery foliage are uncommon features in this genus of generally well-known garden plants. The individual leaves are peltately orbicular, five to seven parted, with trifid lobes and ultimately linear segments, and appear to spring from the root. The peduncles are two-flowered, bearing large rosy or flesh-coloured flowers, beautifully variegated with numerous deep rosy purple branching veins. It delights in a sunny open exposure, in a soil that is rather dry than otherwise—conditions it is most likely to get cultivated as an alpine on rockwork.—*J. F.*

Lathyrus Drummondii.—Before any of the varieties of L. latifolius are shewing their flower stems, this is in bloom, and has been so for ten days past. The flowers are of a bright carmine-red, and they are produced in wonderful profusion. The plant occupied an open space, it is trained up some bushes, there are several leading shoots, and it measures nearly 3 ft. in diameter. It is one of the most attractive of the Everlasting Peas, and it should be planted in good soil and left alone, giving the plant only a good mulching in spring.—*R. D.*

WIREWORMS IN VINE BORDERS.—Having read D. R.'s letter in your last, wherein he complains of the wireworm pest in his Vine border, I would offer him the following advice, which if acted upon will soon rid him of the pest. Having had charge of a newly made border, fresh from the pasture instead of being cut and fully exposed to the weather during the winter previous, the Vines were planted and broke nicely into growth, but all at once they began to droop; we gave them a slight shade and a good watering, but all to no purpose, until one morning on examining the roots I found they were eaten through in some instances, and where strong the wireworms had hollowed them out and gone up out of sight. I tried Carrots, Potatos, and Cake, but the more I got the more there seemed to come. The evaporating pans swarmed with the fly. At last a friend suggested that I should cover the border 2 ins. deep with fresh horse droppings, give the same a good watering with tepid water, let it remain for two days and then turn it over with the hand, and I should find them on the top of the soil and in the droppings by the hundred. It answered completely, and I repeated the practice until we were clear of them, and it did not take long. I may add that in my case the Vines were rendered completely useless, and young Vines from the eye were obtained, planted on July 3rd, and made first-class canes, some being an inch and a quarter in diameter. Should "D. R." adopt this plan, I hope he will give us the result, as I know there are many who do not yet believe in the mischief done by wireworms to Vines.—*G. Baskett, The Gardens, Elm Croft, Parkstone.*

CUCKOO SPITTLE.—Before Mr. Kidson throws doubt upon the statements made as to the origin of the frothy substance which envelopes the insect seen in cuckoo spittle, so called, on plants so abundantly this year, he should have made himself fully acquainted with the entomological aspects of this subject, for, on what I have no doubt is sound entomological authority, I made the statement with reference to the insect's power to absorb sap from the stems of the plants upon which found, and convert it into their frothy coating. It must be noticed, that, inasmuch as this froth consists chiefly of air bubbles, the quantity of sap or moisture required to create it is very trifling. On the other hand there is absolutely no evidence that the insect possesses any internal power to create this froth from its own body. The egg is, without doubt, deposited in the leaf-joint, as, I think, in all cases the insect is found just above a leaf-joint. For the purpose of satisfying myself as to the perforation in the stem, to which I had previously referred, and having the spittle somewhat profusely upon the flower-stems of the old mule Pink, I cut several, washed the spittle and insects clean off, and then, with the aid of an ordinary eye-glass, was enabled to discern the punctures just in the stem were the insect was, like minute fine holes. I could not have distinctly seen these with the naked eye, for mine are now weak, but the glass made them very evident, and I have no doubt whatever that the stems of the plant had been drained more or less as required. As to the insects being endowed with poisonous attributes, I have considerable doubts on that matter; I have seen no evidence of it, nor have I observed that any appreciable harm is done to plants by the perforations made in the stems. The chief objection seems to lie in the frothy deposits made by the insects, and which, if nothing worse, are very unsightly.—*A. D.*

CAMBRIAN PRINCE STRAWBERRY.—Can any of your readers give me any information respecting the origin, cropping qualities, and flavour of the variety which made such a good appearance under this name at the late Manchester Show? I saw the two sets of plants there, which were certainly very good, but could glean no information about the sort.—*Lancastrian.*

GARDEN FRAME.—Can any of your readers tell me what kind of garden frame is the best and most durable for general use, and whether span or inclined top is the best?—*B.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES

Work in this department will now be of a general rather than of a specific nature, for this is now a "quiet" time, potting of all kinds having been completed, it is more a matter of attention than work; at the same time where by any means work has been neglected, nothing but confusion and failure can be expected. Each day brings its work, and if there should be neglect of any kind it will surely be felt, probably next autumn, when the conservatory ought to be gay with bloom. Ferns and Palms will be required to be used to help out, and all manner of excuses made, to try and bridge over the summer's neglect, therefore keep on the alert. More particularly follow out last week's advice with regard to the stock of plants preparing for next winter's forcing, and if by force of circumstances they have not yet been attended to, lose no further time, and the same speedy attention must be given to the main batch of Chrysanthemums.

The early summer flowering varieties are now shewing flower, and it is advisable that they should be placed under cover, as we find that if allowed to bloom out-of-doors, the flowers become spotted and dirty looking. Under glass they are kept quite clean, and are most useful, and although I have heard opinions freely expressed that they are out of place at this season, I dissent from that view, in fact, I am inclined to think that we may ultimately look for them "all the year round"; with the assistance of the annuals this is even now attainable.

In the stove take care that the syringe is freely plied, to prevent thrip or spider becoming established, and also keep a sharp look out for mealy bug, the greatest of all the gardeners' pests. As Achimenes progress have them neatly staked into whatever form may be desirable; if they are grown in baskets, staking is unnecessary, as allowing them to droop naturally they are much more effective, only be careful that they have an abundance of water when grown in this way, or they will rapidly go over, particularly at this season. Cinerarias and Primulas will now be benefitted by removal to the north pits, or the former will be apt to become infested with green-fly and give a lot of trouble to eradicate when the plants are so young; let the plants receive a good sprinkling through a fine rose morning and evening, after the watering has been attended to, and draw the lights completely off them, and allow them to remain off through the night, replacing first thing in the morning, before the sun has much power; they will be greatly benefitted by the night's dew, and the foliage will be altogether stouter than if coddled up in the pits always. If the late sowing of Cinerarias has by any means missed, lose no time in making another, as, if sown after this, the stock will not be so satisfactory, neither will they flower until well on in spring.

THE FRUIT HOUSES.

Where the fruit from the early Peach-house has all been gathered—and if forced early it will be—the trees should be at once pruned, so that the roots be only asked to support and finish what is absolutely required in the way of wood for next year's crop, instead of—as is too frequently the case—allowing all the surplus wood to remain until the autumn, doing an incalculable amount of injury; also be extremely careful that the border from now onwards does not suffer from want of water, and let the trees be well syringed morning and evening, of course throwing the top and

front lights right open. A thorough ripening of the wood will then be secured, and the foundation for success next season be ensured.

In the late houses admit an abundance of air, syringe freely, stop all lateral growths at the first pair of leaves, tie-in and keep all as neat as possible. There is equally as much pleasure in looking at a well-furnished Peach-house as at a Vinery, where, as a rule, only the clusters of fruit are admired. As soon as it can be perceived that the Muscats have finished stoning, which can be readily done by the berries assuming a semi-transparent hue, a little extra heat in the pipes may be allowed, and a free circulation of air admitted. This will tend to harden the foliage and so keep it clean, as the strain upon it has yet to come; for although by admitting extra light you may "colour" white Grapes, it will not last, and towards the autumn the berries so coloured will turn brown on exposure to the light.

THE KITCHEN GARDEN.

In this department extra activity must prevail, for with the showery unsettled state of the weather, so especially promotive of growth, weeds will speedily obtain the upper hand, and in many instances choke the crops. Let all available strength be given to the frequent hoeing and weeding of crops, more particularly the seed-beds; this extra labour although, perhaps, it may now seem a great bore, will in the end prove of the greatest benefit. I have lately been particularly musing upon what would be the state of a great deal of the land if there were no weeds? I am much afraid it would fall into a most lamentable state, as the growth of weeds causes the soil to be constantly stirred, greatly to the well-being of the crop growing; and were it not for weeds, I think there is but little doubt much of the labour now employed would be dispensed with, so that we must look upon weeds as playing a most important part in horticulture.

The moulding of Potatos is completed, and with that operation all seedling weeds destroyed, an occasional hand weeding may be necessary later on, but that is all until the crop is housed. Take advantage to secure the first layers of the Strawberries for pot culture, which are now ready, and in strawing the beds have the runners at the sides, and ends kept on the top of the straw; this is necessary only where layering has to be done from the fruiting squares.—*W. Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Watering Orchids in Summer.—From the present, onwards until the autumn, is the season in which by far the greater part of the Orchids require the most water, indeed, there are but few of them that require to be kept dry. The Ærides, Vandas, Phalænopsis, Calanthes, Dendrobiums, Cattleyas, Lælias, and indeed most of the other large sections of Orchids at this season require a fair supply of water, and the Odontoglossums, Masdevallias, and other cold-house plants, which require water at all seasons, now demand a more than usually liberal supply. With most Orchids a stinted allowance of water in the hot weather is one of the commonest causes of weak shrivelled and small-flowered specimens; and I have noticed that plants kept too dry in hot weather are much more liable to be attacked by insects than those freely watered. It is, therefore, better to err in giving too much than too little; rain-water in all cases being used where possible.

This recommendation of a liberal supply of water in the case of freely growing and rooting plants brings us to another point necessary to touch upon in connection with it, viz., the necessity of potting all epiphytal Orchids, so that the material may give free drainage and allow the water to pass off without its remaining too long about the plants, or getting the peat or sphagnum around them into a sodden condition. If the peat is of the proper quality, there is little fear of this if the plants are potted so that they drain well in the first place, but if by chance, or by reason of the peat being of bad quality, the plants should seem likely to become too wet, water should be withheld and a watch be kept on them to try and ascertain the cause why the moisture does not pass away so freely as it ought to do. Should it be found that it is due to bad drainage or potting material, a shift into another pot or basket should be given at once, unless anything in the condition of the growth or flower should forbid it, in which case the matter should be seen to at the earliest safe opportunity.

The Dendrobes and bulbous Calanthes will be now growing vigorously, and will require abundance of water and heat. All the Dendrobes like a position near the glass of the roof either in baskets or pots, and the Calanthes, such as C. Veitchii, are not averse to such a position, as those who have failed to grow them well on the stages, have found on placing them on shelves or suspending them near the glass, for a marked improvement of condition invariably follows. Calanthes, when rooting strongly and growing freely, like a little weak liquid manure, such as cow manure, and some speak highly of a sprinkling of Clay's Fertilizer among the potting material. Shading and ventilation, it is hardly necessary to say, are two very important matters requiring constant attention.—*James O'Brien.*

An Orange Striped Cattleya Gaskelliana.—That noted by us, at p. 771, August 8th, 1885, is again in flower for the third time with Messrs. Thomson and Son, Tweed Vineyards, Clovenfords, Galashiels, thus proving its constancy as a remarkable and handsome novelty. The flowers are those of a good C. Gaskelliana, 7 ins. across, the lip being very finely coloured with crimson and orange, but the great peculiarity is that the same rich tinting of the lip is also on the two lower sepals, both of which have fine broad bands of orange and bright crimson, giving the whole flower a gay and novel appearance.

Cattleya Mendelii varieties are also in flower grandly with Messrs. Thomson & Son, one specimen surpassing anything in its way that we have seen, and would probably stand first in beauty if staged in a competition open to all Cattleyas. It seems nearest to Messrs. F. Sander & Co.'s C. M. Duke of Marlborough, but superior even to it. One spike bears four superbly formed flowers, each 8 ins. to 8½ ins. across; petals and sepals broad, white flushed with a delicate pearly blush; front of labellum broad, perfectly round, and frilled, bright violet-crimson, exquisitely pencilled with a lighter tint, which in the tube fades to white, and runs into the yellow and crimson of the throat. It is altogether beyond description, and is marvellously beautiful.

Cattleya Mossiæ.—From Farnborough Grange Gardens, Mr. John Crook sends blooms of an exquisitely delicate and fine form of this favourite Orchid. The sepals and petals are blush-white, lip blush on outside, pure white in front, delicately marbled with violet and stained with yellow in the tube; the flowers measure 8 ins. across, and the lip and petals are very prettily fringed. The plant, although not a large one, bears four spikes of eighteen flowers, which proves that Mr. Crook, who grows so many plants to perfection, thoroughly understands the management of this fine Cattleya.

Odontoglossum vexillarium.—Seeing the notice in the gardening papers, of the Odontoglossum vexillarium exhibited so finely by Mr. Douglas at the late Regent's Park show, I thought a note anent a plant I saw at Sir Charles Tennant's, M.P., The Glen, Innerleithen, would be interesting to some of your readers. Mr. McIntyre, the gardener at The Glen, bought the plant from us four years ago, a small bit in a 4-in. pot. It now fills a No. 1, and measures about 3 feet through, and is fairly smothered with blooms. There were 204 flowers fully open the day I saw it, and the variety is one of the very finest dark ones. The plant would fetch 50 guineas if put up by auction in either of the London Orchid sale rooms.—*W. Thompson, Jun.* [We have a note also from "A. O." respecting this grand specimen.—Ed.]

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*June 22nd.*—Though designated a Pelargonium show, Pelargoniums were conspicuous only by the smallness of the number staged, the really attractive little shown being mainly composed of cut flowers of hardy plants, Roses in pots, and a few odd subjects of an attractive character thrown in. Mr. T. S. Ware and Messrs. Barr & Sons, who have kept up a continuous display of hardy plants for some time, were, as usual, well to the fore, the former especially showing a large and varied collection of fine species and varieties. Messrs. Kelway & Son, Langport, staged a magnificent assortment of herbaceous Pæonies, double and single Pyrethrums, and other hardy plants, which we must refer to at greater length later on. Messrs. Paul & Son, the Old Nurseries, Cheshunt, were also large exhibitors of alpine and herbaceous plants, both in pots and as cut flowers, and an admirable collection of pot Roses came from the same firm. Messrs. Hooper & Co., Twickenham, contributed a good stand of herbaceous Pæonies, and a collection of very showy spotted Gloxinias, of which they are working up a good strain. The same firm also had a fine pure white variety, named Avalanche.

Among Orchids, which always come well to the front at these meetings, Major Lendy, Sunbury House, Sunbury-on-Thames, exhibited a specimen of Cattleya Mossiæ, which reminded one of the days when "bedding-out" was not winked at. It was a genuine specimen nearly 3 ft. over, growing in a basket and bearing sixty-two spikes of flowers—a very fine piece, which was awarded a Bronze Banksian Medal. R. J. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, staged a very nice group of Orchids made up of Cattleyas, Odontoglots, Oncidiums, Masdevallias, Cypripediums, Dendrobes, &c. Dr. Duke, Lewisham, exhibited Odontoglossum vexillarium guttatum, a variety with small flowers, and the lip dotted with small brown spots set in a ring of white. From Herr Wendland, of Herrenhausen, came a plant of Warsewiczella Wendlandii, with greenish white flowers distinguished by an oblong, longitudinal, bluish violet lip; and from Mons. Bleu, Avenue d'Italie, Paris, came Cypripedium javanicum superbiens, a handsome-foliaged variety with showy flowers, the dorsal sepal being white with green lines, the sepals green tipped with rose-pink, and densely spotted, and the lip olive-green with a light purple-brown shade. Messrs. F. Sander & Co. showed Odontoglossum Cherquensis, the Cherquense form of O. coronarium, in which there is rather more yellow than in the type; and the small-flowered Zygopetalum obtusation, which has a conspicuous bluish purple lip.

Messrs. W. Paul & Son, had an interesting display of boxes of cut shoots of various pictorial trees, mixed with Austrian Briar, white perpetual Scotch, and Stanwell perpetual Roses, &c.; and Mr. G. Prince, Oxford, showed several boxes of exceedingly fine Tea Roses. From the royal gardens, Kew, came flowering examples of Streptocarpus Dunnii, a new plant found in the Transvaal gold fields, with enormous leaves resembling an elephant's ears, and numerous panicles of tubular-shaped dull red flowers, a curiosity only; and Exacum macranthum, the Ceylon Gentian, a handsome and useful decorative plant, with large salver-shaped purple blossoms, with conspicuous yellow anthers. The plant appears to be an easy one to grow, and it is certainly showy, with the merit of its flowers keeping fresh for several weeks; it deserves to become a favourite. Mr. S. Ford, gardener to W. E. Hubbard, Esq., Leonardslee, exhibited a very striking South African proteaceous plant in flower, under the provisional name of Protea Hubbardii; it bore one large terminal head of flowers, surrounded by red bracts. Mr. R. Owen, Maidenhead, staged some fine cut blooms of a number of seedling double and single-flowered Ivy-leaved Pelargoniums; and Mr. Stacey, Dunmow, again showed a couple of stands of fine seedling Verbenas. Mr. Turner, Slough, was the only exhibitor of show and decorative Pelargoniums, staging a fresh well-bloomed lot of wall plants; Mr. Hill, gardener to Henry Little, Esq., Twickenham, had the best nine zonals.

The new plants certificated, were Begonia Arthur Mallett, from M. Godefroy-Lebœuf, of Argenteuil, a pretty rosy red leaved variety with dark green veins, the result of a cross between B. subpeltata and B. Rex. Thunia Veitchiana, from Messrs. James Veitch & Sons, a garden hybrid between T. Marshalliana and T. Bensoniæ, first exhibited as T. Wrigleyana; the sepals and petals are mauve coloured, and the lip mauve and white streaked with violet, and the centre lemon-coloured; a very pretty form. Thujopsis borealis lutea, from Mr. W. C. Slocock, Woking, a very handsome conifer with all the young growths of a bright golden colour. Herbaceous Pæony, Princess of Wales, from Messrs. Kelway & Son, Langport, a very fine double satiny white, with large broad petals. Pæony, Princess Beatrice, from Messrs. Kelway, a variety with broad rose-coloured guard petals, and a close compact rose-pink centre; and Pæony, Queen Victoria, from Messrs. Kelway, large full double blush white; extra fine. Cattleya Mossiæ Arnoldi, from Mr. S. Davenport, gardener to C. H. Hill, Esq., Arnold, Nottingham, a very fine white variety, with beautifully purple mottled lip. To Messrs. Paul & Son, Cheshunt, for Doronicum Draytonensis, a very showy species with large golden yellow blossoms; and to Messrs. Hooper & Co., Twickenham, for Petunia Empress, a new double variety with bright rose-pink self-coloured flowers, neat and compact in habit, and free blooming.

At the meeting of the Fruit Committee, several Seedling Melons were tested for flavour but all failed to pass the Committee standard. Messrs. James Veitch & Sons sent a strong fruiting plant of a new Fig received from the Continent and named Pingo de Mel. The fruits are much like those of the Brown Turkey in shape, but were not ripe enough to pass judgment upon. It is said to be free bearing and to force well, does not drop its fruit, nor do the fruits split; credentials which will ensure for it further attention. The South Australian Commission showed some very large handsome fruits of a Chinese Quince, Cydonia sp.; and from Chiswick, Mr. Barron brought up samples of Messrs. Carter & Co.'s new Knickerbocker Radish, which had been sown there on May 12th; it was passed on the

ground that it had too much top growth. Messrs. Sutton & Sons again offered prizes for Melons, and Messrs. James Carter & Co. for Melons and Cucumbers, and Mr. T. Lockie, Oakley Court Gardens, near Windsor, again carried off all the first prizes, the Messrs. Sutton's prize with their Imperial, a finely-flavoured white-fleshed Melon; and the Messrs. Carter's with the well-known Blenheim Orange; Mr. Ward, Longford Castle Gardens, Salisbury, being a good second in both classes. For the best brace of Carter's Model Cucumber, Mr. Lockie was easily first; Mr. Phillips, gardener, The Deodars, Meopham, second; and Mr. Bolton, gardener, Coombe Bank, Sevenoaks, third.

The Scottish Pansy.—The 42nd annual show of the above society was held on the 18th inst., in the Odd Fellowes' Hall, Forrest Road, Edinburgh. Notwithstanding the prolonged severity of the past winter, and the unfavourable character of the weather that has prevailed since up to the date of the show in the North it exceeded both in its extent, and the general excellence of the exhibits, the anticipations of the committee, although it could not be said to be up to the average standard in these respects. The competition was keen in most classes. It is noticeable that year by year the fancy varieties are becoming increasingly greater favourites with all classes of Pansy growers. This is not to be wondered at when the many fine qualities of their flowers and their superior vigour are taken into account. Scotch growers of note from nearly all parts of the country put in an appearance, and there were several competitors from the southern side of the Tweed whose success did them credit, and will, no doubt, induce them to come North again when the opportunity occurs.

The competition for table decorations by ladies only, was closely contested, and taking into account that Pansies, Violas, and Maidenhair Fern, and other similar garnishing were the only materials allowed by the schedule in making up the several glasses, baskets, and epergnes, this section of the show proved a very attractive one. Messrs. Dicksons & Co. won the chief prize for twenty-four show varieties; and Mr. John Sutherland, Lenzie, for the same number of fancy varieties; and the first named firm also had the best six seedling show Pansies, dissimilar. The best fancy Pansy shown was Princess Beatrice, exhibited by Messrs. R. B. Laird & Sons.—*Z.*

QUESTIONS AND ANSWERS.

Dendrobium moschatum.—*Amateur:* The cause of the damaged leaves is a small fungus, which often attacks Orchids when they are kept too close or too hot, or are otherwise checked in growth. Thrips, too, seem to have attacked the leaves. Better cut off all the injured ones and burn them, and repot the plant, placing it in a good light position, and sponging the unaffected leaves occasionally with tobacco-water.

Insects.—*Inquirer:* Both are species of Otiorhynchus, the black one O. sulcatus, and the other O. picipes. Both are very destructive to plants, but as they feed at night, and sham death when disturbed, they are easily captured by spreading a newspaper under the plants and shaking them off. If they attack the Vines spread a sheet underneath.

Anthurium Scherzerianum.—*Inquirer:* We have several times seen similar cases.

Wild Flowers.—*R. L. M.:* 1, Arenaria trinervia; 2, Spergula nodosa; 3, Arabis Thaliana; 4, Thlaspi perfoliatum; 5, Arenaria serpyllifolia; 6, Send when in flower; 7, Sagina procumbens; 8, Veronica arvensis; 9, Nardus stricta (Mat Grass); 10, Carex triparia; 11, Charophyllum sylvaticum; 12, Pyrus malus. Among the whole of these there was scarcely a perfect flower or, in some cases, seed vessel. With such small things it is impossible to be certain without good specimens.

Names of Plants.—*Nottingham:* The Lælia you sent is L. purpurata, a pretty dark variety. Its value depends upon the strength of the plant.—*W. M. H.:* Show Pelargoniums are beyond our powers of recognition. You can only get them named at a good nursery where they are grown.—*Cosmopolitan:* 1, Linaria cymbolaria; 2, Geranium purpureum; 3, Alchemilla vulgaris; 4, Sedum spectabile; 5, Spiræa ulmaria; 6, Lotus corniculatus; 7, Thymus serpyllum lanuginosus; 8, Iberis Pruiti, poor specimen. lanatum, Lamb's ears; 5, Ribbon-grass, Diagraphis arundinacea —*W. E., Great Malvern:* 1, Lilium pomponium; 2, Centranthus ruber; 3, Sedum sp., send when in flower; 4, Gnaphalium variegata. In some places called Gardener's Garters; 6, a Retinospora, probably ericoides, but specimens not in character. —*J. McP.:* Astrantia major.—*J. B. K.:* 1, Lychnis alpina; 2, a Lychnis not recognised; 3, Salpiglossis sinuata; 4, Impatiens Sultani.—*Inquirer:* Tigridia pavonia.—*J. T. Poë:* Vanda Roxburghii.—*G. W. Gardiner:* 1, Brassavola venosa; 2, Odontoglossum stelligerum; 3, Achimenes Gibsoni var.; 4, Adiantum hispidulum; 5, Litobrochia biaurita; 6, Adiantum concinnum latum; 7, Osmunda regalis, probably an immature specimen.

LONDON SEED TRADE.

June 23rd, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a small attendance at to-days market, with little business doing. Clover seeds continue unchanged in value. French dealers are asking too high figures for Trifolium incarnatum, and buyers here are disposed to await results of our home crops before operating. Mustard and Rape sell slowly at full prices. No change in Bird Seeds.

COVENT GARDEN MARKET.

June 24th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Grapes per lb.	2 0	4 0	Pears per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries per lb.	0 6	1 0
Peaches, per doz.	2 0	10 0	Canadian Apples, brl.	12 0	21 0
Pine-apples, Eng., lb.	2 0	3 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages per doz.	2 0	2 6	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	6 0	9 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket		
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			New Turnips, per bun.	1 0	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays	0 6	1 0	Narciss, various, per dozen bunches	12 0	18 0
Blue Bells			Pansies, 12 bunches	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Camellias, 12 blooms.			— scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen	4 0	6 0	Primroses		
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Gardenias, 12 blooms.	2 6	4 0	Ranunculus, 12 bches.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Rhododendrons, 12 bunches	3 0	6 0
Iris, various, 12 blms.	1 0	3 0	Roses (coloured)	2 0	4 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilac, English, 12 bunches	4 0	8 0	Stephanotis, 12 sprays	1 6	3 0
Lilac (French), bunch	5 0	7 0	Spiræa, doz. bunches	6 0	9 0
Lilies, 12 sprays	0 6	1 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	3 0	6 0	Tuberoses, per dozen.	0 6	1 6
Marguerites, 12 bun.	3 0	6 0	White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	6 0	12 0
Bedding Plants, various, per doz.	1 0	2 0	Genista, per dozen		
Begonias, per dozen	6 0	12 0	Heaths or Erica, var., per dozen	10 0	24 0
Calceolaria, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Cineraria, per dozen			Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	6 0	8 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	3 0	5 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz.	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	5 0	8 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen	9 0	15 0

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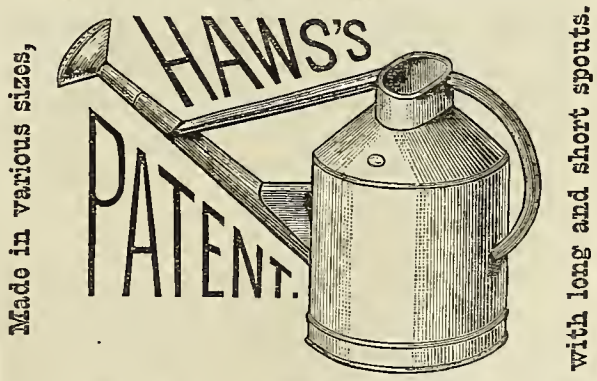

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COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s. Limited quantities of G special quality, granulated in sacks only, 2s. each.

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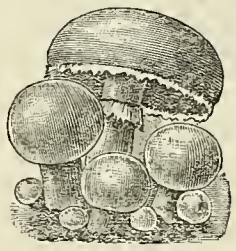

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14 by 10	for 13s. 0d.	for 19s. 0d.
14 by 12	for 17s. 6d.	for 24s. 0d.
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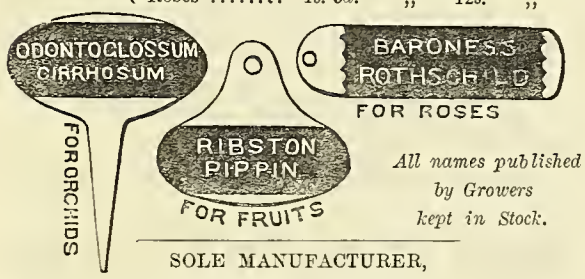

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FIG. 253

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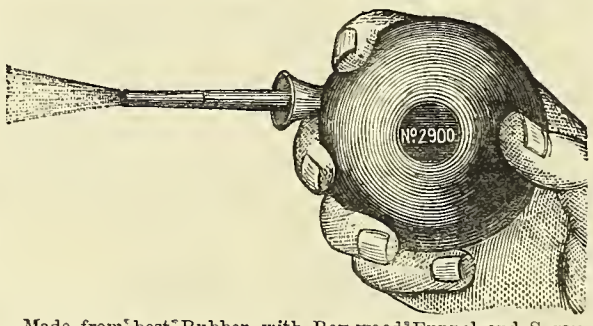

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 3, 1886.

ON PRUNING ORCHIDS.—Much has been said and written on this subject, but nothing has transpired to cause us to alter our opinion, that the practice, as the extreme advocates of it would have it understood, is rather one for the hobby rider, than for the steady practitioner. We are, however, far from wishing to disparage the fine specimens of pruned Dendrobiums which have been grown in several places, or to attempt to qualify in the least the credit which the result of their skilful manipulation should bring to the growers; at the same time the plan of culture recommended by them contains so many critical points and requirements not available in most places upon which success or failure turns, that unless with those who are very sure of having the wherewithal to carry out the regime prescribed, it had better be left alone; in fact it had better be avoided under any circumstances in general practice, as the utmost that the pruners have proved, is that with some Dendrobes, &c., it may be done, and still good plants be secured, but not better than the unpruned ones to say the least of it.

Let us take for example that grand specimen of a pruned Dendrobium nobile, 4 ft. across, and bearing 630 flowers, which Mr. Prinsep exhibited at the Royal Horticultural Society, in April, 1885. Mr. Prinsep is not only the best grower of such specimens, but also the most honest we have met with, for in detailing the treatment he gave the plant, he told us he began the practice as a matter of convenience in the first place, cutting down to the base their flower-bearing pseudo-bulbs, because they were more showy for use in that way for indoor decoration. He was all the more inclined to do this because he had found that by special treatment, he could form and make up the just springing pseudo-bulbs for flower bearing the next season. This treatment is after the blooming plants have been cut down, only the few non-flowering pseudo-bulbs and fresh starting growths being left (end of April, beginning of May) to place them in a hot moist house of 80° to 100°, which often rises to 120° Fahr. by sun heat, and then being freely watered, the pseudo-bulbs are rapidly formed, and in the first week in September they are finished, and are then removed to a cold airy house which often falls as low as 45° Fahr., to ripen their growths.

Early in February the plants show flower, and are, as required, removed into a warmer house to produce them.

Mr. Prinsep added, "Whoever can give them such treatment may rely on good plants from pruned D. nobile; but if they grow the plants cool, or in the ordinary way, they would probably not come to much." No one denies that it may so be done; but in general practice, and with rare plants, it would be a wasteful practice. Who, for example, would think of serving D. nobile nobilius in such a way? If we knew we should much like to get the chips. So much for legitimate pruners; but now we have a class wrongfully laying claim to the name, and calling their practice pruning when it is only an extension of the old practice of removing useless or damaged portions, and that, too, an extension, which is wasteful and mischievous if carried too far. Of this class, let us take, for example, the neat and well-flowered plant of Lælia anceps exhibited. So far as it went, it was good and creditable, and certainly none the worse for the removal of the old leafless pseudo-bulbs; but let us suppose that the plant, when commenced to be operated on some ten years ago, had been L. a. Dawsoni, and that a precisely similar plant had been placed into the hands of an old grower with an eye to business instead of experimenting, and who did his pruning by removing the old black bulbs, two or three together when ready, blocking them up and making stock of them, I venture to say that the plant grown on the old plan would be much the larger and more valuable, and its grower have, perhaps, ten or a dozen healthy young plants out of that which the so-called pruner would have thrown away, if we understand the process.

Turning to nature, we find that imported plants often bear the whole of the growth made for many years, Cattleyas and Lælias of flowering size often still having good the first year's seedling growth. However, under cultivation, not having the changes and rigours of their natural climate to contend against, many Orchids bear foliage with us long after they would have fallen, in the ordinary course of events, in a wild state, and that the leaving of such foliage on the plants after it has become disfigured and neither of use nor ornament, gives an air of shabbiness to many a houseful of Orchids which would be in a fairly presentable condition if the damaged leaves were removed. Masdevallias offer good examples of this. Frequently one sees fine large plants of them densely crowded with leaves, many of which are spotted and disfigured, giving the plants a very bad appearance. Examine such plants, and it will invariably be found that the unsightly leaves are the old ones, which can well be spared; cut them out and you have a perfect plant. Oncidiums, too, often keep the leaves for years; but after a time the old ones become tipped and spotted. Recently, we found in a collection a grand mass of Oncidium incurvum, which the owner told us always looked so shabby that he often thought of throwing it away. We asked permission to operate on it, and in five minutes cut out all but the healthy leaves borne on the two last made bulbs on each lead, after which it would have taken a good sum to buy the plant, for it was a favourite.

Often, in small collections, one could go over the plants and remove a barrowful of useless, unsightly, and insect-breeding stuff, and put cent. per cent. in value on the appearance of the plants. How so many neglect so simple and orderly a matter it is not easy to say. We therefore advise that all old, decaying, or damaged pseudo-bulbs and leaves with the slightest defect in them should be removed, and in cutting the leaves off care should be taken to make the cut just above the joint at which they fall off when passing naturally, so that the small remaining portion may die back to the joint and then fall. In many things, such as Cattleyas, the joint is at the juncture of the leaf and bulb, and plainly visible; but in such things as Masdevallias and others not bearing pseudo-bulbs the joint is not so prominent, and care is required not to cut below it, or in the case of sappy plants, if cut too low the piece remaining may die to the base and carry injury with it.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday*: Royal Horticultural Society's Fruit and Floral Committees meet at South Kensington, National Rose Society's Exhibition. *Wednesday:* Rose Shows at Oxford, Cardiff, and Sutton, Ealing Acton, and Hanwell Horticultural Society's Exhibition. *Thursday:* Bath Floral Fête, Flower Show at Ipswich, Hitchin Rose Show. *Friday:* Maidstone and Hereford Rose Shows. *Saturday:* Wirral Rose Society's Show at Birkenhead, Cray Valley and Sidcup Horticultural Society's Exhibition.

To our Readers.—It may interest our many personal friends among the readers of THE GARDENING WORLD to know that nearly the whole of the report of the Royal Horticultural Society's Show at Liverpool, as it appears in our present issue, was dispatched from Liverpool on Tuesday evening, printed in London, and delivered ready for sale in the show ground on Wednesday morning, twenty-four hours before any other gardening paper had a report out.

Foreign Visitors.—Mr. Charles Parmentier, of Brussels, is organising a horticultural excursion to England, *a la* Cook, and announces in a circular letter before us that the party will start from Antwerp on the 15th instant. The programme, which has been drawn up with the personal assistance of "l'honorable sir Robert Hogg," includes four days sight seeing in London, and visits to Chiswick, Kew, Windsor, Syon House, Cliveden, Dropmore, and the Nurseries of Messrs. Rivers & Son at Sawbridgeworth, Messrs. Paul & Son, Cheshunt, Messrs. Cannell & Sons, Swanley, and Mr. Phillip Ladds, Bexley. The 20th and four following days are to be devoted to visiting Rangemore, Burton-on-Trent, Elvaston Castle, Chatsworth, Liverpool, Croxteth Park, Knowsley, and the "Vineries de Meredith," and returning through Chester, visit Eaton Hall, and the Nurseries of Messrs. F. & A. Dickson & Sons. The last day, July 24th, the party will visit Trentham and Mentmore, and leave London at 8 p.m. for Antwerp.

The Dangers of Coke Breeze.—This material is now being very commonly employed for paths in plant-houses, or for shelves in Orchid-houses, and harmless as it might appear, there is a danger attending its use which needs a little consideration and care, or unpleasant and sometimes serious results occur. We recently saw a house of Odontoglossums in a rather serious condition, the leaves brown as though scorched, and the plants having a sickly aspect that was alarming. This had been produced quite suddenly by the employment of coke breeze fresh from the gas works. It was placed rather liberally on the paths and shelves one afternoon, and these were sprinkled in the usual way. A strong gas-like smell was noticed at the time, and the next morning the Odontoglossums were affected in the manner described. The greater portion of the material was immediately cleared out, and exposed for some days in an open place before it was used again. The plants are strong, and are now gradually recovering, but it will be some time before they are in good health.

The Orchid Nomenclature Conference.—The meeting for the discussion of this subject was held in the Show Ground, at Liverpool, on Tuesday, proceedings being commenced by the President, Sir Trevor Lawrence, Bart., delivering a very pleasant and instructive address; the president remarked on what had been done and what still remained to do, stating that it was the principal object of the meeting to ascertain the views of others on the subject. The chairman then called on Mr. Ridley, the secretary of the committee, who stated his views on the proper arrangement of Orchid names, recommending for such things as garden varieties, crosses between two genera, such as Lælia and Cattleya; the adoption of names compounded of the two, such as in the examples, Philageria and Sericobonia. Dr. Masters followed, recommending the botanists to stick to the species, and the gardeners to the varieties, naming the species with botanical and the varieties with fancy names; a matter on which Mr. E. Harvey, Professor Michal Foster and the other speakers seemed to agree. Mr. Shirley Hibberd recommended making a clean sweep of this unauthoritatively named varieties, and utterly ignoring them, which sentiment the president and others did not agree. Mr. Goldring took exception to the wholesale classing of such things as the great majority of the large-flowered Cattleyas under the one species, C. labiata; and, after other remarks, the president closed the meeting with a few appropriate observations.

ORNAMENTAL FOLIAGE TREES AND SHRUBS.

It seems that a little more attention is being paid to variegated forms of hardy trees and shrubs, and new varieties appear nearly every year. There is no difficulty now in obtaining a good collection, and the present is the best time for noting desirable varieties to add to shrubberries in the autumn or winter. A few plants of the most distinct considerably improve this portion of the garden, and if some judgment is exercised in their arrangement, they will constitute an important addition. To some of the most striking we may commence with the golden-leaved Oak, Quercus concordia, which, when it attains a moderate size, is one of the most beautiful trees in a garden.

The golden Chestnut, though not nearly so bright, is a handsome tree. Then in direct contrast we have the purple Hazel, Corylus Avellana purpurea, which is remarkable for the dark purple almost black hue of the foliage. Prunus Pissardi, which was brought into notice a few years back, improves on farther acquaintance, and can be strongly recommended as one of the brightest shrubs with reddish coloured leaves. Of several other golden-leaved varieties, Ulmus plumosa aurea, Philadelphus aurea, Ulmus Van Houttei, Spiræa opulifolia lutea, Ulmus Wioti aurea, and the golden Horse Chestnut are worthy of mention. The variegated Dogwood, Cornus mas variegata, with the leaves neatly margined with white, is also pretty, and as it is a free-growing plant, should certainly have a place with the others.—*W.*

"DISTINCT."

I have just received a schedule of prizes in which appears a class for "twelve bunches of cut flowers, distinct," and a note is appended to the effect, that "the word 'distinct' is to be understood as meaning that different colours of the same flower may be put into a bunch." Now, some judges that I have met with, men who appear to be fond of setting up hard and fast lines and arbitrary interpretations, would, no doubt, be prepared to say that by the wording of this class is meant distinct varieties, and that the introduction of more than one variety in a bunch ought to disqualify. I am in the habit of attending some country shows, and it is frequently found that there appears in the schedule, a class for "twelve bunches of cut-flowers, distinct varieties," and yet exhibitors do the very thing that they are enabled to do under the note given above. Sometimes it reads a little more emphatically, "twelve varieties of cut flowers, distinct," and yet the same thing appears, several varieties of one flower, such as Indian Pink, Antirrhinum, Petunia, &c., are put into one bunch. A dogmatic judge might desire to disqualify, I prefer to ask what has been the practice hitherto, and if I am told this is it, I award the prizes and pass on to the next class, but I never allow the opportunity to pass, without pointing out that a much more effective stand can be made by bunches of one variety than when several varieties are mixed together.

I am sometimes linked to a brother judge who has a perfect passion for disqualifying, and on what I regard as frivolous pretexts. A man so predisposed to act, seems to me to be a man bent on giving the countrymen some illustrations of his superior knowledge. But I have known a good deal of harm done from acting in this spirit. I never disqualify if I can possibly avoid it, for I always give the exhibitor the benefit of any doubt that may arise, and the most generous course is invariably the most common-sense one.

I was at a Flower Show last year where there was a competition in a class for "six dishes of Fruits, distinct kinds." One exhibitor put up an excellent lot, including white and black varieties of Grapes. This collection was protested against by another exhibitor on the ground that "kind" really meant one distinct

species, and that only one Grape was admissible. I contended, that for exhibition purposes, "kind" and "variety" were synonymous terms, and that they were frequently used in schedules of prizes in the same way. A committee was hastily summoned, and, after consultation, I was informed that they had decided my interpretation was wrong, and that the objection must hold good. I was informed afterwards, that the objector was a gardener to some local magnate that it would not do to offend. Then my turn came. In the next collection were Peaches and Nectarines; I took up the objection of the objector and insisted upon disqualifying this also, on the ground that Peaches and Nectarines, like black and white Grapes, are but varieties of the same fruit. I thoroughly enjoyed the biting the biter got, but I do not think I shall ever be invited to judge at that show again.

Yet another case, one of the many that are constantly cropping up. Not long since I was acting as judge at a provincial show with a worthy brother gardener from the West of England; we came to a class, "stove and greenhouse cut flowers, twelve bunches." The best box was made up entirely of Orchids and Stove Plants—a superior lot. Then came a stand we decidedly fancied for second place; it contained some Orchids, some Stove and Greenhouse Plants, and a bunch of forced Roses. Ought we to disqualify? was the question at once raised. The next stand was decidedly inferior, but it contained nothing that could be strictly termed a hardy plant, though the blossoms of summer-bedding plants were present in it. Now the Rose was the weakest bunch; it detracted rather than added to the value of the stand; the remaining eleven bunches were so superior that we decided to give the exhibitor the benefit of the doubt; we ruled that a plant grown and flowered in a greenhouse was to all intents and purposes for the time a greenhouse plant, and we awarded it the second prize. The editor of one of the gardening papers was appealed to, and he ruled against us. As a matter of course he would. The injured (?) exhibitor made his statement, we were not heard, and judgment was set accordingly. But editors are not infallible, they do not know everything, and consequently often come to grief. I am sure our action will be condemned; but *we* are certain that the justice of the case was met in our decision; it is also defensible on common sense grounds. And now, critics, come on!—*R. D.*

THE SCIENCE OF ADVERTISING.

Fellows of the Royal Horticultural Society have recently received by post a remarkable circular from the continent regarding gratis fruit tree grafts, and the purchase of wines from a relative of the horticulturist, who is willing to give the grafts. Our contemporary, *The Science of Advertising—British and Foreign*, notices the circular in the following manner:—

"We reprint the latest, and certainly the most novel, effort in advertising which has recently reached us from Bordeaux. It runs thus:—'Brother in Horticulture,—It may form some little excuse for intruding myself upon your attention when I state that I am senior member of the Horticulture Society of the Gironde, member (founder) of the French Congress Pomologique, titular member of the Central Horticultural Society of Paris since 1858, honorary corresponding member of the Royal Linnæan Society of Brussels, &c., &c. My purport in writing to you is to bring under your notice the important wine firm, founded by me as far back as the year 1842, and I beg to enclose you price list thereof. The actual head of the firm now is my son, whose scrupulous integrity I can warrant. I shall be very happy to furnish you with any information I can in respect to horticulture, also to forward you grafts of my rich fruit collections free.—I have the honour to remain, your obedient servant, ———.' Some people certainly have a very vague idea of the connection between a reason and its application, and we should say M. ———'s views—if such they can be called—upon the point must be misty in the extreme. Flowers, Apples, and even butterflies, to those who can understand them, are doubtless very interesting and pleasing objects, and their cultivation, production, and capture most enjoyable pursuits. We had hitherto, however, been ignorant that horticulture constituted such a closely-bound brotherhood that it demanded that none of its votaries should go beyond its pale for the necessaries of life. Still, it is never too late to learn, and may be that before long we shall discover that, in the interest of art, it is imperative on all brothers of the angle to purchase their clothes of a piscatorial "snip," and that an affection for tabby cats is the only medium for securing the custom of elderly maiden ladies. M. ———'s confidence in his son, one M. ———, would certainly be touching did it not somehow remind us of filial affection upside down. We know that in many cases—and naturally, perhaps—children have an implicit reliance in the infallibility of their progenitors; while owing, perhaps, to the scepticism which comes with advancing years this belief is not always reciprocated. M. ——— is, however, apparently exceptionally blest in this respect. At all events, the son is a man of originality, since he quotes on his list such branded champagnes as Moët, Perrier Jouët, and Cliquot f.o.b. Bordeaux. To any persons with superfluous cash who like to pay the expenses for their sparkling wines to take a trip to the Gironde, instead of coming direct to England, is a chance which does not often occur. We can only trust that the Brut Imperial or "Pale Dry Creaming" will be duly thankful for the little outing accorded them."

NOTES ON LILIES.

A week ago, after a month's absence in Scotland, I looked over our Lilies. My friend, Mr. McIntosh, many years ago established the fact that whatever the season may be, L. auratum, and a good many other species, will bloom well year after year if planted among healthy Rhododendrons, the reason, I believe, being that the Rhododendron leaves shelter the young shoots from April and May frosts, and from what is still more dangerous, bright sunshine after them. When gardeners speak to me about difficulties with Lilies, I recommend them to keep to this safe ground, that is when not many dozen plants are required; but as our experiments have for years past been in the direction of growing Lilies more in masses, and as this has been an unusually trying season, I think that you may like to have some of the results we have arrived at.

Having acquired a strip of wood at our cottage garden near here, we, three years ago, dug out the soil for some large beds about 5 ft. deep, made a sheltering bank of the natural soil, filled up the holes with good Lily soil, and planted a number of L. auratum bulbs. These were successful; therefore the following year we made more similar beds, and planted them with L. auratum, L. speciosum, L. tigrinum, L. elegans, L. Krameri, L. Batemanniæ, and L. longiflorum. These prospering, we, last year, made another large bed, and planted it with L. auratum. In all these beds the Lilies looked as healthy, with the exception of L. longiflorum, as if they had had the advantage of Rhododendron shelter. There is no protection overhead, but the surrounding wood was thick enough to protect the plants from the bright sunshine in May which followed the night frosts.

At Oakwood, Wisley, two beds in which L. auratum had come up constantly stronger, in one since 1881, the other since 1882, have a good many Lilies damaged; some L. cordifolium, which had fine strong shoots at the beginning of May were killed to the ground, while L. giganteum, just opposite them, had the leaves, which were then developed, frosted, and looked bad. They have, however, thrown up their flower-spikes, and hardly show where they were damaged. I think it may be taken as a fact, from our experience of now a good many years, that L. cordifolium, unless planted where evergreens will protect it from sun after spring frosts, requires the protection of Fir boughs or similar shading. I had an instance of the efficacy of light protection in the case of two lots of Vallota purpurea planted near the water's edge; over them we placed common wicker coops, with bracken interlaced; most of the bulbs are all right. A wren made her nest in the Fern of one of the coops, and brought out her young. Even some of the North American Lilies, Pardalinum, &c., have some shoots frosted, though in some beds these Lilies are untouched.

In the narrow field of L. auratum, where the protecting cut-furze fences are not high, so giving but little protection from weather, most of the Lilies seem to have done better than where they had more, though insufficient shelter. For some years past, the weather has not been severe enough to try Lilies fairly, but I think last winter may be taken as above an average one, as a test. If you care to have them, I hope to send a few further notes when more of the Lilies have flowered. We planted L. tenuifolium in all sorts of soils and situations, it has bloomed in all, though with different strength; it will require another year on the ground, before the best treatment can be ascertained.

I will close this note by saying, that a few days back I saw a stem of L. Kræmeri, in one of Mr. McIntosh's Rhododendron beds, with nine flower buds; it may be remembered that when this Lily was introduced, it was considered one flowered. I ventured to predict that, if it strengthened it would have more flowers, but no one ever dreamed of nine.—*George F. Wilson, Heatherbank, Weybridge Heath, June 26th.*

OLD WALLS.

Perhaps there may be some who cannot appreciate the picturesqueness of an old wall in a garden of the old-fashioned type; but to my mind all the trimness of a modern garden is insignificant compared with the delightful freedom of a genuine country garden dating from the early years of the present century. I have one of this character in memory now, where all was in accord, from the homely Wallflowers of the borders to the rugged Apple trees in the kitchen garden; broad, spacious walks margined by vigorous Box-edging, not the thin lines we see spun out in suburban gardens; dense shrubberies of scarlet and white Thorns, Dogwoods, Spindletrees, Lilacs, an antiquated Mulberry, a straggling old Medlar, a Walnut or two, and many others that imparted to the garden its unique but agreeable aspect.

It was a garden in which to wander and let one's thoughts run free, and many a time, in sauntering round it, have I paused to look at the old wall which formed the boundary of the kitchen garden. This dated back some years before the present century, and was built at a time when the fashion was to have everything of a substantial character. It would alarm builders now to have to construct walls 3 ft. thick, and they would be quite inconsistent in modern establishments. However, the wall I am referring to was fully as much in diameter, and upon the top and a portion of the sides it bore a varied and, for the situation, a luxuriant vegetation. Sedums were there in numbers, from the common Stonecrop, S. acre, to the large-leaved S. spurium, and the strong S. album, all thoroughly at home with the Houseleek, Sempervivum tectorum, also in abundance.

There was a strong colony of Wallflowers, which thrived amazingly and flowered most profusely early in the season, and it was interesting to observe the miniature plants, some not more than 3 ins. or 4 ins. high, yet as perfect in their way on a smaller scale as the border Wallflowers, and flowering from every shoot. Sturdy little specimens, 6 ins. high, were the most abundant, and these were very pretty, producing their yellow flowers over a long period, which, though small, were exceedingly fragrant, and it seemed as if there was a concentration of all their characteristic qualities in the plants growing in this exposed, dry situation. The Ivy-leaved Toadflax, Linaria cymbalaria, formed an elegant fringe of pretty leaves and diminutive Snapdragon-like flowers. Then there were clusters of the Wild Marjoram peering out between the bricks, with here and there plants of Tragopogon, Solanums, a stunted Thorn or two, and a host of little weedlings that were scarcely recognisable. Despite its many attractions, this old wall was one of the most interesting features in our garden, and furnished in itself a study for a naturalist.—*W.*

CLEMATIS, BEAUTY OF WORCESTER.

Among the new plants that have been shown this season, there are few, if any, likely to become more popular than the subject of this note and of the illustration on p. 697. Clematis, Beauty of Worcester, was exhibited (and Certificated) at the late Manchester Show, where we noted its fine properties. It is remarkably free-flowering, producing blooms at almost every joint which measure as much as 4½ in. in circumference. Its flowers, single and double, borne on the same plant as shown in our illustration, are of a lovely bluish violet shade, intensified by the pure white stamens. It will be invaluable for bedding purposes, and Messrs. R. Smith & Co., Worcester, are to be congratulated on the possession of so good a novelty.

THE DENBIES, DORKING.

Within a mile of the pretty and old-fashioned town of Dorking, on the crest of a hill commanding a fine prospect in every direction, stands the noble mansion of the Right Hon. Geo. Cubitt, late M.P. for the Epsom division of Surrey. Situated in its own vast and naturally beautiful grounds, which have been rendered still more beautiful by the addition of large numbers of rare conifers and other hardy trees, which have now attained gigantic proportions, and embellished by many a clever piece of landscape gardening, which has, on its borders, merged the garden into the seemingly limitless park, with its gracefully curved slopes and valleys studded with aged Beeches, The Denbies forms a true type of the comfortable and substantial homestead of a wealthy English gentleman.

The views from the mansion are very fine, summer or winter. Its high elevation commands such a vast area at a glance that the beauty of the views presented is always equally great, and only dependent on the clearness of the atmosphere for extent. Thus on clear days in winter or autumn the charm of the views from The Denbies are in those seasons as great as that of the spring or summer, although at this season, the air being clearer, the utmost range of sight is obtained. Standing at the front on which the bright little garden of bedding plants is arranged, and looking over it down the hill and across the valley in which the town of Dorking lies, the eye takes in a vast expanse of lovely country beyond, ranging far away over the South Downs; and again, on the other side, from the library front, the lovely views down the valley in the park, and over the fine old Beeches, Reigate and its neighbourhood appears, while on the other sides Windsor Castle and the Crystal Palace come into view far away through a beautiful and varied landscape, and innumerable peeps, worthy to be put on canvas, appear at every turn.

The Pleasure Grounds.

The fine pleasure grounds, which many will be glad to know, may be viewed by ticket one day in each week, contains some very good examples of gardening in every department, and reflect great credit on Mr. John Beesley, the head gardener. Here, as in many other gardens, bedding plants are not in great favour, but are confined to the two or three set designs of beds allotted to them, and in these, their bright colours, are welcome without being too prominent; for example, that charming bit of colour seen from the conservatory could not be spared, it also serves as a fine contrast to the beautiful hardy-Fern rockery and the many cool shady walks between the tall Beeches and among the shrubberies near at hand. Here and there, on the smooth green turf, are clumps of Rhododendrons, among which R. Thompsoni, R. cinnabarinum, R. Blandfordianum, and other species, are thriving well, and a new patch of Himalayan varieties has been planted, which have successfully passed through our late severe season. Many very handsome and rare trees appear in specimens of from 20 ft. to 30 ft. in height, the conifers being beautifully even and pyramidal in form. Among these we noted some grand examples of Abies Webbiana, A. Pindrow, A. cephalonica, A. Douglasii, Picea Pinsapo, P. Nordmanniana, Libocedrus decurrens, Wellingtonia gigantea, Araucaria imbricata; some superbly furnished Cryptomeria japonica and a quaint looking Larix Griffithii, with angular irregular branches with pendant points. This curious tree comes in well in the scene, and it is interesting as being, according to Sir Joseph Hooker, the only true specimen in the country.

Many fine trees of most of the varieties of Magnolias and other fine flowering trees and shrubs not usually met with, here appear in splendid condition, and a beautiful and novel feature is introduced by planting the purple Acer polymorphum atropurpureum under the high banks of Silver Hollies, the contrast of colours being very effective. In various parts of the grounds, are clumps and borders of Roses, Pæonies, Iris, and other showy hardy herbaceous plants, but in no part do they appear to greater advantage than in the broad green drive, where the Roses, scarlet Papaver bracteatum, and other showy things show up well, fronting the tall masses of Lilac, Mock Orange, and other trees and shrubs that enclose this cool and pleasant glade, which leads to the pretty church built on the estate. In the churchyard, which is well kept, and has some well-formed plants of Araucaria imbricata, we noted a novel use of Deutzia gracilis, plants of which were thickly planted on two of the graves, and were a mass of white bloom with the green young shoots extending beyond. The plants are clipped over every year, and thus form very handsome and suitable plants for such situations.

The Plant House.

A great number of glass structures at The Denbies, have been planned rather with a view to securing comfortable covered-in promenades available for a stroll in all weathers, than for the purpose of plant growing, as it is now generally interpreted; hence, a very considerable extent of lofty and spacious glass-roofed corridors in many divisions has been arranged, running from the conservatory adjoining the mansion. In these structures a large number of plants, which require age and space to bring them to perfection, may always be found in bloom, exhibiting in their uncurbed luxuriance, beauties which it would be impossible for them to attain in ordinary plant houses. This is especially noticeable with the climbers which garnish the roof in all directions, some of these, as for example, the Bignonias are now seldom seen, because they are said to be shy flowerers, but the marvellous display which each in its season makes here, seems to say that patience is amply repaid by them, for although some things are difficult to flower for the first two or three years, they make amends afterwards by the profusion and regularity with which they display them.

The lofty conservatory contains much of interest in tropical vegetation, some fine Palms and tree Ferns in the centre being very characteristic. Among these we noted grand specimens of the silver tree Fern, of New Zealand (Cyathea dealbata); some equally good ones of that Fern popularly called the Scythian Lamb (Cibotium Barometz), from the close resemblance which its large double crown often bears to the fore-part of a lamb. Some good examples of the fine glossy-leaved Aspidium coriaceum capense, and equally handsome Davallia pyxidata, which latter makes handsome, large and tall plants when the rhizomes are trained upwards, as they are here. The roof of the conservatory is gay with climbers, and the back wall has a most extraordinary clothing of scarlet zonal Pelargoniums, which is here made to do duty as a climber covering the whole length and breadth of the wall, to a height of about 16 ft., and making a grand show with their glowing scarlet trusses. The best of these, and the tallest, is the old Pelargonium Comet, and others found suitable for the work are the Rev. F. Atkinson, John Gibbons, and Jean Sisley. Lasiandra macrantha, too, is trained to the same purpose, and effectively covers the end of the house, producing in great abundance its large violet-coloured flowers; while over the front, outside, a lovely mingling of Ampelopsis Veitchii and pale blue Wistaria sinensis presents itself.

Throughout the whole distance of the corridors interesting flowers are to be met with on either hand, and overhead are the fine old climbers, the most attractive of which at present are Bignonia Chirere, with stems as thick as one's wrist, running overhead in all directions, the branches covered with innumerable scarlet and orange flowers, about the size of Gloxinias; Tacsonia exonieusis and T. mollissima, the former with showers of carmine flowers, and the latter with pink; the white flowered Solanum jasminioides, with countless graceful sprays of bloom; the carmine Ipomæ Horsfalliæ, and the delicate mauve Bougainvillea glabra, the scarlet and yellow Fuchsia-like Abutilon megaponticum, and the pure white A. Boule de Neige; the pretty Tecoma jasminioides, and the richly-tinted Bignonia grandiflora, whose Fern-like leaves are also beautiful; the curious Akebia quinata, and the favourite white and red Lapagerias, together with many graceful Fuchsias, which are made to do duty as climbers and pillar plants as well as the fragrant Heliotropes. Of the Fuchsias used for this work, the most elegant are the old Venus di Medici, Souvenir de Chiswick, Dominiana, and corymbiflora, and these are very fine.

Among the rare bushes in this part of the glass garden are some well-fruited Oranges and Lemons in the Orangery, an immense and floriferous bush of Luculia gratissima, some very fine Brugmansias, including the scarlet and yellow B. sanguinea, the scarlet Clianthus, the fragrant Magnolia fuscata, and many other fine old greenhouse flowering shrubs. Not the least attractive, too, in these corridors are the fine specimens of Cape and Cape hybrid Pelargoniums, with scented leaves, the favourite, either for bush or wall, being P. quercifolium floribundum, which is a gem of a plant, with scented Oak-leaf and trusses of pink and crimson flowers, perfectly circular in form—in fact, resembling a miniature show Pelargonium.

Branching out of the corridors are the houses for plant growing, and these contain excellently cultivated stove, greenhouse and decorative plants, each after their kind. In one are some grandly flowered Achimenes, together with Ferns and foliage plants; in another some finely flowered shrubby Begonias, many specimens of white Eucharis, some charming Gloxinias, fine plants of the various Maidenhairs, scarlet Ixoras, Clerodendrons, &c. In another house we found a well-flowered set of tuberous Begonias, and other greenhouse plants, among which was the fine crimson-flowered Canna Ehemanni, beautiful in leaf and flower. One of the houses, with wall covered with Ficus repens, is fitted up as a Fern rockery, with gigantic specimens of Seaforthia elegans in the centre; another contains Crotons, Dracænas, and other plants for table decoration; and the specimen house has some noble plants, such as Alocasia Lowii, Cycas revoluta, Clerodendron Balfourianum, Palms, Adiantums, and a small lot of Orchids, among which the sweet old Ærides odoratum, is bearing seven spikes.

The Fruit Houses

Consist of a range of four spacious Vineries, all of them well cropped in succession, one of them being now ripe and in use; Peach houses, a long unheated Cherry house, other covered-in walls with shelves for Strawberries, Melon house, well cropped and with plenty of ripe fruit, and other houses for Cucumbers, &c., and these, as well as the large kitchen garden, both within and without the walls, are in the most creditable condition, and well worthy of more notice than space permits us to give them.

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.

It is, perhaps, only within the last ten or twelve years that this flower has become so universally popular. Its natural blooming season being at a dead time of the year, when most other flowers are done, gives it peculiar attractions; and I think it is now generally admitted that, as an autumn flower, it stands unrivalled. It possesses none of the fastidiousness of the Rose, but grows fairly well in both town and country with ordinary attention. The name Chrysanthemum has undoubtedly been conferred on it on account of its colour, in its more primitive state; the word signifying *gold flower*, and it is a fact worthy of notice, that even in its present advanced stage of progress, *yellow*, or some shade approaching it, is still the prevailing colour.

I was very much struck with this on taking a survey of the cut blooms and groups of plants staged at last year's show in this town, when it seldom falls to the lot of anyone to behold a finer collection brought together.

Although the Chrysanthemum will yield fair results with ordinary attention, yet with careful culture it is surprising how much more may be got out of it, and it is with a view to the exhibition table that I wish to make a few remarks as to its management.

To an exhibitor, the most interesting and important period of the plant's existence is not when they are in bloom, but from the time the cuttings are put in up to that time. The flowers will come right if the treatment of the plants has been right; nothing can hinder this save sheer accident. I do not think there is any flower which requires more constant daily attention to grow it really well than this one. No amount of kindness on a certain day can compensate for neglect on days previous, in fact, the building up of a plant is much the same thing as the building of a house; it is done by a brick at a time and not by shovelfuls.

In taking cuttings in the autumn to grow as plants the following year, the best time is from the beginning of November to the end of December; and it is not wisdom to take shoots which are frequently seen growing on the lower part of the stem of the old plant, but such as spring up from the soil around the base of it. It is best to insert one cutting in a pot of 3 ins. rather than four or five in a larger size, as the roots of the various cuttings often become interwoven the one within the other. It is best to strike the cuttings in a cold frame or on the stage of a cool greenhouse. I have tried both plans, and I find the one as good as the other as a rule; but in very severe winters, like last

winter, those reared on the stage of the greenhouse were immensely superior to those struck in the frames. If reared in frames, they should be protected from frost by covering the lights with thick mats on very cold nights; but on all mild days plenty of fresh air must be admitted, otherwise mildew (a thing to which the Chrysanthemum is peculiarly susceptible) is sure to make its appearance.

The chief thing to aim at in the culture of the Chrysanthemum is to keep the plant steadily progressing in growth after the cutting has become rooted. Any check, either by exceptionally severe weather or from the plant becoming pot-bound, is sure, in some measure, to affect its future. It is, therefore, of the utmost importance to re-pot at the exact time the plant is ready for transfer, and I am of opinion that the more changes you give them in reason, the better it is for the plants. In transferring from one size to another, many people make a serious mistake, for the sake of avoiding an additional shift, in selecting too large a pot for the plant's requirements, which is much the same thing as furnishing a little boy with a pair of men's boots—he naturally feels uncomfortable in them. I invariably make three transfers—first, from the small pot in which the cutting was struck into a 4-in. size; secondly, from the 4-in. into a 6-in; and lastly, from the 6-in. into a 10-in. diameter, which is mostly sufficient for the requirements of ordinary plants, especially those which are intended for cut blooms. Any large specimen plants might be the better with a 12-in. diameter. I invariably use little circular tubs of the same size when I can meet with them of the right size, being convinced that the plants do better in wood than in pots. All my largest flowers of last year were grown in wood, and I noticed particularly that the foliage was remarkably handsome on all such plants. It may not be generally taken into consideration that wood is a non-conductor of heat, while pots are very ready conductors, and as the Chrysanthemum is required to stand all day in a blazing sun for the proper maturing of its wood, the roots doubtless often become highly heated through the pot, while those in wood are, comparatively speaking, quite cool, and consequently the plants are less distressed during the long sunny days of summer. I have frequently noticed the difference in the foliage at midday; the leaves of such plants as were growing in pots were hanging their ears and looking in dire distress, while those in the tubs seemed quite fresh and comfortable.—*Geo. Kidson, Hull.*

(To be continued.)

HARDY PLANTS IN FLOWER.

(Continued from p. 683.)

Coreopsis lanceolata.—About fourteen days ago the first flower of what I may justly term one of the most showy and effective of all Composites began to expand. This is Coreopsis lanceolata. Who is there having a garden, and knowing the value of this plant, that would be without it another day? The excellent habit of the plant, which grows 2½ ft. high, and covered with brilliant golden yellow flowers for some four months together, is a thing not easily surpassed; indeed, I know of no perennial so thoroughly hardy, and calculated to make such a display for so lengthened a period, as this Coreopsis. It is certainly one of the very best perennials in cultivation, and valuable as a cut flower. Individually its flowers are some 3 ins. across, not circular as in many, but deeply blotched at the margins. From the present time till the end of October this will be one of the best border plants, though it can hardly be said to have began flowering as yet.

Bahia lanata.—Another yellow-flowering plant is to be seen in Bahia lanata, having smaller flowers, though produced in the greatest possible profusion. This will make a good plant for the rockery or the border; its height is about 15 ins., and very compact and neat in general appearance. The leaves and stems are woolly—hence the specific name—and the golden flowers, which come so freely, last a long time in a cut state. It is readily increased by seeds and cuttings.

Silene alpestris.—Few of our readers would despise a plant of dwarf prostrate habit, which, to use a common-place expression, is literally smothered with pearly white flowers, charming as a rock plant, and equally attractive as a front-row plant in the border; such, however, is Silene alpestris, which may be counted among the best of Alpines. It grows exceedingly free in almost any soil, is very hardy, and when in flower, its glistening panicles of white flowers, rising about 6 ins. high, almost completely cover its prostrate tufts of leaves. Not only does it spread freely on the surface, but from below, stoloniferous growths are freely produced, so that it is an easy matter to soon form large handsome patches. For the sunny sloping sides of the rockery it is simply grand. Cuttings inserted now root freely in sandy loam; it also produces seed abundantly.

Silene maritima plena.—But writing of the Silenes I am reminded of the double white form of S. maritima, than which we have no finer rock plant in cultivation. To those unfamiliar with the plant, the following description will give some idea of it. Presuming you have before you a plant of spreading habit, and dense tufts of glaucous leaves, upon which are situate large double white flowers, which so closely resemble the double white pink, that it has often been taken for it, and you have a rude idea of Silene maritima plena. It Is remarkable for its free-flowering habit, and its large handsome pure white blossoms; cuttings may be inserted any day during the summer months, and root readily. It produces its flowers abundantly, and lasts for some considerable time. It has many admirers, but it must have many more, and it needs no effort on my part to sound its praises.

Wallace's Saxifraga.—I thought the other day, as I carelessly plucked a small panicle of Saxifraga Wallacei, that I had before me one of the very best plants that the bouquetist could be possessed of. Its pure white flowers, which are far ahead of the majority of the mossy section of Saxifraga, in point of size, appeared to me, arranged at such a convenient distance from each other as to be the very thing itself. Its stems are hard, and well adapted for mounting, and its extreme floriferousness greatly favours its use. It grows about 9 ins. or a foot high, and if protected by a light when it begins to expand, purity will be added to its already white blossoms. It is altogether an elegant plant, easy of culture and as easily increased as any other member of its section, useful either for massing or for edgings, in fact, it is a valuable and attractive plant in any position.—*J.*

SCOTTISH GARDENING.

Cinerarias and Calceolarias.—The flowering of the Cineraria from March to the middle of June is easily accomplished by sowing seeds in the first week of July by growing them cool and shaded from bright sunlight, but at no time keeping the seedlings close and coddled. Such plants come in well, and are remarkably useful when well grown as a succession to the batch which may have been sown during May. To give a good succession from October to June, three sowings are necessary, the first in March, the second in May, and the third at the period named above. Some great mistakes are made by forcing the plants into flower with heat. Green fly, and probably red spider, too, will put in an early appearance; besides, the flowers which are thus forced into existence are poor and not worth their room. A fine Cineraria should be strong in foliage, spreading widely over the pot 2 ft. to 3 ft. in diameter, and when the head of bloom is fully developed it should not stand more than 9 ins. above the foliage, and be as wide again as it is high. There are some fine strains now extant; a remarkably fine lot were grown at Beech Hill Nurseries (Mr. Downie) last year. The fine heads of bloom, with individual flowers of large size, were very distinct; their peculiar dwarf habit was very desirable. Cinerarias in the north do not succeed so well by continued exposure in shady positions as they are found to in the warmer south; nevertheless they can be grown in the northern cooler districts with greater ease, and often are found unsurpassed in excellence by the best seen where greater sun-heat is experienced.

Calceolarias are more easily managed in the north than in warmer parts; this is truly a cool moisture-loving plant. Whether one grows the showy shrubby kinds, or the attractive herbaceous class, reward will be certain. The present time for late flowering of latter kinds from June to end of July may be sown now; never subjected to drying heat—have at all times abundance of air—and not allowed to become pot-bound or waterlogged, a good display for show houses at the proper time will be certain. Various opinions as to soil for Cinerarias and Calceolarias are entertained by great growers of these flowers, but the best we have seen were grown in good strong loam, with a small portion of soot, sand and burnt earth added; manure applied as a mulching when the roots filled the pots and flower-spikes coming up. We always make the growing of shrubby kinds of Calceolarias a simple matter, by lifting a quantity in October, trimming them, and placing the roots firmly in small pots; at the turn of the year a liberal shift is given, and they do grandly. —*M. T.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

The earliest Potatos are now being lifted, and the Ashleaf varieties are much better with us this year than was expected, and although the tubers are not quite so large as usual, perhaps, they are of excellent quality. It is our custom, when planting early Potatos, to have a quantity of light leaf-soil and old short manure prepared to place over the sets, which makes a great difference in the quantity of the produce, and the roots are much more readily lifted. A good proof of the advantages derived from this practice has been accidentally afforded this season, for with two rows this dressing over the sets was by some means omitted, and the yield in these instances was most noticeably inferior to that of the rows treated in the way described. Later Potatos are making strong haulm-growth now, and are looking fairly satisfactory, the change to a higher and more seasonable temperature having just come in time, as a much longer continuance of cold and wet would have proved disastrous. Lettuces are affording a good succession, and we are still planting out from the seed beds both Cos and Cabbage varieties. Radishes also are turning in well, and a little seed is sown every week in a cooler situation than earlier in the season, and if the weather proves dry water must be liberally supplied to these plants, or the roots soon become hot and unsuitable for salading. Mustard and Cress are sown out of doors in similar situations and at about equal intervals to keep up a supply fit for cutting. Tomatos are now planted out in warm positions. We have some in front of the greenhouse wall, where they are fully exposed to the sun during the greater part of the day, and the only requisite is to keep the plants well supplied with water, and after the fruits are formed a mulching of manure will assist them wonderfully. The principal object in growing Tomatos out of doors is not to encourage a too luxuriant growth, but short, firm stems and branches that will flower early, and thus the fruits will have to set and ripen. It is important that the plants be strong but well hardened before they are placed out, that they are not planted too early, as the slightest check will interfere greatly with their success.

Some attention must now be given to summer pruning or pinching fruit trees against walls or espaliers, for though it is not such an important operation as the winter pruning, it will, if carefully performed, greatly facilitate the work at the latter season. The principal point is, if the trees have been properly trained and kept in their right form, to shorten the excessively strong shoots which soon run out into branches destroying the due proportion of the tree, weakening other parts, and from their own luxuriance generally remaining fruitless. In the culture of the fruit trees, it should be endeavoured as much as possible to render them as evenly balanced as possible, encouraging sufficient growths of medium strength to keep the tree healthy, and restraining those of undue vigour in reasonable bounds. Of course, if there is a space it is desired to fill with growth, some extension must be allowed, but it is better to select growths for this purpose that are developing freely, but not too strongly, and even these may be preferably shortened a little, as it gives the other portion a better chance of maturing thoroughly. As all the growths that require removal now are comparatively soft, they can be readily pinched off, and it is not necessary to use a knife.

Strawberries are ripening, but are late and not a very large crop; they will, however, require all the more care, and clean straw should be placed in the rows for the fruit to rest upon. This is preferable to tiles, as, although it is rather littery, it serves to keep the ground moist, as well as protecting the fruits from splashing by rains. Where birds are plentiful, nets must be placed over the beds and pegged down on each side of the rows, as, if the slightest space is left, the birds will find their way in and cause serious damage.

"THE ROYAL" AT LIVERPOOL.

Favoured with glorious weather, and experiencing all the benefits of a capital site, good organisation on the part of the superintendents, Mr. Barron and Mr. Richardson, an abundance of entries, a grand lot of plants of all kinds in season, a brilliant display of cut flowers, a fair show of fruits and vegetables, and a very fine display of greenhouses, boilers and garden requisites generally, the Great Provincial Show was opened onTuesday by Sir Trevor Lawrence, Bart, President of the Royal Horticultural Society, under what must be admitted to be very favourable auspices; and though the attendance throughout Tuesday and Wednesday was much smaller than it has been at some other provincial shows, we hope that as it becomes more known what a really fine exhibition has been got together, there will be no lack of support on the part of the Liverpudlians. The main display of plants will be found in the large marquee; and though somewhat squatty in appearance, and not quite light enough, has really a fine effect, so admirable has the grouping to attain this object been carried out. The cut flowers will be found, with a host of other most interesting subjects, in a long tent in a line with the large marquee; the fruits and vegetables are in another part of the ground, near the offices; the bouquets in another, with the garden plans, garden literature, and artistic subjects, &c. Taken as a whole, the exhibition is a decidedly good one, but in some points is certainly weaker than some of the other provincial shows have been. The boiler contest is being carried on with vigour, and great interest appears to be taken in the trials by the practical men, of whom, on the earlier days, we were pleased to see so many present. We may also add here that Belgian horticulturists were represented by Mr. Edward Pynaert, of Ghent; Mr. Charles Van-Geert, of Antwerp; and Mr. J. Van Volxem, of Brussels; and Mr. Charles Joly and Mr. H. Vilmorin, of Paris, represented France.

STOVE AND GREENHOUSE PLANTS.

Viewed from the entrance, the grand marquee of four spans presents a clear view of a host of cleverly arranged groups of plants on either hand, while the sloping bed in front is occupied by some of the grandest specimens of Crotons that, perhaps, have ever been exhibited, that named Mortfontainensis, a most conspicuous one, with golden, scarlet, green, and olive-coloured leaves, being the *beau ideal* of a fine-foliaged plant. Passing to the other front of this group, we see a remarkably fine undulating mass of specimen flowering plants, with tall Palms appropriately occupying the sides; and from the centre of the tent, which is ornamented by a nicely executed bit of rockwork, with a basin and small cascade, by Mr. Clapham, of Stockport, the whole of the groups present themselves in a most attractive guise, fine effects being obtained at all points; and great credit is certainly due to Mr. Barron for the manner in which he allocated positions for the plants sent in, so as to form so harmonious a whole, and yet afford all reasonable facilities for comparison.

The competitions in the various classes brought out some very fine specimens reminding one of the palmy days of greenhouse and stove flowering plant exhibitions, but for neatness and the excellent quality of the blooms, many of the examples here on view could not well be beaten, although some of the subjects may have been shown larger. In Class 1, for twelve stove and greenhouse plants, Mr. James Cypher, of Cheltenham, staged a grand lot, which takes the first prize. Allamanda Hendersoni, and Dipladenia amabilis are very fine; Anthurium Schertzerianum, some 4 ft. over, with fifty fine spathes; Erica tricolor Wilsoni, good; and Croton Queen Victoria and C. Prince of Wales are grand examples of good culture. The second prize lot from Mr. Mould, of Pewsey, contains smaller but equally good plants, the Bougainvillea glabra being perfect; while Mr. James's lot, which received the third prize, includes a beautiful Allamanda grandiflora, and a very good Stephanotis not quite ready.

In Class 2, for plants in bloom, Mr. Cypher is well first with an even lot of well-bloomed plants not easy to beat. His Ixora Pilgrimii and Ixora Williamsii are fine, and Allamanda nobilis is very fresh and good. Mr. James also staged some good plants, the fine old Rondeletia speciosa and Dracophyllum gracile being among them; and Mr. Mould has a nice lot of plants, among which Statice profusa and S. Bucheri are particularly good. In the Amateur's Class, W. H. Watts, Esq., takes first with grandly-flowered Ixora coccinea, I. Dixiana, I. Regina, Statice Holfordi, Allamanda Hendersoni, and Clerodendron Balfourianum; a very fine lot. S. Schloss, Esq., of Bowden, is second with Boronia elatior, Stephanotis floribunda, and other plants of extra merit.

In Class 4, for twelve hard-wooded New Holland plants, the first prize falls to Mr. J. Cypher, who has staged a fine clean grown and well-flowered lot, which comprises, however, four Aphelexis. The fine foliage plants are well represented; those sent by W. H. Watts, Esq., of Elm Hall, Wavertree, in Class 6, are superb; few who had seen only ordinary plants of Calamus ciliaris, would imagine that it could be grown into such an elegant plant, with many stems from 6 ft. to 9 ft. high; his Crotons are also perfect. Those of Mr. Cypher are equally good, Cordyline indivisa and Gleichinia Mendeli being very cleanly grown; both exhibitors named take the highest awards.

The Palms and Ferns well performed their office, in giving relief to the eye, by their elegant and varied foliage, and by their stately growth filling up the tall bays wisely set apart for them. The first prize, collection of Palms from S. Baerlein, Esq., gr., Mr. Williams, has a fine feathery specimen of Phœnix rupicola, Pritchardia pacifica, Cocos Weddeliana, Geonoma gracilis, Kentias, &c. The second from Messrs. R. P. Ker & Son, includes also a good Phœnix rupicola and the lovely Licuala grandis; Mr. J. F. Mould also has a fine collection of Crotons, which takes the third prize, in Class 13. Certainly one of the great features in the show, is supplied by the grand specimens of Crotons, exhibited by Messrs. R. P. Ker & Son, who are far and away first. It is impossible to conceive anything more lovely and bright in coloured foliage. Those of Mr. C. Finnigan, of the Winter Garden, New Brighton, who took first in sixes, and also those from other exhibitors, cannot fail to bring these plants again into notice, an event which will also be assisted by the many handsomely coloured small specimens, shown by Messrs R. P. Ker & Son, in their large, varied and interesting collection of plants, occupying a great space in the centre of the tents; their Gloxinias and Dracænas being very bright, and the whole collection, for quality and effective staging, can compare favourably with any of the exhibits in the show. In this section a word of praise must also be bestowed on the Caladiums of Messrs. John Laing & Co., Forest Hill, a grand lot of plants about 4 ft. each in diameter; the Dracænas of Mr. Lambert, Onslow Hall Gardens, Shrewsbury; the Bromeliads of Messrs. R. P. Ker & Son, among which Æchmea spectabilis is finely in bloom; the Nepenthes of Mr. Henry James, and Sarracenias of Mr. Schloss; and the collection of succulent plants from Messrs. James Dickson & Sons.

ORCHIDS.

The Orchids, as it was anticipated, are the great attraction, and the whole of the exhibits are meritorious, not a poor plant appearing among them. The premier group of *bonâ fide* specimens exhibited by George Hardy, Esq., for the Liverpool Horticultural Co.'s Cup, are a grand lot of vigorous specimens, the immense piece of Cattleya Mossiæ, over 4 ft. across, being a superbly bloomed mass, his beautiful plant of a light coloured Odontoglossum vexillarium, charming, another pink O. vexillarium, very bright, and Cattleyas Sanderiana, Mendelii, and Mossiæ, very fresh and good. The crowning plant is a grandly flowered Dendrobium Devonianum. In the competition for twelve exotic Orchids, Mr. Hardy has a huge Dendrobium Wardianum, two grand and distinct varieties of Odontoglossum vexillarium, some fine Cattleyas, and a beautiful specimen of Cypripedium Parishii, in better form than usual. The group from Enoch Harvey, Esq., gardener, Mr. Worth, includes a fine Cattleya Warnerii, with ten flowers, a grandly bright Masdevallia Harryana, a fine Epidendrum vitellinum majus, and a pretty form of Cattleya Mendelii. Mr. W. J. Thomson has an equally bright group, the best plants in which are Anguloa Ruckerii sanguinea, Anguloa Clowesii, and Lælia Boothiana. Holbrook Gaskell, Esq., also staged a good lot, his best plants being the pretty Dendrochilum filiforme, Masdevallia Veitchii grandiflora, and Dendrobium tortile.

In Class 23, for a group of twenty-five Orchids, arranged with foliaged plants, Mr. Hardy again appears at the head of the list with a very effective lot, Odontoglossum vexillarium being immense, and Cattleya gigas, Sanderiana and Mendelii, fine. In Mr. Cypher's group of twenty-five, which are equally well arranged, Dendrobium suavissimum and D. Jamesianum show up well; and in Mr. H. James's collection, the pretty Odontoglossum cordatum aureum is a novelty. In the sixes, Mr. Hardy again takes first honours with fine plants, and Enoch Harvey, Esq., has in his group the pretty Epidendrum Wallisii. The Hon. and Rev. J. T. Boscawen shows a grand plant of a large and fine form of Lælia purpurata. Messrs. F. Sander & Co. have a fine group in which one of the spotted forms of Odontoglossum crispum is very fine and evidently new, and there are here besides many others of great merit. Their group is lighted up with orange-coloured Epidendrum vitellinum majus, scarlet Masdevallias, and bright Cattleyas. The Liverpool Horticultural Co., Garston, also exhibit a very interesting lot which will be much appreciated, from the number of rare and curious species which it contains, such as Peristeria pendula, Dendrobium crepidatum, Ærides crassifolium, Chysis, &c. A very interesting group of Orchids, prettily arranged with Ferns, Caladium argyrites, Panicum, and other foliage plants, come from Holbrook Gaskell, Esq., Woolton Wood, including Masdevallia Schlimii, M. Bella, M. Reichenbachia, M. Davisii, M. Harryana, some good Odontoglossum vexillarium, O. citrosmum, Calanthe veratrifolia, &c.

FERNS AND LYCOPODS.

The exotic Ferns exhibited by Mr. Charles Paul, gardener to S. Schloss, Esq., Bowden, are truly superb examples of high-class cultivation, and creditable to those who have grown them to such perfection. The Gleichenias, and the specimen of Brainea insignis, are grand and perfect in every respect. The show of hardy Ferns is one of the best we have seen, and the competing collections will be found in the cut flower tent—a very fine show indeed, made up of contributions from Messrs. W. & J. Birkenhead, Sale; Messrs. Rylance & Co., Ormskirk; Mr. W. Troughton, of Preston; Mr. Thomas Bolton, of Warton, Carnforth; and Messrs. Fleming & Co., Maghull, Liverpool. The Messrs. Birkenhead, in their groups of Ferns, contribute a really representative lot, both as to botanical interest and beauty, so many rare species being seen among them.

NEW PLANTS.

The new plant section was decidedly weak, remembering the grand displays we have seen at former provincial gatherings, and this time we have nothing from either Messrs. Veitch, Bull, or Williams competing in the class for twelve plants sent out during 1884-85-86, in which Messrs. R. P. Ker & Son and the Messrs. Birkenhead are the only competitors, the first named being well first with good plants of Gymnogramma schizophylla gloriosa, Davallia fœniculacea, Croton Aigburthensis, a lovely yellow, narrow-leaved form, &c. The Messrs. Birkenhead show some very interesting new Ferns, which are a speciality with them.

A great number of plants were entered as new, and on Wednesday brought under the notice of the Floral Committee, which was composed of James O'Brien, Esq., as chairman, Major Lendy, Shirley Hibberd, Esq., Mr. Herbst, and Mr. Dean. The following First Class Certificates were awarded:—

To Messrs. James Veitch & Sons, King's Road, Chelsea, for Philodendron grandidens, a noble plant, with handsome narrow shield-shaped foliage of a bronzy hue; Nephrolepis rufescens tripinnatifida, with elegant overlapping frondage; Pteris tremula foliosa, a giant form of Pteris, seemingly intermediate between P. tremula and P. arguta, with fine crimped foliage, and noble habit; Rhododendron aurore, a greenhouse kind, with bright yellow flowers tipped with orange; and Gymnogramma schizophylla gloriosa, an extremely elegant and finely cut form, of more robust habit than the ordinary form. The committee also confirmed the Botanical Certificate provisionally awarded to the singular Protea cynaroides.

To Mr. B. S. Williams, Upper Holloway, London, for Araucaria excelsa Vervaetiana, a noble plant of the A. e. glauca form, but with a clear green tint.

To Messrs. Backhouse & Son, York, for Polypodium vulgare trichomanoides, a charming finely divided fronded Fern; Asplenium marinum plumosum, with broadly toothed pinnæ; Hymenophyllum pectinatum, which has curiously recurved pinnules; Trichomanes meifolium, a rare species, with something the habit of Todea pellucida; and Chrysanthemum leucanthum, Puy de Dome, a large white Marguerite.

To Messrs. R. P. Ker & Son, nurserymen, Aigburth, Liverpool, for Gymnogramma schizophylla gloriosa, as exhibited by Messrs. Veitch; Croton Aigburthensis, a lovely narrow yellow leaf kind; and Croton Newmanii, with brilliantly tinted red, yellow and bronze leaves.

To Messrs. W. & J. Birkenhead, Fern Nursery, Sale, for Nephrodium Sanwelli, a pretty Fern, with finely serrate fronds, and Lastrea montana coronans, a fine crested form.

To Messrs. Kelway & Son, Langport, Somerset, for Gaillardia Ormonde, a fine large flower, of yellow and crimson colour, and Pyrethrum Lawtonburgh, a magnificent pure white, quilled double.

Mr. E. Claxton received a Commendation for Tea Rose Madame Cusins.

GROUPS OF PLANTS.

In this section Mr. B. S. Williams, Holloway, has a fine group of Orchids and other flowering and fine-foliaged plants; among the former being some richly coloured varieties of Cattleya Mossiæ and C. Mendelii, Cypripedium Druryi, and several bright forms of Masdevallia Harryana; among the other subjects Nepenthes Mastersiana is in fine form, and the whole group is well arranged and worthy of Mr. William's reputation. Messrs. James Veitch & Sons, of Chelsea, make a great display with some really noble plants of Anthuriums, Philodendron grandidens, Nepenthes, &c.; a neat collection of Insectivorous plants; the curious Protea cynaroides, the new Nephrolepis rufescens tripinnatifida, and other good things. Messrs. R. Smith & Co., Worcester, have a fine group of specimen and small flowered Clematises, small Heaths, Japanese Acers, and cut blooms of many good herbaceous plants, such as Pæonies, Pyrethrums, Spanish Irises, &c. Messrs. Kelway & Son, Langport, have a truly remarkable display of herbaceous Pæonies, single and double Pyrethrums, &c. Messrs. W. Cutbush & Son, Highgate, have an admirable group of small New Holland plants, Heaths, Kalosanthes, and other showy flowering plants, full of flowers and very attractive. Messrs. James Carter & Co. have a charming group of annuals in pots; and Mr. Jennings, gardener to Leopold de Rothschild, Esq., Ascott, has an exceedingly fine group of Souvenir de Malmaison Carnations; and Mr. Turner, Slough, also shows a fine set of tree-flowering varieties. In the competitive classes there are fine displays by S. Barlein, Esq., W. H. Watts, Esq., and F. H. Gossage, Esq. Messrs. James Backhouse & Son, York, have a magnificent collection of Alpine Plants, to which we must refer more fully on another occasion.

HARDY TREES AND SHRUBS.

Messrs. Barron & Son, Elvaston Nurseries, Borrowash, are the only exhibitors of large specimen Conifers, Hollies, &c., which being grouped near the entrance to the large marquee, have a very imposing appearance. Messrs. James Dickson & Sons and Messrs. F. & A. Dickson & Sons, both have fine groups of young plants of Japanese Acers and other pictorial trees.

FLORISTS' FLOWERS.

The florist's flower classes brought out many excellent exhibits, of which we regret we can only note a few. A leading position must, however, be given to Messrs. John Laing & Co.'s tuberous Begonias, and the collections also from Mr. B. Hurst and W. H. Watts, Esq. ; to the zonal Pelargoniums of Mr. E. Bridge, Huyton ; the show and fancy varieties of Messrs. C. Rylance & Co. and Mr. Turner ; the double zonals of Mr. T. Gowen ; the Ivy-leaved varieties of Messrs. Fleming & Son ; and the Pansies and Violas of Mr. J. Forbes, of Hawick.

CUT FLOWERS.

In this department, there are good competitions all round. Roses are in strong force, fine stands being shown by The Cranston Nursery Co. ; Messrs. Paul & Son ; Messrs. Cooling & Son, Bath ; Mr. Campbell, of Bath ; and Mr. G. Prince, of Oxford. The Pyrethrum Classes are well contested by northern growers ; among the leading competitors being Messrs. Cocker, of Aberdeen ; and Messrs. R. P. Laird & Sons, Edinburgh ; and a very fine array of Pansies and Violas, includes contributions from Messrs. Forbes, Hawick ; Sutherland, Lenzie ; Storrie, Lenzie ; Laird & Sons, Edinburgh ; and Messrs. Dobbie & Co , Rothesay, who have a stand of 150 blooms, mostly of fine fancy varieties of their own raising. The cut blooms of Orchids and stove and greenhouse plants are very good, and the display of bouquets, quite extensive and fine, among the leading exhibitors in the former department being Mr. Cypher, Mr. Cragg, Mr. Alexander, Mr. Turner, &c. ; and in the bouquet section, Mr. Cypher, Messrs. Perkins & Sons, Mr. Brown, of Richmond, and others show some admirable examples of artistic bouquet making.

FRUITS.

The fruit show is decidedly below the mark, and nothing like so good as on several former occasions, but perhaps much of this must be attributed to the backwardness of the season. The best classes are those for Pines, in which there are certainly as fine a lot of Queens as one could expect to see anywhere. The seven single fruits are all good, among the leading exhibitors being Mr. Miles, Mr. Wildsmith, Heckfield, Mr. Muir, Margam Park, Mr. Parker, Impney, and Mr. Goodacre, of Elvaston ; and some of them compete also in the class for pairs. In the black Grape class, there are eight lots of Hamburghs, and good samples indeed are those staged by Mr. Louden, The Quinta, Chirk, Mr. Lambert, Brogyuton Gardens, Owestry, and Mr. J. Austen, Rumshaw Hall, Euxton. There is also a fair white class, among them being some well-ripened Muscats, a capital lot of Foster's Seedling, and Mr. Louden has the Golden Champion in fine form ; and the Duke of Buccleuch is well shown by Mr. Bennet, Rhug Gardens, Corwen. Peaches and Nectarines are a capital show, some twenty dishes of each being staged, among the former, well shown, being Violette Hative, Hales' Early, Stirling Castle, Galande, Royal George, Early Albert, and Bellegarde. In Nectarines there is nothing finer than Lord Napier, Pine Apple, Violette Hative, Elruge, and Balgowan. The class for eight dishes of fruits, distinct, introduces us to a new exhibitor in Mr. R. Parker, gardener to J. Corbett, Esq., Impney Hall, Droitwich, who came to to the front with a fine lot of Grapes, Strawberries, Figs, Nectarines, Melons, Pine, &c. Mr. G. H. Richards comes next, with, among others, a fine Queen Pine, good Strawberries, Nectarines, Figs, &c. Mr. Bannerman is third, his best dishes being of Duke of Buccleuch Grapes and Peaches. There is a fair display of Melons, a few Cherries, and Figs, &c. Messrs. Thomas Rivers & Sons, Sawbridgeworth, show a splendid group of orchard-house trees in pots, fine examples of various Apples, Pears, Plums, Cherries, Peaches, and Nectarines, perfect in shape and foliage, and all carrying grand crops of fruits ; and Messrs. J. Cheal & Sons, Crawley, have a small but neat representation of their cordon fruit trees trained to wires. At a meeting of the Fruit Committee, Mr. T. Laxton received a First Class Certificate for his seedling Strawberry, "Noble."

VEGETABLES.

The vegetables staged, though in numbers below what we have had before, lack nothing on the score of quality, which is all that can be desired. Those who inspected them yesterday, and who were present at the earlier shows of the series, must have been struck with the change in taste that has been brought about in vegetable exhibiting, so completely have the old-fashioned large and coarse pot-boilers been banished. There is a capital competition in the class for eight dishes ; in which Mr. G. T. Miles, gardener to Lord Carrington, Wycombe Abbey, well holds his own with an admirable lot, including Daniels' White Elephant Onion, a fine dish of Asparagus (for the time), good Cauliflowers, Sutton's New Intermediate Carrot, Carters' Pride of the Market Peas, Stamfordian Tomatos, Dean's Chancellor Potatos, Canadian Wonder Beans, &c. Mr. G. H. Richards, gardener to the Earl of Normanton, Somerley, Ringwood, comes next with a most creditable lot, and next in order comes very evenly matched collections from Mr. Miller, of Rood Ashton, and Mr. Garraway, of Brook Street, Bath. Beans, Cucumbers, Asparagus, Peas, Turnips and Potatos are all well shown for the season. The competition in the Potato classes is fair only, but we note nice samples of the old Ashleaf, Snowdrop, Myatt's Prolific, Veitch's Improved Ashleaf, Woodstock Kidney, &c. The Pea classes are very good, all the leading early sorts being represented, with Stratagem at the

Clematis, Beauty of Worcester (see p. 693.)

head, Pride of the Market, Early Bird, Duke of Albany, Early Kenilworth, Telegraph, and William I. There is a capital competition for the special prizes offered by Messrs. Carter & Co. and Messrs. Sutton & Sons, among the exhibitors being such noted growers as Mr. A. Miller, Rood Ashton; Mr. Iggulden, Marston; Mr. J. Garland, of Killerton; Mr. Miles, Mr. Richards, Mr. Lambert, Onslow Hall, and Mr. Oldfield, Chirk Castle. The Tomato class is very good, some capital dishes being staged of Dedham Favourite, Hathaway's Excelsior, Stamfordian, Trophy, &c. The Lettuces call for no special remark, nor among the sixteen brace of Cucumbers staged are there any above an ordinary average of merit.

LITERATURE AND ART.

Section A., consisting of five classes, includes exhibits in Class 1 from Messrs. F. Sander & Co. of copies of "Reichenbachia"; also specimens of the various gardening journals, and an interesting collection of seed catalogues, &c., issued by Messrs. Sutton & Sons; the illustrations of the "Reichenbachia" were highly commended as specimens of colour printing. In Class 2, Mr. C. R. Kelly exhibits a book on "Transplanting Trees and Shrubs"; Messrs. W. Blackwood & Sons, twenty vols. of horticultural books published by them; Mr. L. Castle, "Orchids" and "Cactaceous Plants"; two books by Messrs. Sutton & Sons. Class 3 contains a copy of the 1633 edition of Gerard's "Herball," from Mr. R. C. Kingston, Brantingham Thorpe; some excellent books from Mr. W. Robinson, Messrs. L. Reeve & Co., Mr. B. S. Williams, Mr. A. F. Barron ("Vines and Vine Culture"), and the Royal Horticultural Society ("British Apples" and the "Orchid Conference Report"). In Class 4 there are only two exhibits, Mr. A. Hope who shows "Hortus Kewensis" (1789), "Kalendarium Hortense" (1666) and "The Retired Gardener" (1717); and Mr. John D. Nanscawen who exhibits the most interesting book in the tent—the first edition of Gerard's "Herball" (1597) in fine condition. Class 5, set apart for Foreign Garden Literature, is, as might be expected, a small one, Mons. E. Pynaert, Ghent, exhibits some fine specimens of the illustrations to "Bulletin d'Arboriculture" and "Revue de l'Horticulture." These have been highly commended as specimens of the lithographer's art.

Section B.—Technical Art.—Class 1 (A), Mons. C. Jancke, Junr., is commended for a "Plan of a Villa Garden at Bazenthal, near Cologne." (B), Mr. A. G. Jackman, Woking, is highly commended for a "Plan for laying out a Public Park of 100 acres"; and a commendation has been given to Messrs. W. Barron & Son, Borrowash, for a "Plan of proposed Park at Leicester."

Section C.—Botanical and Decorative Art. A very pretty display is made in this section. Mrs. K. K. Cussons is highly commended for a panel, "Roses" artistically treated; and Mrs. Harry Turner, Slough, is commended for six floral designs for panels. The Society's Silver-gilt Banksian Medal was awarded to Mrs. H. Turner for a beautifully decorated Vase; the Silver Medal to Mrs. L. Petitgeau for a Plaque; the Bronze Medal to Miss C. Goffey for a Plaque.

HORTICULTURAL IMPLEMENTS, &c.

Messrs. Halliday & Co., Middleton, near Manchester, have a very fine display of plant-houses, &c., including a Vinery, 25 ft. by 15 ft., span-roofed, and made of wrought iron; an ornamental conservatory, decorated with tiles and coloured glass, and having a dome roof; a handsome structure either for erecting independently or attaching to a mansion; all these are admirably ventilated by simple mechanical means. They have also several forms of span-roofed plant frames, some with side racks and swing bars; a new one, with a centre rack and swing bars; and a patent adjustable frame, to which top and bottom ventilation can be given at will, or the lights can be turned right over for convenience of getting at the plants. Besides a cheap and excellent little apparatus for heating an amateur's greenhouse, the Messrs. Halliday have on view some specimens of four different systems of glazing, one their own patent diagonal dry glazing—simplex lead glazing, continuous cap and hollow bar dry glazing, and their improved imperishable putty glazing with cap, &c., besides ceramic mosaic, and tesselated tiles, &c.

Messrs. Richardson & Co., Darlington, have an imposing array of plant houses, which includes a large ornamental conservatory 46 ft. long, and 24 ft. wide, Queen Anne style, with lantern roof, top and side ventilation, with improved ventilating gear, and an improved system of glazing, which consists of fixing a cap over the putty, and the sash bars channelled down the sides to carry condensed moisture into the gutters; a handsome and well built structure. Some span-roofed frames are fitted with ridge ventilators on an excellent system; besides the lights can be fixed open at any angle, and the whole are portable and handy. A half-span house shows another system of ventilation, in which both sides are ventilated in sections, somewhat on the Paxton principle but much superior; all worked by levers easily and well. The Darlington wall tree cover, a novelty still to many is a capital contrivance, being substantial, cheap, and effective in attaining the objects in view, protection of the trees in spring, and an easy means of exposing them by removing the lights in the autumn. Here, also may be seen the Parisian blinds with which the name of the firm is identified in this country, and which are strong, durable, and well liked by those who have put them to a practical test. The same firm also shows the patent hooded and various other boilers.

Messrs. Messenger & Co., Loughborough, have a very useful structure in a span-roofed plant-house and vinery combined. The plant-house has an octagon end, and is 46 ft. long, and 18 ft. wide, and is fitted with iron and slate stages. The vinery is wired and heated, and the ventilators on the top are worked with a patent spring lever, as also is the side ventilator, which is continuous. They also show a little tenant's fixture—a greenhouse 12 ft. by 10 ft. which received the gold medal of the Society of British Architects, at Sheffield, in February last. It is heated by a Loughborough boiler, the best portion of which is inside the house; and the whole appears to be good value for the price asked. In this group also may be seen the first made examples of a span-roofed frame, the lights of which are manipulated with sliding racks in a very effective manner.

Messrs. John Weeks & Co., Chelsea, show a novelty in a new boiler for heating drawing rooms, &c., by means of hot-water pipes. The boiler is heated by an open stove in the basement, and by an ingenious arrangement of the pipes, any other room can be heated, either on the same level, or above it. The same firm also shows their Hydro-caloric Coil, which can be put in any room, and by means of a constant current of fresh air, warm, dry, or moist air can be passed into the rooms. It can also be used as a sanitary vaporizer, and any odour that may be thought fit can be employed.

Messrs. J. Davis & Co., Kennington, London, have a good stand of barometers and horticultural scientific instruments; also the special thermometers used for testing the boilers in the trial now in progress.

Messrs. Wrinch & Son, Ipswich and London, show greenhouses, conservatories, garden furniture of all kinds, especially seats, tents, syringes, pumps, &c.

Messrs. J. Crispin & Son, 58, Milk Street, Bristol, have an amateur's portable span-roofed greenhouse, fitted with Hunt's automatic ventilator, which may be described as an air thermometer put to a useful purpose for the benefit of those who cannot be at home all day to look after their house.

Messrs. D. Lowe & Sons, Edinburgh and Manchester, show some substantially-built and well-designed houses for various purposes; independent terminal-end boilers, &c.

Messrs. A. Peel & Son, Wood Green, London, exhibit their speciality, a small span-roofed amateur's greenhouse, 12 ft. by 8 ft., and 9 ft. high, strongly and well made, and turned out at a cost of £12. Another little house, 10 ft. long and 7 ft. wide, is made at £6 10*s.*, and both are tenant's fixtures and can easily be removed.

Mr. John Matthews, Weston-Super-Mare, has a large and very attractive exhibit of his unrivalled garden pottery in the form of vases of excellent design and admirable finish, and flower pots and pans for all sorts of purposes.

Messrs. Elliott, Edmondson, & Olney, 79, Deansgate, Manchester, show Northwood's patent Eureka revolving tub. The whole runs on wheels, and the tub revolves on smaller ones. The panels, which are made either of oak or iron, can be lifted out separately; a capital contrivance for saving much hard work.

Messrs. Foster & Pearson, Beeston, Notts., make a good show with three good-sized span-roofed structures, and a series of garden frames of a very useful description.

Messrs. W. H. Peate & Sons, Liverpool, have illustrations of different kinds of wire-work, such as trainers for espaliers, trees, arches, and Pea trainers, &c.

Mr. J. Bramham, 104, Dale Street, Liverpool, has a good display of hot-water boilers, wire fencing, and ornamental wire-work, &c.

Mr. J. Unite, Edgware Road, who provides most of the canvas used by the society, makes a good show with tents of various kinds.

Messrs. Blake & McKenzie, School Lane, Liverpool, have a good display of flower boxes for parcel post work; and

Mr. Bethell, Chicago Buildings, 64, Stanley St., Liverpool, also has a good stand of his patent "Unique" folding box, for the same purpose, and which has already met with a large sale, especially among Orchid growers.

Mr. H. G. Smyth, Goldsmith Street, Drury Lane, has a capital show of Orchid peat, and a number of other useful articles which come under the denomination of garden requisites, in the care of his genial manager, Mr. Richardson.

Mr. T. Pinches, Oxenden Street, London, shows numerous specimens of his "Acme" labels, which are recognised generally as a first-class article.

The Chadborn & Coldwell Manufacturing Co, 223, Upper Thames Street, London, have their Excelsior and Clipper lawn mowers on view; and

The Horticultural & Agricultural Chemical Co., Tonbridge, Kent, bring under public notice their new insecticide and Perfect weed killer, &c.

Messrs. W. B. King & Co., Ipswich, have a good show of their "Universal" Horticultural Manures, for special crops: fertilising moss and plants growing therein; and an enamel fluid or non-corrosive varnish, for coating hot-water pipes, &c.

Messrs. Leedham & Heaton, Armly Road Works, Leeds, have a capital show of garden forks, spades, hoes, &c.

Mr. W. H. Essery, Swansea, shows his Horticultural Anthracite Coal.

Mr. J. Gray, Danvers Street, Chelsea, has his new Orchid staging (made in moveable lengths), tubular boilers, valves, &c.

Messrs. Jensen & Co., Great St. Helen's Place, have their excellent fish-potash manure.

Mr. S. Deard, Harlow, exhibits a curvilinear span-roofed house, glazed on his Victoria dry glazing system.

Mr. J. Webster, Wavertree, has a section of a span-roofed plant house, garden frames, &c.

Messrs. W. Glassey & Co., Victoria Street, Liverpool, shows ladders for fruit gathering and tree pruning, garden seats, vases, &c.

The Standard Manufacturing Co., Derby, exhibit the "Standard" tree pruner.

Messrs. Samuelson & Co., Banbury, have a capital display of lawn mowers, for hand and horse power.

Messrs. T. Green & Son, Leeds, have also a good stand of their famous chain lawn mowers, boilers, &c.

Messrs. Lloyd, Lawrence & Co., 34, Worship Street, London, have numerous specimens of the Pennsylvanian lawn mowers, "the latest and most approved" of American mowers.

Mr. T. Woods, Sutton Potteries, St. Helen's, exhibits Crute's patent concave flower pots and cups, ornamental and plain.

Mr. B. Harlow, Macclesfield, has a good show of tubular and tubular saddle boilers, valves, connections, &c.; and

Mr. J. G. Wagstaff, Dukinfield, exhibits his well-known independent boilers.

SEEDS, &c.

Messrs. Sutton & Sons, Reading, have an elaborate and most attractive stand 75 ft. in length, on which they show a collection of the various Grasses included in their well known prescriptions for lawns. A large collection of Vegetable Seeds, numbering 150 varieties; a collection of the numerous kinds of Potatos introduced by the firm during the last twenty years. An extensive collection of Lettuces, both Cabbage and Cos varieties, and a great display of Cucumbers and Melons, including splendid specimens of Sutton's Purley Park Hero Cucumber, Sutton's Improved Telegraph Cucumber, Sutton's Berkshire Champion Cucumber, Sutton's Imperial Green-flesh Melon, Sutton's Masterpiece Melon, Sutton's Invincible Scarlet-flesh Melon, and Sutton's Hero of Lockinge Melon, &c.

The following is a list of

THE JUDGES

Classes 1 to 15, Mr. J. Douglas, Ilford; Mr. J. Mease, Wincote; M. E. Pynaert, Ghent. Classes 16 to 33, and 61, Mr. B. Findlay, Manchester; Mr. J. O'Brien, Harrow; M. Van Volxem, Brussels. Classes 34 to 50, Mr. M. Dunn, Dalkeith; Mr. G. Goldsmith, Northampton. Classes 51 to 60, Mr. O. Thomas, Chatsworth; Mr. H. Lindsay, Huntroyde; M. Van Geert, Antwerp. Classes 62 to 81, Mr. R. Deau, Ealing; Rev. C. H. Bulmer, Hereford. Classes 82 to 93, Mr. J. Pettigrew, Cardiff. Classes 94 to 116, 129, 132, 134, Mr. Barnum, Croxteth; Mr. F. Harrison, Knowsley; M. H. Vilmorin, Paris. Classes 117 to 128, and 135, Mr. Bennett, Rangemoore; Mr. Jamieson, Wigan; Hon. Berkeley Stanhope. Horticultural Literature, Science and Art, Mr. E. W. Badger, Birmingham, Mr. F. W. Burbidge, Dublin; Mr. J. Shaw, Manchester. Implements—Classes 1 to 8, and "Boiler Contest," Mr. W. Miller, Coventry; Mr. E. Bardney, Liverpool; Mr. Marriot, Glasgow; Mr. James Boyd, junr., Paisley. Classes 9 to 21, Sir C. W. Strickland, Bart, Malton; Mr. Shirley Hibberd, Kew; Mr. Woolford, Leatherhead; M. C. Joly, Paris.

AWARDS OF THE JUDGES.

PLANTS.

Class 1.—Twelve stove and greenhouse plants, six in flower and six foliage; distinct. Open.—First, Mr. J. Cypher, Cheltenham. Second, Mr. J. F. Mould, Pewsey. Third, Mr. H. James, Castle Nursery, Lower Norwood.

Class 2.—Nine stove and greenhouse plants in bloom, distinct. Nurserymen.—First, Mr. J. Cypher. Second, Mr. H. James. Third, Mr. J. F. Mould.

Class 3.—Six stove and greenhouse plants, distinct; in bloom. Amateurs.—First, Mr. A. R. Cox, gardener to W. R. Watts, Esq., Elen Hall, Wavertree. Second, Mr. C. Paul, gardener to S. Schloss, Esq., Bowden.

Class 4.—Twelve hard-wooded New Holland plants, in flower. Open.—First, Mr. J. Cypher.

Class 5.—Nine fine-foliaged plants; distinct. Open—First, Mr. J. Cypher. Second, Mr. J. Jellicoe gardener to F. H. Gossage, Esq., Woolton. Third Mr. H. James.

Class 6.—Six fine-foliaged plants; distinct. Amateurs. —First, Mr. A. R. Cox.
Class 7.—Nine Palms; distinct. Open.—First, Mr. G. Williams, gardener to S. Barlein, Esq., Didsbury, Manchester. Second, Messrs. R. P. Ker & Son, Liverpool.
Class 8.—Nine exotic Ferns; distinct. Open.—First, Mr. G. Rhodes, gardener, Grassendale Priory, Liverpool. Second, Mr. A. R. Cox.
Class 9.—Six exotic Ferns; distinct. Amateurs.—First, Mr. C. Paul. Second, Mr. G. Williams. Third, Mr. T. Gowen, gardener, Linton Lodge, Mossley, Liverpool.
Class 10.—Six pots or pans of filmy Ferns. Open.—No competition.
Class 11.—Fifteen British Ferns; distinct. Open.—First, Mr. T. Bolton, Fern Cottage, Warton, Carnforth. Second, Messrs. C. Rylance & Co., Ormskirk. Third, Messrs. W. & J. Birkenhead, Sale.
Class 12.—Six British Ferns; distinct. Amateurs.—First, Mr. T. Foster, gardener, Green Bank, Liverpool. Second, Mr. P. Barber, St. Michael's Hamlet. Third, Mr. T. Hurst.
Class 13.—Twelve Crotons; distinct. Nurserymen.—First, Messrs. R. P. Ker & Son. Second, Mr. J. Cypher. Third, Mr. T. F. Mould.
Class 14.—Six Crotons; distinct. Amateurs.—First, Mr. C. Finnigan, Winter Gardens, New Brighton.
Class 15.—Six Dracænas; distinct. Amateurs.—First, Mr. J. Lambert, gardener to Col. Wingfield, Onslow Hall, Shrewsbury. Second, Mr. G. Williams. Third, Mr. A. R. Cox.
Class 16.—Twelve Bromeliads; distinct. Open.—First, Messrs. R. P. Ker & Son.
Class 17.—Six Adiantums; distinct. Amateurs.—First, Mr. T. Hurst.
Class 18.—Six Caladiums; distinct. Open.—First, Messrs. John Laing & Co., Stanstead Park, Forest Hill, S.E.
Class 19.—Twelve new and rare plants, not in commerce. Nurserymen.—No competition.
Class 20.—Twelve new and rare plants, sent out during 1884-85-86.—First, Messrs. R. P. Ker & Son. Second, Messrs. W. & J. Birkenhead.
Class 21.—Six pans or pots of Lycopods; distinct.—No competition.
Class 22.—Six Coleuses; distinct. Amateurs.—First, Charles Colton, Esq., Lulworth House, Birkdale. Second, Mr. W. Bustard.
Class 23.—Group of twenty-five Orchids, arranged with Palms, Ferns, &c. Open.—First, G. Hardy, Esq., Timperley, Cheshire. Second, Mr. J. Cypher. Third, Mr. H. James.
Class 24.—Twelve exotic Orchids; distinct. Amateurs. First, G. Hardy, Esq. Second, E. Harvey, Esq., Riversdale Road, Aigburth. Third, Mr. W. J. Thomson, Ghyllbank, St. Helen's. Extra Prize, Mr. J. Alexander, gardener, Woolton Wood, Woolton.
Class 25.—Twelve exotic Orchids; distinct. Nurserymen.—First, Mr. J. Cypher. Second, Mr. H. James.
Class 26.—Six exotic Orchids; distinct. Amateurs.—First, G. Hardy, Esq. Second, E. Harvey, Esq.
Class 27.—Nine Nepenthes or Sarracenias. Open.—First, Mr. H. James. Second, Mr. C. Paul.
Class 28.—Six Ericas; distinct; in bloom. Open.—First, Mr. J. Cypher
Class 29.—Six Azaleas; distinct; in bloom. Open.—No competition.
Class 30.—Twenty Roses, in 8-in. pots. Nurserymen.—First, Mr. C. Turner, Slough.
Class 31.—Twelve Clematises; distinct. Open.—No competition.
Class 32.—Twelve Rhododendrons, in flower. Nurserymen.—No competition.
Class 33.—Six greenhouse Rhododendrons. Open.—No competition.
Class 34.—Group of show, decorative, and fancy Pelargoniums, not more than eighteen plants, in 6-in. pots. Open.—First, Mr. C. Turner. Second, Messrs. C. Rylance & Co.
Class 35.—Group of zonal Pelargoniums, not more than eighteen plants, in 6-in. pots. Open.—First, Mr. G. Rhodes. Second, Messrs. R. Fleming & Son, Maghull, Liverpool.
Class 36.—Nine show and fancy Pelargoniums; distinct. Open.—First, Mr. C. Turner. Second, Messrs. C. Rylance & Co. Third, Mr. E. Bridge, Greenhill, Huyton.
Class 37.—Six single-flowered zonal Pelargoniums; distinct. Open.—First, Mr. E. Bridge. Second, Mr. W. Bustard. Third, Mr. T. Gowen.
Class 38.—Six double-flowered zonal Pelargoniums; distinct. Open.—First, Mr. J. Gowen. Second, Messrs. R. Fleming & Son. Third, Mr. J. B. Dixon, Ashton House Gardens, Ashton, Preston.
Class 39.—Nine Ivy-leaved Pelargoniums; distinct; in flower. Open.—First, Messrs. R. Fleming & Son. Second, Mr. R. Ashcroft, Hornspit Lane, West Derby. Third, Mr. H. James.
Class 40.—Six Fuchsias; distinct. Amateurs.—No competition.
Class 41.—Three Fuchsias; distinct. Amateurs.—First Prize withheld. Second, Mr. A. R. Cox.
Class 42.—Group of not less than twenty-five tuberous Begonias, in flower. Open.—First, Messrs. John Laing & Co.
Class 43.—Nine tuberous Begonias; distinct. Open.—First, Messrs. John Laing & Co. Second, Mr. T. Hurst. Third, Mr. T. Forbes, Nurseryman, Hawick.
Class 44.—Six tuberous Begonias; distinct. Amateurs. —First, Mr. T. Hurst. Second, Mr. J. Jellicoe. Third, Mr. A. K. Cox.
Class 45.—Group of Gloxinias, not exceeding thirty plants. Open.—No competition.
Class 46.—Nine Gloxinias; distinct. Amateurs.—First, Mr. J. Agnew. Second, Mr. J. Gowen.
Class 47.—Six pots or pans of Achimenes; distinct. Amateurs.—First, Mr. T. Hurst. Second, Mr. J. Gowen.
Class 48.—Nine pots of Liliums. Open.—No competition.
Class 49.—Collection of twenty-five varieties of Annuals, in pots. Open.—First, Messrs. James Carter & Co., High Holborn, London, W.C.
Class 50.—Collection of twenty-four varieties of Pansies or Violas, in pots. Open.—First, Mr. J. Forbes, Hawick. Second, withheld. Third, Mr. W. Bustard.
Class 51.—Group of miscellaneous plants, arranged for effect, occupying a space not exceeding 300 square ft. Open.—First, Messrs. R. P. Ker & Son. Second, Messrs. W. & J. Birkenhead.
Class 52.—Group of miscellaneous plants, arranged for effect, occupying a space not exceeding 100 square ft. Amateurs.—First, Mr. G. Williams. Second, Mr. A. R. Cox. Third, Mr. J. Jellicoe.
Class 53.—Group of miscellaneous plants, in or out of flower. Nurseryman.—First, Messrs. R. P. Ker & Son. Second, Mr. S. Johnson, nurseryman, Oxton, Birkenhead.
Class 54.—Group of fifty hardy herbaceous plants. Open.—First, Messrs. James Dickson & Sons, Chester. Second, E. Harvey, Esq.
Class 55.—Group of twelve Ivies, in pots; distinct. Open.—No competition.
Class 56.—Group of Coniferæ. Nurseryman.—First, Messrs. W. Barron & Son, Elvaston Nurseries, Borrowash, Derby.
Class 57.—Fifty hardy Alpine or rock plants. Open.—First, Messrs. Paul & Son, Cheshunt.
Class 58.—Group of hardy ornamental-foliage trees and shrubs. Nurseryman.—First, Messrs. James Dickson & Sons. Second, Messrs. W. Barron & Son.
Class 59.—Group of fifteen Hollies. Open.—First, Messrs. W. Barron & Son.
Class 60.—Miscellaneous subjects not mentioned in the foregoing classes.—Messrs. Sutton & Sons, Gold Medal. Mr. W. Clapham, Gold Medal. Messrs. Veitch & Sons, Gold Medal. Messrs. Backhouse & Son, Gold Medal. Mr. B. S. Williams, Gold Medal. Messrs. Cutbush & Son, Silver-gilt Flora Medal. Messrs. F. & A. Dickson & Son, Silver-gilt Flora Medal. Messrs. F. Sander & Co., Silver-gilt Flora Medal. Messrs. R. Smith & Co., Silver-gilt Flora Medal. Liverpool Horticultural Co., Silver-gilt Flora Medal. Mr. Jennings, gardener, Ascott, Silver-gilt Banksian Medal. Mr. C. Turner, Silver Banksian Medal. Messrs. James Carter & Co., Silver Banksian Medal. Mr. J. Alexander, Silver Banksian Medal. Messrs. T. Rivers & Son, Silver Banksian Medal. Messrs. James Dickson & Sons, Bronze Medal. Mr. E. Bridge, Bronze Medal.

Special Prize offered by the Liverpool Horticultural Company (John Cowen) Limited, The Vineyard, Garston, Liverpool.

Class 61.—Twelve Orchids in flower. First prize, Cup, value 25 guineas, and 10 guineas in cash.—G. Hardy, Esq., Timperley.

CUT FLOWERS.

Class 62.—Seventy-two Roses; distinct. Open.—First, The Cranston Nursery Co., Hereford. Second, Mr. G. Campbell, gardener, 8, Gay Street, Bath. Third, Messrs. Paul & Son.
Class 63.—Forty-eight Roses; distinct. Nurserymen. First, The Cranston Nursery Co. Second, Messrs. Paul & Son. Third, Mr. J. House, Peterborough.
Class 64.—Twenty-four Roses; distinct. Nurserymen. —First, Mr. G. Prince, Oxford. Second, The Cranston Nursery Co. Third, Messrs. G. Cooling & Son, Bath.
Class 65.—Twenty-four Tea Roses; distinct. Nurserymen.—First, Mr. G. Prince. Second, Messrs. G. Cooling & Son.
Class 66.—Twenty-four Roses; distinct. Amateurs.—First, Mr. G. Campbell. Second, Mr. R. E. West, Reigate.
Class 67.—Twelve Roses; distinct. Amateurs.—First, Mr. E. Claxton, Allerton. Second, Mr. G. Campbell. Third, Mr. R. E. West.
Class 68.—Twelve Tea Roses; distinct. Amateurs.—First, Mr. E. Claxton. Second, Mr. G. Campbell. Third, Mr. S. M. Bulley, Exchange Alley, Liverpool.
Class 69.—Orchids; twelve varieties, distinct, cut spikes or bunches, to be shown in glasses. Open.—First, Mr. J. Cypher. Second, Mr. J. Cragg, gardener, Birchfield, Fallowfield. Third, Mr. J. Alexander, gardener, Woolton Wood.
Class 70.—Twelve bunches of Pelargoniums; show, decorative, and fancy. Open.—First, Mr. C. Turner. Second, Messrs. C. Rylance & Co.
Class 71.—Twelve bunches of single-flowered zonal Pelargoniums; distinct. Open.—First, Messrs. C. Rylance & Co. Second, Mr. W. Weir, gardener, Acton Park, Wrexham. Third, Messrs. R. Fleming & Son.
Class 72.—Twelve bunches of double-flowered zonal Pelargoniums; distinct. Open.—Second, Mr. W. Weir. Third, Messrs. R. Fleming & Son.
Class 73.—Twelve bunches of stove and greenhouse plants; distinct. Amateurs.—First, Mr. G. Williams. Second, Mr. C. Raffil, Low Hill Gardens, Bushbury, Wolverhampton.
Class 74.—Twelve bunches of hardy herbaceous flowers; distinct. Amateurs.—First, Mr. G. Eaton, gardener, Allerton House, Allerton. Second, Mr. W. Bustard.
Class 75.—Group of cut hardy herbaceous flowers. Nurserymen.—First, Messrs. J. Dickson & Sons. Second, Messrs. Paul & Son.
Class 76.—Twenty-four varieties of Pyrethrums; five blooms of each sort, to be shown in bunches. Open. —First, Messrs. J. Cocker & Sons, Aberdeen. Second, Messrs. R. B. Laird & Son, Edinburgh. Third, Messrs. Harkness & Son, Bedale, Yorks.
Class 77.—Sixty blooms of Pansies; not more than two of a sort. Open.—First, Messrs. J. Cocker & Son. Second, Mr. J. Sutherland, Leuzie. Third, Mr. W. Storrie, Lenzie.
Class 78.—Twelve varieties of Gloxinias; distinct; three blooms of a sort. Open.—First, Mr. T. Gowen. Third, Mr. J. Downham, gardener, Plymyard, Eastham.
Class 79.—Twenty-four blooms of Pansies; two flowers of a sort. Amateurs.—First, Mr. W. Storrie. Second withheld. Third, Mr. W. Bustard.
Class 80.—Twelve bunches of Violas; distinct. Amateurs.—No competition.
Class 81.—Miscellaneous subjects not mentioned in foregoing classes.—Messrs. Kelway & Son, Silver-gilt Medal. Messrs. James Dickson & Son, Silver Medal. Messrs. Dobbie & Co., Rothesay, Bronze Medal. Messrs. Pearson & Son, Bronze Medal.

TABLE DECORATIONS, BOUQUETS, &c.

Class 82.—Dinner table, 10 ft. × 5 ft., decorated with flowers and fruit, and completely laid out for eight persons. Open.—No competition.
Class 83.—Twelve plants, suitable for dinner table, in pots not exceeding 6 ins. in diameter. Amateurs. —First, Mr. J. Agnew. Second, Mr. J. Hill, Reform Street, Rochdale. Third, Mr. T. Fleetwood, gardener, Homefield, Aigburth.
Class 84.—Three vases or stands of flowers for dinner table decoration. Open.—First, Mr. J. Cypher. Second, Mr. T. Pruit, Hammersmith, W. Third, Mr. W. Brown, Richmond, Surrey.
Class 85.—Three vases or stands of flowers, for dinner table decoration. Amateurs.—Third, Mr. P. Barker, St. Michael's Hamlet.
Class 86.—Single vase or stand of flowers, for dinner table decoration. Amateurs.—First, Mr. T. Cragg. Second, Mr. B. Barber. Third, Mr. W. Bustard.
Class 87.—Three bouquets:—One Bridal, two Bridesmaids. Open.—First, Mr. J. Cypher. Second, Messrs. Fishlock Bros., St. John's Market, Liverpool. Third, Mr. Carr, Market Hall, Southport.
Class 88.—Two bouquets for the hand. Open.—First, Mr. Carr. Second, Mr. J. Cypher. Third, Messrs. Perkins & Sons, Coventry.
Class 89.—Two bouquets of Roses. Open.—First, Messrs. Perkins & Sons. Second, Mr. E. Carr. Third, Messrs. Fishlock & Co.
Class 90.—One bouquet for the hand. Open.—First, Messrs. Perkins & Sons. Second, Mr. E. Carr. Third, Mr. J. Woore.
Class 91.—Six button-hole bouquets (gentlemen). Open. —First, Messrs. Perkins & Sons. Second, Mr. Pruit. Third, Mr. Webber, Tonbridge.
Class 92.—Three arranged sprays of flowers for ladies' wear. Open.—First, Messrs. Perkins & Sons. Second, Mr. E. Carr. Third, Mr. W. Brown.
Class 93.—Collection of skeletonised leaves, flowers, fruit.—First, Mrs. Hodgkins, Willington, Manchester. Second, Mr. R. Frisby, The Gardens, Worden Hall, Preston.

FRUIT.

Class 94.—Collection of fruit; eight distinct kinds. Black and white Grapes considered distinct.—First, Mr. R. Parker, gardener to J. Corbett, Esq., Impney Hall, Droitwich. Second, Mr. G. H. Richards, gardener, Somerley, Ringwood, Hants. Third, Mr. T. Bannerman, gardener, Blithefield, Rugeley.
Class 95.—Collection of fruit, six kinds, excluding Grapes and Pine Apples.—First, Mr. W. Iggulden, gardener, Marston House, Frome. Second, Mr. A. Miller, gardener, Rood Ashton, Wilts. Third, Mr. Goodacre, gardener, Elvaston Castle, Derby.
Class 96.—Grapes, Black Hamburgh; three bunches. —First, Mr. J. Lambert, gardener, Brogyntou Hall, Second, Mr. I'Anson, gardener, Runshaw Hall, Euxton. Third, Mr. E. Gilman, Ingestrie Hall Gardens, Stafford.
Class 97.—Grapes, Madresfield Court; three bunches.—First, Mr. J. Louden, gardener, The Quinta, Chirk.
Class 98.—Grapes, Muscat of Alexandria; three bunches.—First, Mr. G. Middleton, gardener, Rainford Hall, St. Helen's. Second, Mr. R. McKellar,

gardener, Abney Hall, Cheadle. Third, Mr. J. Louden.

Class 99.—Grapes, Foster's Seedling; three bunches.—First, Mr. G. T. Miles, gardener, Wycombe Abbey, Bucks. Second, Mr. R. I'Anson. Third, Mr. T. Bannerman.

Class 100—Grapes, Buckland Sweetwater; three bunches.—Not decided.

Class 101.—Grapes, any other variety; three bunches.—First, Mr. T. Louden. Second, Mr. W. Chuck, gardener, Brodsworth Hall, Doncaster.

Class 102.—Grapes, basket of, not less than 12 lbs.—First, Mr. R. I'Anson. Second, Mr. W. Tugwood. Third, Mr. T. Elsworthy, gardener, Court Hey, Broad Green, Liverpool.

Class 103.—Two Pine Apples; any variety.—First, Mr. G. T. Miles. Second, Mr. R. Parker. Third, Mr. H. Morris, Glenafon Gardens, Tiabach.

Class 104.—One Pine Apple; "Queen."—First, Mr. G. T. Miles. Second, Mr. T. Muir, gardener, Margam Park, S. Wales. Third, Mr. G. H. Richards.

Class 105.—One Pine Apple; any other variety.—First, Mr. G. Rhodes.

Class 106.—Peaches, two dishes; distinct. Six fruits of each variety.—First, Mr. W. H. Divers, Ketton Hall Gardens. Second, Mr. Goodacre. Third, Mr. Stoney, gardener, Allerton Tower, Woolton.

Class 107.—Peaches, one dish; 6 fruits.—First, Mr. J. Wallis, Keele Hall Gardens. Second, Mr. G. Gilman. Third, Mr. J. Stoney.

Class 108.—Nectarines, two dishes; distinct. Six fruits of each variety.—First, Mr. A. Jamieson, Haigh Hall Gardens, Wigan. Second, Mr. Bannerman. Third, Mr. Gilman.

Class 109.—Nectarines, one dish; six fruits.—First, Mr. Jamieson. Second, Mr. Gilman. Third, Mr. J. Douglas.

Class 110.—Strawberries, three dishes; distinct.—First, Mr. G. Garraway, Bath. Second, Mr. W. Iggulden.

Class 111.—Strawberries, single dish.—First, Mr. W. Wildsmith, Heckfield Place Gardens. Second, Mr. G. Garraway. Third, Mr. W. Chuck.

Class 112.—Cherries, two dishes; distinct.—First, Mr. T. Hare, Wellingore Gardens, Grantham. Second, Mr. G. T. Miles.

Class 113.—Cherries, single dish.—First, Mr. T. Hare. Second, Mr. G. T. Miles. Third, Mr. G. H. Richards.

Class 114.—Figs, single dish.—First, Mr. J. Wallis. Second, Mr. A. Jamieson. Third, Mr. Miles.

Class 115.—Melons, two fruits. First, Mr. A. R. Bailey, Frome. Second, Mr. G. Lyon, gardener, Rock Ferry. Third, Mr. G. Rhodes.

Class 116.—Miscellaneous fruits not mentioned in foregoing classes.—Not decided.

VEGETABLES.

Class 117.—Collection of vegetables; eight distinct kinds.—First, Mr. G. T. Miles. Second, Mr. G. H. Richards. Equal third, Mr. A. Miller, and Mr. G. Garraway.

Class 118.—Potatos; three distinct varieties, nine tubers of each.—First, Mr. F. Miller. Second, Mr. G. T. Miles. Third, Mr. G. H. Richards.

Class 119.—Potatos; nine tubers.—First, Mr. Goodacre. Second, Mr. G. T. Miles. Third, Mr. J. Oldfield, gardener, Chirk Castle, Ruabon.

Class 120.—Peas; three distinct varieties, fifty pods of each.—First, Mr. Ward, gardener, Longford Castle, Salisbury. Second, Mr. H. Marriott, Skrgbeck. Third, Mr. G. T. Miles.

Class 121.—Peas, fifty pods, one variety.—First, Mr. G. T. Miles. Second, Mr. Richards. Third, Mr. Dowuham.

Class 122.—Onions, twelve.—First, Mr. Miles. Second, Mr. Richards. Third, Mr. J. Gardland, Killerton Gardens, Exeter.

Class 123.—Cabbages, three heads.—First, Mr. T. Wilkins. Third, Mr. J. Garland.

Class 124.—Cauliflowers, three heads.—First, Mr. T. Wilkins. Second, Mr. J. Burnett, The Deepdene, Dorking. Third, Mr. W. Iggulden.

Class 125.—Tomatos, twelve fruits.—First, Mr. Elsworthy. Second, Mr. E. Bridge. Third, Mr. G. Lyon.

Class 126.—Cucumbers, one brace.—First, Mr. N. E. Owen. Second, Mr. I. Oldfield. Third, Mr. I. Leigh.

Class 127.—Lettuces, three heads.—First, Mr. J. Garland. Second, Mr. W. Pratt, Longleat Gardens. Third, Mr. J. Burnett.

Class 128.—Best collection of garden produce, comprising plants, flowers (including bouquets, &c.), fruit and vegetables, effectively arranged, to occupy not more than 100 square ft. of tabling.—No competition.

Special Prizes offered by Messrs. James Carter & Co., 237 and 238 High Holborn, London.

Class 129.—For best specimen of Carter's Blenheim Orange Melon.—First, not decided. Second, Mr. G. Lyon. Third, Mr. G. Park.

Class 130.—For the best fifty pods each of the following Peas:—Carter's Telephone, Carter's Stratagem, Carter's Pride of the Market, and Carter's Telegraph.—First, Mr. H. W. Ward, Longford Castle.

Special Prizes offered by Messrs. Sutton & Son's, Royal Berkshire Seed Establishment, Reading.

Class 131.—For the best collection of vegetables; twelve distinct kinds.—First, Mr. Miles. Second, Mr. Garland. Third, Mr. A. Miller. Fourth, Mr. W. Iggulden. Fifth, Mr. J. Lambert. Sixth, Mr. Wilkins.

Special Prizes offered by Messrs. Sutton & Sons.

Class 132.—For the best brace of either Sutton's Imperial Green Flesh, Sutton's Scarlet Invincible, or Sutton's Hero of Lockinge Melons; each entry to consist of one variety.—First, Mr. Goodacre. Second, Mr. North. Third, Mr. W. Iggulden.

IMPLEMENTS, GARDEN STRUCTURES, TOOLS, AND APPLIANCES.

Class 1.—Modes of heating a small conservatory, from 10 ft. to 20 ft. long.—Messrs. Halliday & Co., Silver Medal, Messrs. Messenger & Co., Bronze Medal. Mr. Watson, St. Albans, Certificate of Merit for "Defiance" gas stoves.

Class 2.—Boilers capable of heating 500 ft. of 4-inch piping, with or without brickwork.—Not yet awarded.

Class 3.—Boilers capable of heating 2000 ft. of 4-inch piping.—Not yet awarded.

Class 4.—Hot-water piping; modes of fixing and fitting the same, valves, &c.—Messrs. Foster & Pearson, Silver Medal. Messrs. Messenger & Co., Bronze Medal.

Class 5.—Plant house, Vinery, or Orchard house, or section thereof.—Messrs. Foster & Pearson, Silver Medal; Messrs. A. Peel & Sons, Messrs. D. Lowe & Sons, and Messrs. Stewart & Jack, Bronze Medals recommended: Mr. John Webster, Certificate of Merit for forcing house without gutter flap.

Class 6.—Ornamental conservatory.—Messrs. Richardson & Co., Silver Medal; Messrs. Halliday & Co., Silver Medal; Messrs. Wrinch & Co., Bronze Medal.

Class 7.—Moveable plant pits or frames.—Mr. J. Webster, Silver Medal recommended; Messrs. Richardson & Co., and Messrs. Crispin & Sons, Bronze Medals recommended.

Class 8.—Improvements in glazing, ventilation, &c.—Mr. S. Deard, Silver Medal for "Victoria" system of dry glazing; Messrs. T. Crispin & Sons, Bronze Medal for Hunt's automatic ventilator.

Class 9.—Horse mowing machines to cut not less than 30 ins.—Chadborn & Coldwell Manufacturing Co., Silver Medal

Class 10.—Hand mowers.—Chadborn & Coldwell, Silver Medal, for lightness of draught. Messrs. Barford & Perkins, Silver Medal, for evenness of work.

Class 11.—Garden cutlery.—Standard Manufacturing Co, Derby, Bronze Medal, for tree pruner.

Class 12.—Garden pottery, edging tiles, window boxes, &c.—Mr. John Matthews, Silver Medal. Mr. J. Crute, Silver Medal.

Class 13.—Garden tools, spades, rakes, hoes, barrows, &c.—Messrs. Leedham & Heatham, and Messrs. W. Glassey & Co., Bronze Medals. Commended, Mr. H. Swete and Mr. F. Drummond.

Class 14.—Wire work, temples, arches, &c.—Mr. J. Brainham, Silver Medal. Messrs. W. H. Peate & Sons, and Messrs. Brooks & Co., Bronze Medals.

Class 15.—Garden seats, chairs, &c.—Mr. H. Cæser, Silver Medal. Messrs. Wrinch & Son, Bronze Medal.

Class 16.—Meteorological instruments.—Messrs. J. Davis & Co., Silver Medal.

Class 17.—Garden engines, syringes, &c.—Messrs. Barford & Perkins, Bronze Medal. Messrs. T. Crispin & Son, Commended.

Class 18.—Decorations for conservatories, ornamental flooring, flower stands, vases, &c.—Messrs. Halliday & Co., Bronze Medal.

Class 19.—Garden tenting, shading materials, &c.—Mr. J. Unite, Silver Medal. Messrs. Richardson & Co., Commended.

Class 20.—Plant guards and supports, flower stakes, labels, &c.—Mr. J. Pinches, Commended.

Class 21.—Miscellaneous subjects, not included in any of the above classes.—Messrs. Bennett Bros, and Mr. F. S. Trueman, Bronze Medals. Commended: Mr. G. Bloxham, for new fumigator; Mr. E. Sydney and Messrs. Blake & McKenzie, for parcel post boxes; Messrs. Elliot, Edmondson, and Olney, for Northwood's revolving plant tub; Mr. P. B Harkin, for Teak-wood tubs and Orchid baskets; and The Horticultural and Agricultural Chemical Co., for their new insecticide.

The Gardeners' Calendar.

THE PLANT HOUSES

We will presume that *now* the Chrysanthemums and forced stock of plants have received the necessary attention, and have been plunged, as directed in a previous calendar; the value of plunging will now be apparent with the present tropical weather. With the Chrysanthemums a good heavy sprinkling, after a thorough watering has been given morning and evening for the first week, will be all that is required. With the forced plants it is quite another affair. Most of these have probably been in the same pots for two or three years, and are consequently full of roots. These *must* receive an abundance of water, and care must be taken that those who may be in charge are not misled by the surfacing which has lately been given being moist. Frequent syringing will be of the greatest benefit also, and tend to keep the plants free from insect pests, and, consequently, in good health.

As one batch is out of hands, so another requires our care. This time it is the seedling tuberous Begonias, which are receiving their flowering shift, 6 ins. They are a nice sturdy lot of stuff, and will come in immensely useful for all decorative purposes, while for button-hole work the whites are very taking, and with them it is cut and come again, and they can be readily had in bloom all the year. Davisii is undoubtedly one of the very best strain of doubles; but in investing in a packet of seed one must not be too sanguine—no matter how carefully the seed may be sown—of getting anything beyond a very moderate stock of plants: but if one only receives, say, a half-dozen, it amply repays one for the outlay, so much is there to admire in them. We have this season got a dozen or more, and are quite satisfied.

The stock of Poinsettias we have removed to other pits, where they may be freely exposed to the sun, and have an abundance of air throughout the day. They are in fine condition with numerous breaks, and will shortly need a shift into larger pots. This is very necessary before they become pot-bound, or many of the breaks will be lost, by, perhaps, one or two taking the lead; this must be avoided if anything like good plants are expected. The late sowing of Celosia, Browallia, &c., are now quite ready for pricking off, and must have attention without further delay, or they will soon spoil. Be rather careful while the sun is so intensely hot that things of a tender nature do not become scalded, rather add a little extra shading to prevent this, for in the case of foliage plants nothing is more mortifying than to have a good specimen spoilt by the burning of a young frond or leaf as it is developing, and as the weather previously has been so unsettled there is the more danger, and the warning necessary.

THE FRUIT HOUSES.

Now that summer has at last come upon us, it will be necessary to be on the alert with regard to the ventilation of the Vineries, or damage will soon be done. More particularly will this apply to the Lady Downe's or late Vinery; of course, where Grapes are required all the year, this variety is indispensable—not but that the Alicante can be kept equally as well—more especially where good flavour is taken into consideration, for if thoroughly ripened this variety may be very readily kept quite plump and presentable until the last week in May, when the new crop may with all ease be ready to cut.

But to have a good house of Lady Downe's, they require growing all round, that is, special treatment, and at this season it is necessary to proceed with caution; top air must be allowed always, that is, never close the lights night or day, and when work starts for the day, add a couple of inches more air, and allow the pipes to be warmed, so that more air may be added in good time; plenty of air under favourable conditions is absolutely necessary to prevent scalding, so disastrous to this particular variety, especially in a season like the present. General directions previously given will apply to other Vineries, except, perhaps, that a little extra shading may be of benefit to the early house, as the sun's rays are so very fierce. A word as to where the looping of the shoulders is adopted, sometimes to increase the weight of the crop, in others, of absolute necessity for the perfecting of the form of the cluster. Where colouring has fairly advanced, be careful that all the ties are removed; by this means the berries, by their own weight, force themselves into position, and the cluster when dished, retains its shape; whereas, if the ties are left until the fruit is required for use, it is almost impossible to make it presentable.

THE KITCHEN GARDEN.

Watering will now take a good part of the time, but let it be thoroughly done; no sloppings, more particularly with such crops as Peas and Beans, which after a good watering will be greatly benefitted by a mulching of half-rotten manure. A watering so given will last, and the crop receive the full benefit from the

manure from the subsequent watering or rain. Keep the Dutch hoe well at work among all crops, that the surface of the soil does not become baked; by this means the effects of drought will be greatly lessened. Where the planting out of green stuff is proceeded with, it will be necessary to make a thick "batter" of cow manure, into which the roots of the plants should be dipped before planting, and which will greatly help them to start; in fact, with this application one watering is sufficient to start them going.

The main batch of Celery is now ready, and must be planted forthwith. Should the plants suffer from removal to a great extent, shading with Yew boughs is advisable; otherwise, with the trenches thoroughly soaked previous to planting, a good sprinkling every evening should be sufficient. The early batch should now be sufficiently forward to receive the first moulding, ours will be done within a day or two; be careful that the soil is kept from the hearts of the plants. Look well to the watering of Marrows, sowing and watering of salad beds, and the cutting of herbs for drying as they come into flower.—*Walter Child.*

ORCHID NOTES AND GLEANINGS.

Mr. Bull's Orchid Show has been sustained in the most admirable manner this season, ever since our note of its opening some weeks ago. The beauties provided for the numerous and distinguished visitors which go to see it, have steadily improved in character, both as to rarity and showiness, until at present it seems to be at its best. A gorgeous display is made in the tastefully arranged house with many grand specimens of Cattleyas, Lælias, &c., and a great number of grand Odontoglossums, both true O. Alexandræ and hybrids. Among the fine new kinds we noted Cypripedium Mastersianum, a charming new species, introduced from the East Indies; the beautiful new Ærides Godefroyænum, from Cochin China, which Professor Reichenbach describes as the most stately of the Foxbrush group; Odontoglossum Victor, a handsome thing, reminding one of O. prionopetalum; the rare Epidendron pentotes; the pretty Oncidium nigratum; Masdevallia Harryana "Comet" a flower of rich glowing scarlet, and the brightest of Harryanas; Lælia elegans Mastersiana, a very fine variety; Odontoglossum cordatum Kienastianum; O. vexillarium illustre, a fine new form with light coloured flowers, of great substance, suffused with rose, and many other fine plants, including a new Cattleya from Colombia, as yet unnamed. The whole show-house is a blaze of colour, and among well-known species the varieties are exceptionally fine. The many well-flowered specimens of Oncidium macranthum contribute much by their large golden blooms to the general display.

Phalænopsis Mariæ.—On paying a recent visit to the Woodlands, Streatham, I was greatly struck by the appearance of a magnificent plant of the charming variety of Phalænopsis Marie, which is now in full flower. It bears no less than twenty-three flowers, and on comparing them with the plate in the *Orchid Album* I find them much brighter and more distinct, quite a glow appearing to be thrown over the whole spike. I have not met with this so good before. Amongst the O. vexillarium varieties I was much pleased with the pure white ones.—*J. Breeze, Bow, E.*

Oncidium macranthum.—A wonderfully fine specimen of this handsome Oncidium is flowering in the Odontoglossum-house at Baron Schroder's garden, The Dell, Egham. The plant is a very strong one, and bears five spikes, which must be 8 ft. to 10 ft. long each as the plant is placed in the centre of the house, and the spikes trained towards the ends, two in one direction having sixty-four flowers, and the other three, which are taken in the opposite direction, have seventy-seven flowers, or a total on the five of 141. It is not uncommon to see plants with long spikes or even with three, but very seldom do we see a specimen with five all as good as those named. The variety is also an excellent one, the flowers large, with the colours well marked and bright. It is scarcely necessary to say that, like all the plants under Mr. Ballantine's charge, this Oncidium is in capital health.—*R.*

Temperature of Orchid Houses for the Month for July should be—Warm or East Indian house, 75° to 85° by day, 70° at night; Cattleya or Intermediate House, 70° to 80° by day, 65° at night; Cool or Odontoglossum house, 60° to 70° by day, 55° at night.—*James O'Brien.*

GARDEN FRAMES.—In reply to the enquiry of "B." at p. 683 respecting garden frames, I may say that Messrs. R. Halliday & Co., Royal Horticultural Works, Middleton, Manchester, make a first class span frame, which answers every purpose as a frame. I, myself, use them in various ways, and for plant and vegetable growing they are the best I have yet tried. Certainly the spans are the best as every ray of light is utilised; in the other kinds there is a dark side which is bad for plant life.—*A. Bradshaw, Waddesdon Gardens, Aylesbury.*

QUESTIONS AND ANSWERS.

*** We regret that in consequence of the extreme pressure on our space this week, several answers to correspondents are unavoidably omitted.

COMMUNICATIONS RECEIVED.—A. O.—T. W.—Scol.—T. C. W.—W. J. B.—Jones.—H. W.—S. C. J.

LONDON SEED TRADE.

June 30th, 1886.

MESSRS. HURST & SON, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E. C., report an almost entire absence of business on the market today, the dry weather having stopped all sowing operations. There is no appreciable change in value of Agricultural Seed generally, and until an estimate can be formed of the probable yield of the growing crops, both here and on the Continent, it is not likely there will be sufficient demand to influence prices. New French Trifolium is still being offered, but buyers are not inclined to speculate at present quotations, particularly as the prospects of the home crop appear fairly good. Mustard and Rape move slowly at last week's prices. Bird Seeds of all kinds in plentiful supply, and show no change in value.

COVENT GARDEN MARKET.

July 1st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	6 0	12 0	Pears ....per dozen		
Grapes....per lb.	2 0	4 0	Strawberries ..per lb.	0 6	1 0
Kent Cobs, per 100 lbs.	40 0		Canadian Apples, brl.	12 0	21 0
Peaches, per doz.	2 0	10 0			
Pine-apples, Eng., lb.	2 0	3 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 0	2 6	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	6 0	9 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket		
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			New Turnips, per bun.	1 0	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Narciss, various,		
Azalea, 12 sprays			Pansies, 12 bunches	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Campanula ..12 bun.	4 0	9 0	— scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Pinks, various, 12 bun.	2 0	4 0
Cornflower ..12 bun.	1 6	3 0	Primula, double, bun.	0 6	1 0
Delphinium ..12 bun.	3 0	6 0	Primroses		
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Eucharis, per dozen	4 0	6 0	Ranunculus, 12 bches.	2 0	4 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses ....12 bunches	3 0	9 0
Gardenias, 12 blooms.	2 6	4 0	Roses (coloured)	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Moss..12 bun.	2 0	8 0
Iris, various, 12 blms.	0 6	1 0	Roses, Tea per dozen	0 9	2 0
Lapageria, red, 12 blms.	1 0	2 0	Stephanotis, 12 sprays	1 6	3 0
Lilium longiflorum, 12 blooms	4 0	6 0	Spiræa, doz. bunches	6 0	9 0
Marguerites, 12 bun.	3 0	6 0	Sweet Sultan, 12 bun.	4 0	6 0
Mignonette, 12 bun.	3 0	9 0	Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	1 0
			White Jasmine, bun.	0 6	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	6 0	12 0
Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Calceolaria, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	6 0	8 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	3 0	5 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	5 0	8 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen	9 0	15 0

The Covent Garden Gazette says "that to most of our readers the name of H. Cannell & Sons is probably as well known as their own. The 'Home of Flowers,' at Swanley, has long been noted for the excellence of its productions and the variety and novelty of its introductions in floriculture. When it is understood that the enormous business carried on at Swanley is largely supported by professional florists, it will be seen that Messrs. Cannell can fairly claim to take foremost rank in matters floral. Although their productions are rarely shown at exhibitions, whenever they do so they generally gain the highest honours. They really have no need to exhibit. Their display is on view all the year round, and thanks to a standing invite to all, one will at any time, with the exception of Sundays, meet with a ready welcome from the genial proprietors. In order to appreciate the advance that is being made in floriculture, a visit should be paid to the 'Home of Flowers.'"

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13½ by 8½	for 10s. 0d.	for 14s. 0d.
12 by 9	for 10s. 0d.	for 14s. 0d.
12 by 10	for 11s. 0d.	for 15s. 6d.
14 by 10	for 13s. 0d.	for 19s. 0d.
14 by 12	for 17s. 6d.	for 24s. 0d.
12 by 12	for 13s. 0d.	for 20s. 0d.
18 by 12	for 21s. 0d.	for 31s. 0d.
20 by 12	for 24s. 0d.	for 35s. 0d.

Or 300 squares 15-oz. 8 by 6, or 250 squares 8½ by 6½, or 220 squares 9½ by 6½, or 170 squares 9 by 7½, or 150 squares 10 by 8 for 10s. Glass cut to any size at the above proportionate prices.
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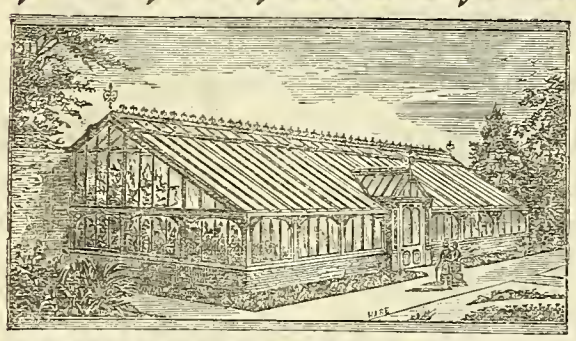

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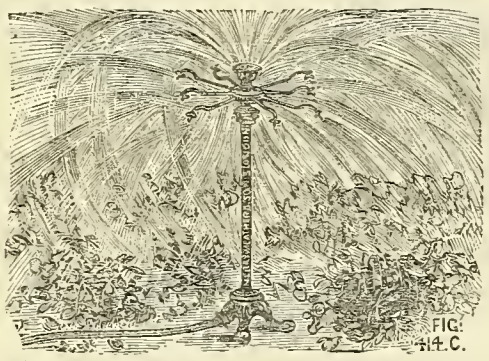

FIG. 14.C.

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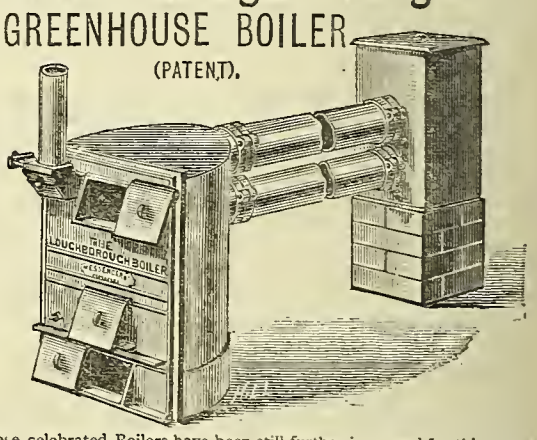

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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, JULY 13th.
SHOW OF FLOWERS AND FRUIT.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 10, 1886.

FLOWER SHOWS. — It has, perhaps, occurred already to many horticultural committees that the hard-and-fast rule adopted by them in fixing their summer shows from year to year to fall at exactly the same date, or thereabouts, is a rule which takes no account of the varying seasons; and too many are finding this year that whilst the shows are here, the products are far from being ready. It is well worth asking whether, relatively to season, the first of July is not at least a fortnight earlier than it used to be, or (to put the matter obversely) the season is a fortnight later. Shows are being held in all directions just now, and in the Metropolitan district literally crowding one another injuriously. But last week three shows were held in successive days, in practically three adjoining parishes, causing a strain upon exhibitors and the public that is neither desirable or wholesome. Even during the present week we see first-class suburban shows like Richmond and Ealing disastrously arranged to fall upon the same day, just because, it would seem, there is but one day in the week—viz., Wednesday—upon which shows can be held.

We have profound belief in the principle of Home Rule, as applied to horticultural societies; but it does seem as if some sort of federation were needed in populous localities, by the aid of which fixtures should be arranged which would not seriously conflict. It may be that, anxious to catch the Rose season, for instance, there is undue anxiety to have shows just at one particular period; but this year the Rose season is decidedly late. A pessimist writer of a leader in a daily paper, the other day, drew a terrible, dolorous picture of the prospects of the Rose season; but that aspect is hardly warranted, and long sentences about insect pests, falling buds, cold nights, and other ills no doubt served their purpose in helping out a column of nonsense. Really, the Rose season is not a bad one, but it is late; hence those flower show committees who have fixed their dates so early have reckoned without their season, and find poor results after all.

In more rural districts, where so much is not sacrificed to the queen of flowers, and shows are held in the month of August, we invariably find better fruit and vegetables, with compensation for the absence of Roses in the presence of Gladioli, Stocks, Asters, Dahlias, and flowers which, if of less aristocratic flavour, yet are very popular with the masses, who, after all, constitute the back-bone of flower show support. Why so much should be sacrificed in the fruit and vegetable departments for the sake of Roses it is hard to say. Given a special Rose exhibition, and, of course, these flowers, as at South Kensington on Tuesday last, constitute the chief if not the only feature. There, of course, all the finest blooms of the season are to be found, if just then they can be secured, whilst the exhibits at local shows are usually second-rate. If it were possible to obtain some of the very best flowers, a little sacrifice might well be made in other directions occasionally; but even then it would be unfair to make that sacrifice too often. Without doubt, there are few elements in gardening which merit more encouragement than fruits and vegetables; therefore, some effort should be made to give these every consideration.

We specially find cottagers suffering from these early shows, for prizes are offered for their garden produce so early as the end of June and beginning of July, with the result that crops are injured, gardens ransacked, and exceeding harm done to the future welfare of the garden to obtain what is, after all, miserably imperfect samples, and are little less than a farce. This result is specially evidenced this year owing to the backward condition of the season, for all of which the hard and fast rule in fixing shows make no allowance. We would suggest that societies should not only endeavour to come to some arrangement as to the non-clashing of neighbouring shows, but still farther alternate their shows, so that they may come a little earlier one year and rather late the other, say, at intervals of three weeks, or even a month; thus it would be possible to prevent local collisions, and also to embrace locally a much larger variety of garden material than is now seen at shows. It is an undoubted evil that year after year the same style of plants and other produce are shown, not only because gardeners and exhibitors generally get into the rut of cultivation, but also because to the general public there is annual monotony and sameness.

Local shows, when held at just the same dates from year to year, are almost sure to be but replicates of each other; hence visitors soon become satiated, and walk the shows with a sense of langour and of indifference. Exhibition committees should strive not only to obtain diverse sites for their shows yearly, but also such diversity in the dates as should enable variety to be introduced, such as is not possible when just one season is constantly adhered to. We are not without hope, too, that the inane practice of inviting speeches at the informal luncheon, usually given to the judges after their labours are over, is dying out. A man may be an admirable judge but a deplorable speaker; hence the prospect of being called upon to say something in response to the health of the judges is productive to him of silent misery, until the ordeal is past. There the most trivial and stereotyped things are usually uttered, because judges know that they are always expected to say something complimentary, and, therefore, too often untrue. The luncheon after the work is done should always be of a purely sociable nature, devoid of all formality, and calculated to make those partaking of it feel at ease.

GARDENING MISCELLANY.

Meetings for next week.—*Tuesday:* Meeting of Fruit and Floral Committee, at South Kensington.—Diss Horticultural Society's Show. *Wednesday:* Flower Shows at Hull (three days); Bristol and Bedford. *Saturday:* Rose Show in the Botanical Gardens at Old Trafford, Manchester.

The Birmingham Gardeners' Mutual Improvement Society.—A library has just been opened by this new society, which has been in existence about four months, and of which Mr. W. B. Latham, Curator of the Birmingham Botanical Gardens, is the chairman. There are now 200 members, and already lectures on gardening subjects have been given, but the desirability of forming a library was so evident, that Mr. J. Hughes, the secretary, made an appeal to the mayor and other gentlemen of the town, and the sum of £60 was very soon forthcoming. Of this sum £40 has already been expended in gardening works, and fully fifty volumes have been presented to the society. A large book case has been procured, and an active librarian, Mr. J. Crook, has been appointed, and a goodly number of volumes have been already applied for. The autumn and winter season will be devoted to essays, discussions and lectures. By paying an annual subscription of £5 5s. to the Birmingham Botanical and Horticultural Society, special privileges of admission to the members of the Gardeners' Society,

and access to their library are given, and altogether the society promises to be active and useful in the future.

The Liverpool Boiler Contest.—The awards made by the judges in the boiler competition, carried out in the Royal Horticultural Society's show ground at Liverpool last week, were as follows:—Boilers for heating 2,000 ft., first, Messrs. F. & J. Mee, Liverpool, Silver Medal. Boilers for heating 1,000 ft., first, Mr. S. Deard, Harlow, Silver Medal; second, Mr. J. Witherspoon, Red Rose Vineries, Durham, Bronze Medal. Boilers for heating 500 ft., first, Mr. S. Deard, Silver Medal; equal second, Mr. J. G. Wagstaff, Manchester, and Mr. T. Wood, Bristol, Bronze Medals.

Stocks for Seed.—Messrs. James Carter & Co. are this season growing nearly 10,000 Stocks, in pots, and mainly for seed, on the continental plan. The plants are now in flower and present such a mass of double blooms as has probably never been seen in this country before. The collection, which may be seen in the Forest Hill nursery, comprises all the leading shades of colour, and is well worth inspection.

The Scottish Horticultural Association.—The monthly meeting of this association was held in their rooms, St. Andrews Square, Edinburgh, on Tuesday last. Mr. Milne, the president of the association, occupied the chair, and after discharging the ordinary business, read a paper written by Mr. Dean, of Elie, Fifeshire, on the Primrose. The paper proved interesting in its details of the history and merits of this more than ever popular flower, and led up to a little bright discussion. The proceedings were brought to a close by votes of thanks to the writer of the paper, and to the chairman.

A Rose Show in Edinburgh.—We learn that the horticultural committee of the International Exhibition, Edinburgh, intend holding a grand show of Roses (non competitive) in the Exhibition Building, West Meadow, on the 20th, 21st, 22nd, 23rd, and 24th inst. The leading nurserymen throughout the country have been requested to assist in carrying out the design, by sending exhibits, and the committee have the satisfaction of having received favourable replies from most of them. It is not desired to limit the display exclusively to Roses, but cut flowers of any kind, or flowering plants will be provided for by a liberal allowance of space. Shows for other classes of cut flowers will be taken up and provided for in the course of the season, and will be duly announced. There will be a trial of lawn mowers on the occasion of the Rose show, should the weather in the meantime be such as will lead up to a favourable condition of the grass for that purpose.

Mr. Walter Tedder, of the Frame Ground, Kensington Gardens, has been appointed gardener to W. Johnson, Esq., the Birches, Mitcham.

COTTAGE GARDENING.

Through the kindness of one of its fellows, the Royal Horticultural Society in the year 1870 offered prizes for the best essay on cottage gardening, suitable for general distribution amongst cottagers. That prize was won by Mr. E. W. Badger, of Birmingham, a well-known amateur horticulturist of that town, and a copy of the last edition lies before me. The present essay is considerably enlarged and revised, and being published at the small charge of 3*d.* makes an admirable little book to place in the hands of cottagers, and local horticultural committees will do wisely if they will purchase a few hundred for distribution in their respective districts. There can be no doubt, whatever, but that gardening knowledge amongst the *bonâ fide* cottager class is of a somewhat crude kind. Even the intelligent educated amateur gardener too often exhibits ignorance which is bitter, distressing, and ludicrous, but they have no excuses, the wealth of gardening papers and books before them removes excuse for lack of knowledge.

The poor and uneducated man may well assert that he cannot afford time to read up books that are both costly and technical, and his opportunities, too seldom, are in the direction of taking even a penny weekly gardening paper, hence a book which may be obtained so cheaply, and is of such simple and yet sensible character, and which can always be kept in the cottager's limited library for reference, seems the very thing needful in myriads of cases. Perhaps, in relation to this subject, I may be justified in taking some exception to Mr. Badger's selections of gardening books recommended evidently for cottagers perusal, but all of which are so costly as to be far beyond the reach of those catered for. There are few branches of garden literature more neglected than is found in cheap but really practical books for the million. The larger portion of cheap gardening books are rubbish, evidently written by people who know little of what they are writing about, and sadly want teaching themselves. The list of gardening papers with their prices is so far useful, that it shows how considerable is the press which is weekly issued in the interest of gardening. Perhaps it would have been more useful had the publishing offices of each been added, as giving to cottagers information they would probably desire to have. However, these are small matters easily revised in another edition.

Under the heading transplanting, it is advised that Cabbage plants should be taken from the seed-bed when 2 ins. in height, and be dibbled out in a bed, rendering a later transplanting needful. I prefer to advise to sow seed rather thinner, and then one transplanting will answer better than two and be less labour. Under the heading Beans, the Mazagan is advised, but no one grows that kind now; the Seville should be substituted for early work, but Giant Long-pod and Taylor's Broad kind are enough for any cottager. Then it is advised to sow seed of Early Dwarf Erfurt Cauliflower in August, to stand the winter in frames; sown so early, all the plants of that kind would be then in the frames. November in a frame is the time and place to sow such an early kind, and Early London may be sown in September.

In such an important matter as a selection of Potatos, a revision of sorts named is much needed. Potatos come and go, but gardening goes on for ever, and the sorts of one day are soon forgotten. Ashleaf Kidney is all very well in high-class gardens, but the mass of cottagers will find Beauty of Hebron far more profitable for a first early, than London Hero, Prime Minister, white round, Chancellor, and Magnum Bonum, white kidney; other fine kinds, coloured, are White Elephant, Vicar of Laleham, Reading Russett, and the Dean (and we notice that cottagers, as a rule, have a partiality for coloured kinds), those named being especially large croppers and good keepers. However, there is so little room for criticism of this kind, that I gladly pass away from them to commendation of a general character, because the little book so thoroughly merits it. We get first some unpretentious and simple "hints on cultivation," the very basis, we may say, of success in gardening; then comes selection of crops to be grown, with fairly copious notes respecting them all, here and there needing a little reason, yet full of help and suggestion.

Fruits suitable for cottage gardens follow with hints as to culture and training. Flowers find a place also, and finally comes a calendar of operations in the garden for each month of the year, which is of exceeding benefit, because, even if the instructions be not strictly followed, they at least are helpful to the memory, and prevent the loss of a season. There is a peculiar interest in the renewed appearance of this essay just now, because allotments and plots of land for the working classes is not only one of the needs of the day, but seems likely to find early remedy, hence working men may hope in getting land to get useful knowledge with it. I can with pleasure endorse your recommendation of Mr. Badger's little manual.—*X.*

PANCRATIUM CARIBÆUM.

Seeing a correspondent calling attention to that good old plant, Humea elegans, in a recent number, I beg to submit to your notice another good useful subject that has long been a favourite of mine, although I know there are more striking members of the genus. Pancratium caribæum was introduced from the West Indies in 1730, and is not now much grown by gardeners. It appears to be a lesser form of Pancratium fragrans, or rather a narrower petalled form; and the freeness with which it produces its sweet-scented white flowers, fully compensates for any loss in size.

Grown in an ordinary stove or warm conservatory, it is one of the easiest members of the genus to manage. It is an evergreen plant, and when not in bloom, its foliage is handsome, and on that account as well, it deserves more attention than it now gets.—*T. S. Brown.*

DOUBLE-FLOWERING BEGONIAS.

Elegant, useful, easily grown, and generally desirable as the single flowering kinds of Tuberous Begonias are now universally admitted to be, I think they are, in some respects, surpassed in value by the double-flowering varieties, as they now exist. It is more particularly as greenhouse plants that these excel, for outside work they are not nearly so valuable as the singles, their heavy and delicately textured blossoms being easily disfigured by rough weather or hot sunshine, and as the flowers are not so freely and rapidly produced as those of the single kinds, but remain a long while on the plants, if once injured they do not soon recover.

Though requiring a little more care in some respects than the single Begonias, these double forms are by no means difficult plants to grow, and given a light and airy greenhouse in a fairly open position, they are really very little more trouble than choice Zonal Pelargoniums. It is only fair to say, however, that they do not flourish as a rule where the air is laden with smoke to any extent, and though with care they may be done fairly well in most suburban gardens, yet under such circumstances they do not attain to anything like the vigour and beauty which characterises them when grown in pure country air. The flowers of the newer varieties, when in good condition, are strikingly full, large, and rich in colour, some of the blooms resembling the Rose in form, others the Hollyhock, Camellia, Pæony, and Ranunculus, while several, when under favourable circumstances, attain very nearly in size to that of the first four subjects named.

As regards colour, we have now many pure white forms, an infinite variety of most lovely shades of blush, cream, salmon, rose, and pink, brilliant reds and scarlets, and a few rich crimsons of various degrees of depth, while some have a decided purplish tinge, others incline to orange, and there are now a few with pure yellow blossoms, which are very novel and beautiful. One of the most noteworthy characteristics of the double Begonia is the remarkably enduring quality of the blooms, a single flower, on a plant in good condition, and which is judiciously watered and carefully shaded from sunshine, often remaining in beauty a month or five weeks. Except some Orchids, there is hardly another flower of so persistent a nature. The time is taken up by the slow and gradual development of the central mass of petals. When the outer petals of the bloom first expand, and the flower is to all intents and purposes "open," these are comparatively small, at least in most cases, but day by day they elongate and unfold, and in about three weeks the centre is perfectly filled up, and the bloom, if thoroughly double, presents the appearance of two-thirds of a ball. In some cases the centre consists, not of numerous petals only, but of a number of tiny florets, each on its own footstalk, and as these gradually unfold, and the stems lengthen, a most unique and beautiful effect is produced.

The raising of double Begonias from seed is a tedious and somewhat delicate process, and to those who have not plenty of time to bestow, and are not, to some extent, *au fait* at this kind of thing, we should recommend the purchase of a few dormant tubers in the spring of the year, or at the present time of some young plants just showing or coming into bloom. I do not, as a rule, recommend the purchase of named varieties, for these are generally expensive and seldom possess the vigour of seedlings, of which good examples may be purchased for half the cost of named kinds, while under ordinary treatment they will prove much more satisfactory. There are, however, a few named kinds of so great excellence, which also possess the rare quality of retaining their vigour after repeated propagation from cuttings, that they should find a place in every collection. A few examples of this class are Rosamonde (pink), Pæoniæflora (salmon), Louis Bouchet (orange-scarlet), and Gloire de Nancy (bright deep scarlet). These, with some others, are easily grown, and even when grown from cuttings continuously make fine plants, and produce abundance of handsome blooms, though, as a general rule, double Begonias, when propagated in this manner continuously, lose their constitution in a comparatively short time.

If a start is made with dormant tubers in the spring, they should be placed singly in pots only slightly larger than the diameter of the bulbs, using good drainage—fresh clean ashes are best for this in all stages—and an open porous compost, consisting of

loam, leaf-mould, cocoa-nut fibre, and coarse sand, in nearly equal parts. Only just cover the crown of the tuber with soil, and do not press the compost hard at first; two or three taps on the potting-bench will be almost sufficient. Now water them all in with a rose-can, and, if possible, plunge the pots in a steady bottom-heat of 70° or 75°, or, failing this, place on a shelf or stage in a warm house. Give no more water than is necessary to keep the soil barely moist until growth has fairly commenced, then never allow it to get thoroughly dry. When well in growth, remove the plants from the bottom-heat to a position near the glass, such as a high shelf, where they can have abundance of light, air, and a genial warmth around them; but they must be carefully shaded from hot sunshine at this and, indeed, at all stages.

In about a week, or when the roots are beginning to work round the sides of the pots, shift carefully into pots about 2 ins. larger, using still good drainage, and an open compost of the same character as before, but with less sand and fibre, and now make the soil fairly firm by the pressure of the fingers; grow on in a light warm house, with plenty of air in fine weather, and shade from hot sun. On bright days the syringe may be used freely among the plants in the *mornings* only, but keep them dryish towards nightfall, particularly in cool weather. If large plants are required, the tubers being of fair size to commence with, and satisfactory progress having been made, they may be again shifted when fit, but remember that this, if done at all, must be done directly the roots fairly touch the sides of the pot they are in, for if left till in full bloom and pot-bound, the shift will do more harm than good. In fact, until they are fairly established in the size of pot they are intended to flower in, all buds should be picked off so as to concentrate the strength, for these double flowers take a great deal from the plant, and if allowed to develop before the plant is fit to bear the strain, the injurious effect are not often got out of during the whole season.

When the plants have become well established, and the flower buds are rising, give a dose of weak liquid manure of some kind two or three times a week. A decoction of sheep-dung is about the best thing possible, if it can be obtained, but soot-water, or that made from ordinary stable manure, will both be found beneficial, while a solution of sulphate of ammonia occasionally at the rate of a quarter to half-an-ounce to the gallon, imparts great vigour, and induces a very free and fine inflorescence.

The fuller and more abundant light the plants receive, the stronger and shorter will the growth be, and the finer and more lasting the blossoms. Shade must, however, be given from anything approaching strong sunshine, which speedily ruins the appearance of the blooms by causing the edges of the petals to shrivel. Permanent shading of any kind is very injurious, as it weakens the growth; so that a moveable blind and roller is much the best, and indeed the only satisfactory arrangement. This should be run down directly the sun begins to strike strongly on the plants in the morning, and taken off again very shortly before it leaves the house. Free ventilation must also be afforded throughout, and particularly while the plants are in bloom. Avoid cutting draughts; and side ventilators, if there are any, should only be opened, especially if they give directly on to, in thoroughly calm and genial weather. Air must, however, be given abundantly at the apex of the roof, both by day and night during the summer, for if the atmosphere becomes at any time overheated, the plants and blooms will suffer. These Begonias always appear to succeed very much better, particularly when grown under cool treatment, when standing on an open stage of boards or laths, with plenty of space below them, and free air all round. They also prefer a rather high house to one too low, though at the same time they should not be more than 2 ft. or 3 ft., at farthest, from the glass.

During the earlier stages, and particularly if the plants are started into growth in good time, sufficient fire-heat to afford a genial warmth—say, a range of 60° to 65°—is, of course, a necessity; but as soon as the genial summer weather sets in, which generally occurs about the end of May or early part of June, firing may be discontinued; indeed, the plants will do better without it, and unless spells of dull and cold or rainy weather occur, no more artificial heat will be required until the long, cool and damp nights of late September or October return, when a gentle heat in the pipes will be found beneficial, promoting a circulation of air, and dispelling stagnant moisture.

PANCRATIUM CARIBÆUM.

The raising of Begonias from seed, either of the single or double forms, but especially the latter, is a most interesting occupation, provided only that the necessary amount of time can be spared and suitable conveniences are available. The seed, which is very fine, should be sown as soon after the days begin perceptibly to lengthen as possible—say, during the third or fourth week in January, or, at the most, not later than the 1st of March. It must be scattered on a very finely sifted surface of rich open soil, such as that mentioned as suitable for starting the tubers, with extra free drainage, and it must not be covered except by the merest dusting of fine soil. A steady heat of about 70° is necessary to insure germination, and it is advisable to cover the seed pans with pieces of glass, and to keep it in darkness until the seedlings appear, so as to prevent evaporation, and do away with the necessity for watering before the young plants are visible. But they must not be covered too closely, or mildew may appear and do a great deal of damage. When the plants are up keep evenly moist and in as full light as possible, but shaded from direct sunshine. Directly the seedlings can be manipulated, they must be pricked off into other pots, pans, or boxes, similarly prepared to those used for sowing. The sooner this operation is performed the better, and it should certainly not be left longer than when the first rough leaf is wholly or partly developed. They must now be grown on quickly in a genial warmth, with a fair amount of moisture, which should principally be given in the morning. When large enough they should be again transplanted into other boxes, placing them this time, 1½ ins. or 2 ins. apart, or they may, if strong, be potted singly into "thumbs" (2 in. pots), grown on for a time, and when fit, be shifted into small 48's, (4½ in. pots), in which they will flower well the same summer or autumn, or at least sufficiently well to show their character, for my experience is that double Begonias do not come to perfection until the second season.

The very best seed that can be saved will not produce more than 50 to 75 per cent. of double flowers, so that no one must be disappointed at finding a few singles in a batch of seedlings, and these are almost sure to open first. As they come into bloom, mark all those that appear to be worth keeping, bearing in mind that if they are of good form and colour and thoroughly double, they will be certain to improve greatly as regards size when grown on strongly from the tuber the following season. Double Begonias may be also propagated from cuttings, which strike more freely than those of single kinds, and yet need great care to get them to make plants. Stubby side-shoots with a heel are best, taken from sturdy, well-hardened plants. They must be slightly dried, and then inserted singly in a very open sandy soil with very free drainage, and kept somewhat close and shaded until struck, when they may be potted on. All who have not done so should try a few of these exquisite flowering plants.—*B. C. R.*

THE FLOWER HOUSE.

A VERY gay effect can be now provided in conservatories or greenhouses if due preparation has been previously made, and at no time of year can such a variety of attractions be had as in June and early July, when the season is not excessively hot. Two classes of plants alone, the tuberous Begonias, and the Pelargoniums, in their numerous types of zonal, show, and fancy varieties, constitute a brilliant show of colours. But there are many other plants to be added to these, for we have Carnations in capital condition now, Petunias are bright and fragrant, Rhodanthes are graceful, Calceolarias still furnish an abundance of their varied handsome slippers, and we have numerous plants of Harrison's Musk.

Particular favourites are the early Gladiolus Colvilli albus and Rosy Gem, the former pure white, and the latter a bright rosy crimson. Both these are admirably adapted for culture in pots, and we have grown a large stock of the white variety for many years, as it cannot be too highly estimated for decorative purposes. Chrysanthemum frutescens, and its pale golden variety Etoile d'Or, are indispensable, so are Spiræas, and Canterbury Bells which are favourites with us in pots for early flowering, and supply some agreeable purple and blue shades.

Roses in pots are also still affording abundant blooms, and when we wish to impart a little extra refinement to the effect, we introduce a few Masdevallias, Odontoglossums, and Epidendrum vitellinums, and there is no lack of colour or beauty.—*G.*

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.—II.

IT may be asked, "When is the best time to remove the plants from the frames or greenhouses, in which they have been wintered, into the open air?" and in reply I must confess I cannot lay down any definite date. As soon as the weather becomes mild enough for them, so soon must they be exposed to its influences. As a rule, the end of April or the beginning of May will be safe, and in selecting a position, care must be taken to secure one on which the sun falls the whole day, if possible. A full south aspect is best, with protection on the north and east. My own plants stand on an asphalted walk on the south side of a wall 5 ft. high, where they have the full benefit of the sun from seven o'clock in the morning to six in the evening. This exposure to the sun is essential in order to ripen the wood, without which no good blooms will ever be produced. The branches must feel hard and firm when handled, and the foliage vigorous; leaves should be broad, and feel thick when held between the finger and thumb, and the more brittle they are the better.

I will now deal with the soil most suitable in which to grow the Chrysanthemum, a matter of the highest importance in order to ensure success; for although it will grow in any fairly rich garden soil, yet for special culture something more suitable than this must be provided. Sods pared off a rich old pasture, 3 ins. in

thickness, and laid in a heap in order to decompose, is, perhaps, the pattern diet for the Chrysanthemum. I generally contrive to cut and lay up such material a year before I know it will be wanted, so that it will be have got thoroughly mellowed by exposure to the sun and weather. In laying up the heap of sods, a position which catches the sun the whole day is best. Some people stow them away in an outbuilding until they are wanted, but this plan has nothing to recommend it. There is a chemical action imparted to soil by the sun's rays which no other agency can supply, and which many people seem to lose sight of. I invariably turn my material over once a fortnight throughout the twelve months' preparation, by which time it is pretty certain every portion of it has been exposed to solar influences. It is not of so much importance what kind of soil is used for striking the cuttings in. Any fairly light, rich material, mixed with a third of sharp sand, is suitable, and even for the first and second shifts the same material may be used; but for the final transfer—that is, from the 6-in. pot to the 10-in. one—must be brought into play the "strong meat." Up to this stage may be viewed as their childhood existence, when weaker diet will suffice for all their wants; but by the time of the final potting they are entering on their manhood, and, consequently, must be provided with something more substantial.

In addition to the well-decomposed sods, it is wisdom to mix a third or so of thoroughly rotted manure with them, that from the cow being best, if it can be had; but it must be so well matured that it will easily rub into the finest pieces. New material is of very little, if any, service. Old manure from a Cucumber-frame is a very good substitute if cow-manure cannot be obtained. Some people also mix along with them a little bone-dust, which may answer very well, though I have never tried it myself. It is of great importance in the final potting to have the drainage perfect; the crocks should not be carelessly thrown into the pot without any care bestowed on their arrangement, but should be placed in such a position as will best tend to drain away the water without allowing it to become stagnant; a very few crocks, if properly arranged, will drain a pot as well as if it were half filled on the haphazard principle. It is also well to lay a thin foundation of tough vegetable fibre upon the crocks. Any pieces of tenacious turf, not too finely broken up, is a capital thing, as it prevents the finer soil from becoming worked down into the bottom of the pot, and choking up the drainage. The Chrysanthemum will take any amount of moisture; but it is imperative that it have a ready exit, or it will soon leave unmistakeable traces on the foliage. The leaves will begin to assume a yellowish, unhealthy hue, especially those on the lower part of the stem, and if not attended to it will gradually extend to the extremities of the branches, and when a plant becomes denuded of its leaves the result is not difficult to anticipate. You may, as a rule, predict your success at the exhibition table by the stamina of your plants during the spring and summer months. If the branches are stout, and well covered with fine, broad, thick leaves of a deep green, you may be pretty certain that your flowers will be noticed on the day of exhibition.—*Geo. Kidson, Hull.*

(To be continued.)

A CAR OF FLOWERS.

Californian flowers are rarely seen in New York, notwithstanding our express facilities. Yet an entire car of floral designs and loose flowers was actually transported across the continent, a distance of 3,000 miles, to decorate the tomb of General Grant at Riverside park, New York, on Decoration day. The car, which started from Oakland, Cal., in charge of Mr. Sauborn, with James Hutchison, a well-known florist of that city, contained some thirty designs, some of them very elaborate. The most noticeable was a representation of General Grant on horseback, larger than life size. The horse was almost entirely of Candytuft, with the mane and tail of Pampas plumes. The saddle was of red Geraniums and the stirrups of Calendulas. The face of the rider was made of white Stocks, and the underside of the broad-brimmed hat of blue Ageratum, while the crown was composed of Roses. The trousers were made of Candytuft, and the coat of blue Ageratum. The design was shipped in three pieces, being too large to go into the car entire. Other designs were a wreath 4 ft. in diameter, a Grand Army badge 4 ft. by 5 ft., flag 3 ft. by 4 ft., a large "faith, hope, and charity," four large pillows, a broken column, and numerous other smaller designs. A very handsome design was packed in a large flat box with a glass top. it was a sword and scabbard of Immortelles, crossed in the centre of a large wreath of Californian Laurel, which was embellished with a few sprays of Stephanotis, Eucharis and Adiantum Ferns, a bunch of which was tied to the wreath with a bow of white satin ribbon. Though not showy it was an elegant piece of work.—*American Florist.*

CRYSTALLIZED FRUITS.

The business of preserving fruit by the crystallizing process is peculiar to south-eastern France, and is practised on a large scale at Apt, in the department of Vaucluse, at Clermont, in Auvergne, as well as at Marseilles, Grasse, Avignon, and other important places. The product is largely imported to England, the United States, and various other countries, including Algiers, the East and West Indies, and South America. Consul Mason, of Marseilles, says that the kinds of fruits preserved by this process of crystallization, are mainly Pears, Cherries, Apricots, Pine Apples, Plums, Figs, Citrons, Oranges, Melons, and a kind of dwarf Orange called *Chinois*, which grows to some extent in the district of Nice, but is imported mainly from Italy and Corsica. Peaches are used only to a limited extent in the region of Marseilles.

The process of crystallizing is as follows:—The fruit is first carefully assorted in respect to size and uniform degrees of ripeness. Pears, Pineapples, and Quinces are peeled, Citrons are cut into quarters, and soaked for a month in sea water, and the stones of Apricots, Cherries, and Peaches are carefully removed. This preparatory process requires a certain degree of skill, since the stone must be removed with as little injury as possible to the form and solidity of the fruit. This work is performed mainly by women, and is paid for at the rate of about 2*s.* a day. Thus prepared, the fruit is immersed in boiling water, which quickly penetrates the pulp, dissolving and diluting the juice, which is thereby nearly eliminated, when the fruit is subsequently taken from the water and drained, leaving only the solid portion of the fruit intact. It is necessary that this process, which is termed "blanching," should be performed with the very greatest care, the period of immersion in the hot water being determined by the size and ripeness of the fruit. If immersed too long, the pulp is either cooked too much, or is left too dry and woody. If taken out too soon, the juices left in the pulp prevent perfect absorption of the sugar afterwards, and, by eventually causing fermentation, destroy the value of the product. After being scalded, some of the fruits, especially Apricots, are again assorted into two or three classes, according to the degree of softness that has been produced, as, if they are kept together, they would take up the sugar differently, some losing their form entirely, while others would remain insufficiently impregnated. For these different grades, sugar syrups of different degrees of density are required, the softer the fruit, the stronger the syrup required for its preservation. For the same reason, each of the different varieties of fruit requires a syrup of corresponding strength. Pears, Citrons, and Pineapples, which remain hard and firm, take best a syrup having a density of from 18° to 25°, while Apricots, Plums, and Figs, are treated with syrups which gauge from 30° to 42° by the aerometer.

The requisite syrup having been prepared by dissolving the fruit in pure water, the fruit is immersed in it, and left, for a certain period, in large earthenware pans, glazed inside, and having a capacity of about eight gallons. The syrup penetrates the pulp, and gradually withdraws and replaces the remaining fruity juice, which, as it exudes and mingles with the transparent liquid, produced a certain filmy or clouded appearance, which marks the commencement of fermentation. When this has reached a certain stage, the vessel containing the syrup and fruit is placed over the fire and heated to 212° Fahrenheit. This corrects the fermentation, and raises all impurities to the surface, whence they are removed by skimming. If the syrup is of proper density, this process of impregnating the fruit with sugar will be complete in about six weeks, during which time it is usually necessary to perform this heating operation, as above described, three times. The impregnation of the fruit with sugar being thus complete, it is taken out, washed in pure water, to remove the flaky particles that adhere, and is then submitted to one or two finishing processes as follows:—if the fruit is to be "glacéd"—that is, covered with an ice or transparent coating—it is dipped in a thick viscid syrup of sugar, and left to dry and harden rapidly in the open air. If it is to be "crystalized," it is dipped into the same syrup, but is then cooled and dried slowly in a kiln or chamber, warmed to a temperature of 90° Fahrenheit. This slow process of cooling causes the thick syrup with which the fruit is covered to crystallize, and assume the usual granulated appearance. The operation is then complete.

It is stated that the fruit thus preserved will bear transportation to any climate, and will keep firm and unchanged for years. During the process of impregnating the fruit with sugar, the syrup in which it is immersed is gradually deteriorated by losing its sugar and absorbing the juices of the fruit. It is finally utilised in the preparation of *confiture d'Apt*, which is made of the soft uncooked and irregular pieces of fruit of all kinds, mixed in irregular proportion, and preserved in the spent syrup, which is boiled down to the required consistency. The net cost of preserving fruit in France by the crystallizing process varies with the price of sugar and labour, but it is estimated that in the year 1885 it was at the rate of about 1*s.* the pound.—*Society of Arts Journal.*

SCOTTISH GARDENING.

Seasonable Notes.—Chrysanthemums will now be making rapid growth, and it is very necessary that they should receive no check for want of water, or from being pot-bound. The Chrysanthemum is a gross feeding plant, and may be grown very strong in wood and foliage, but in late northern parts such bulky growth may not always be found consistent with plenty of flowers; dwarf and firm growth with stiff foliage to the surface of the pots is what the cultivator desires to see. If the pots are not large enough for the rapid increase of the plants, and they are full of roots to bursting, much may be done to help them by clearing off inert surfaces, and giving a good top-dressing of turfy loam mixed with a portion of Thomson's Vine Manure; stimulants in a liquid form is not be wanted till the buds are formed. Staking against windy weather is an important matter (such as may have reached others in the same manner as it prevailed here of late). Keeping the plants in a shady position at this period of their growth, is fatal to free-flowering or for a display in November.

Azaleas which are kept pot-bound with the view of forcing them into an early flowering condition, may be greatly aided by judicious applications of clear liquid manure, allowing only a small quantity at every alternate watering. We believe in homœpathic portions of liquid manure for these plants. If tying into form is to be done (we do not mean twisting the wood into grotesque unnatural shapes) it should have early attention, so that the growth may turn the flower buds to the outside of the plants, and show the flowers well when out. Thrips must be kept from them.

Ericas and Epacris of the autumn and winter-flowering class, which have fully developed their growth, and are to be rested, may be put in an open space outside, or small plants may remain where they can be protected with glass-lights. Abundance of air is of great moment to this class of plants. They stand a good deal of heat when they are making their wood, if shut up with plenty of moisture; a dry heat is very injurious. Heaths in general do well in the north, where attention is given to them, but they stand no coddling or damp confined air.

Camellias, which are well forward, with buds plump and foliage clean, healthy, and firm, may be removed to a sheltered position out of doors, behind a hedge, where the mid-day sun is warded off the plants; sudden transmission from a warm shaded position will do much mischief to the foliage. A dull showery day is suitable for their removal; and a canopy of scrim cloth or some other thin material may be used till the plants are gradually inured to their condition. Plants which have been in full sun all along require no such care as we have described. We have referred to forced plants. Manure water given carefully and free from clotted substance, is very serviceable to these plants at this season of the year. American bug seems to have extended itself widely on collections of Camellia, and

a continual crusade must be made against the pest wherever it appears; tobacco water syringed against the plants, laid on their sides, is a good remedy.

Roses in Pots, especially the Tea and more tender classes, should be examined at the roots, and if not already done, a shift should be given to a larger sized pot; or, if such is not desirable, a quantity of the wasted surface soil may be removed, drainage put right, and placed in clean pots of the same size as the plants had previously been growing in, a good surfacing given, and then the pots plunged in ashes, and stood in the sun. Watering freely at the roots and overhead after warm days stimulates the plant into free growth, which will flower in good time in autumn and early winter. Weakly and matted shoots should be thinned out; all flowers should be picked off whenever they show themselves. Mildew may be kept in check by syringing a mixture of sulphur and water over the foliage on a dry evening; a little soft soap added would cause the sulphur to stick to the leaves till the mildew was destroyed. Sulphur dusted over the foliage after it is coated with dew will also kill the fungus. Hybrid perpetual Roses may have a little cutting back, as well as thinning out the small wood; they do with more severe cutting prior to the time of taking them in for forcing. A good potful of roots made during summer, and then a shift into a size of pot sufficient to allow a casing of soil—good rich loam, and a little leaf-mould, well rotted, answers well—when the plants are started, tells very favourably on them. The shorter period of sunheat in the northern districts retards preparation for forcing, and to help to meet the difficulty one must get growth matured as early as possible. Starvation is, however, not conducive to this end. Many of the older kinds of "perpetuals" are still among the best for forcing.

Roses planted in the open ground, and coming freely into flower—in most places they are a fortnight behind their right time—would be greatly benefited by a good soaking of liquid manure; Clay's fertilizer is very suitable for the purpose, but it must be used judiciously and not at random; a good coating of farmyard manure placed over the roots, and a soaking of water poured over the mulching will do much to support a heavy impost of flowers. Thinning the flowers, while in bud, gives size to those left; grubs are likely to be taking up their quarters in the young leaves or hearts of the buds, where they make short work of the display of inflorescence. Suckers must not gain a footing, but frequent search for them should be made, and they must be cleared entirely from the stocks. It requires some amount of observation to detect manetti and briars from the roses. Any growths taking the lead from under the surface of the soil should be examined suspiciously; while we write this we have hundreds of shoots growing up so; but coatings of manure and surfacings of soil have caused the plants to root from themselves above the stocks, and they like such treatment.

Carnations and Picotees are of much value in the north. The old-fashioned cloves, white, and scarlet, are often found in quantity in old Scottish gardens; and to thwart slugs may require plenty of soot, or soot and lime mixed, dusted round their collars; good watering of soot water poured around, and into their foliage, is a good practice, helping roots and tops at the same time. When grubs attack the roots it is no easy matter to destroy them. Pink pipings may be made and placed under handlights, using sandy soil, and kept shaded from sun; they will soon root, when the tops of the lights may be kept off. Layering Carnations should soon have attention; in damp localities they should be layered above the level of the soil.

Flowers in the Garden have in many districts made very little growth since they were planted out; good waterings with guano (if such a useful fertiliser is to be found) may do much to start the plants. Plants with striking foliage planted thickly, now show their value, and when good herbaceous borders are afforded their due wants, their value is now apparent. The host of fine things in flower now (many of them grand for cutting), are very pleasing and useful; Pyrethrums, Dielytras, Irises, Delphiniums, Spiræas, and others of the larger class make a grand show. Clearing the beds from weeds and timely staking some kinds, requires a little labour, but they are a cheaply grown class now in the ascendancy; they always have been much valued in the north. Lawns should be cleared of weeds, placing little salt over their roots as they are cut out. Machines should not be kept too low, which leaves no soft sward so desirable in well kept lawns. In very dry parts a good soaking of water may be required, but surface watering gives brown and patchy lawns; give a good soaking or none.

In the vegetable garden close attention to filling up the ground is necessary, so that a good start into free growth may be made before the short and cold days arrive. A sowing of Cabbage may now be made to stand through the winter. We have plantations from sowings, at three periods last year, viz., the first week of July, middle of July, and end of that month; they are all good, but the latest sowing is the best. Large sowings of Turnip and Lettuce should now be made, also a pinch of Endive.

Root Pruning.—Those who are opposed to taking action in this matter during the early-growing season will sympathise very little with any suggestions which we might advance in this short paper. Nevertheless, we advise that an examination of the fruit trees be made as early as circumstances will allow. If the young growths are of a gross character, they are more likely to finish up at the end of the season with unripened wood and no preparation for fruiting next season. It does not require much practical experience at this early period to judge correctly what the tree is to do next year if let alone. In the northern districts, where there is a minimum of sun and young growth, if at all gross, is difficult to ripen, we would advise immediate action, and if mutilation has to be practised we would prefer doing it at the roots, and prevent a growth of wood which has only to be cut off, wounding the tree preparing for the ravages of canker, and making lodgements for vermin. When this is prevented by careful root manipulation, satisfaction is sure to follow.

The examination of part of the roots by removing the soil carefully with a fork, doing one side only at present, searching for the gross feeder which is doing the mischief, cutting it off with a sharp knife, laying all the young roots carefully into soil made as firm below as a rammer can make it, and mixing with it at the same time a quantity of lime rubbish; before the final covering of soil is given a good watering may be necessary. Gross wood not wanted would be better to be trimmed off, but thinning and stopping is better for the tree when performed piecemeal. Later in the season one may see the result of root-pruning. Fruitless and overgrown trees during May, June, or July should be examined at the roots, cutting-in all gross ones. I can at the present time look on Plums, Apricots, Cherries, Peaches, Nectarines, and Figs, which have been root-pruned somewhat severely during early summer and early autumn to finish what was begun. The roots are a mass of white fibre, embedded firmly in the soil, and many of the trees are bearing fruit very abundantly, though only planted two and three years past.

Trees which are to be kept dwarf, or to cover small space on walls, are very manageable when attended to as described above during the summer months and early autumn. We think it severe punishment, cutting roots and branches off trees during late autumn and winter, when the wounds cannot heal. While one advocates doing the work early, with the desire of having plenty of fruit the season following, and fine stiff growth with crisp healthy foliage, there can be nothing more objectionable than cutting off large established roots, which defeats the object in view.

Shrub Pruning.—Where shrubs are grown with the view of each kind being kept within bounds, to show their individuality, they should now be gone over with the knife to reduce branches taking the lead, or removing any which may be one-sided. Many have to be kept dwarf with the view of not having to remove altogether any of the collection, but to keep all the species in the space allotted to them; care must be exercised not to cut the plant into stiff unnatural form. While such plants are going out of bloom, such as yellow and white Broom, Thorns of kinds, Lilacs, Laburnums, &c., should be regulated before young growth has to be cut off; evenly balanced trees full of flowering wood would be prepared for next season. Kinds which are grown for carpeting ground (such as Berberis, St. John's Wort, Periwinkles, Rhododendron ponticum, Ivy, &c.), may be cut down pretty close, so that a dense mass of foliage may be secured before winter. Formal shrubs, such as Hollies, Retinosporas, Laurels, of sorts, (the myrtle kind is a capital shrub for the purpose named), Yews, Arbor-vitæ, Acacias, &c., should also have due attention at this season, and they may have a little tying into form to make them answer their purpose. Extreme formality is not desirable, but one-sided irregular bushes, as specimens on the parterre are out of place, and cannot be left unpruned. Staking may be necessary for some kinds, but it is better when not required.—*M. T.*

"DISTINCT."

Under the above heading "R. D." invites criticism on a subject which, I must say, is as perplexing to exhibitors, judges, and committeemen, as it appears to have been to himself, so that one cannot wonder at his desire to have the opinions of others. This word "distinct," is the cause of much unpleasantness and contention, and judges are often blamed for construing it in a sense different from what exhibitors understand. "R. D." has given us a fair specimen, in the case of the class for "twelve bunches of cut flowers, distinct," in such a case one exhibitor will take it to mean distinct colours, another, distinct varieties, and yet another, distinct species, and the judge, who will naturally fall in with one or the other, gets blamed by the two left out, although all the four are each and all, though in different ways, right in their own opinions. Under the circumstances of the case, I should do as "R. D." does, ask what has been the practice, and award accordingly. Disqualification is a very unpleasant course to have to take, but at times it has to be resorted to. When two judges are going their rounds and come to a capital stand upon which they are not agreed on the point of distinction, I think the best policy would be to disqualify it, but to give it a special prize. This would certainly be the most conciliatory course, and would not hurt anyone. "Variety" and "kind" I should take to mean the same thing, and black and white, as two distinct colours; so that, in a collection of six distinct kinds, they should be admissable. As regards Roses being shown among stove and greenhouse flowers, I should consider disqualification the proper thing to do, if the Roses were flowering naturally out of doors, say from the middle of June into October, but during the other months of the year I should consider them as proper greenhouse subjects. Framers of schedules cannot be too careful in the wording of them, and when using the word "distinct," should add the words "genera," "species," "colour," or "varieties," as only by so doing, can much unpleasantness be avoided.—*B. L.*

The Amateurs' Garden.

THE FLOWER GARDEN.

Roses are now in their best condition, although the hot dry weather is rendering them of short duration. The advantage of mulchings, with abundant supplies of water and liquid manure, will now be apparent, and in light soils some attention of this kind will be absolutely essential. Suckers should be cut from the base of the stocks, and where some are nearly ready for budding, the shoots can be slightly shortened in preparation. This is the best time to make selections of Roses to be added to collections, and a visit to a good Rose show, a few gardens or nurseries, will enable anyone to form a better idea of what are the finest sorts than any description can do. In exposed cold situations Teas are generally unsatisfactory out of doors, but when a warm sheltered position can be provided they often succeed admirably. The H. P. varieties constitute the bulk of the Roses now grown in gardens, but many of those outside the exhibition lists might be added with advantage. In some old gardens we occasionally see Roses, the names of which are quite unknown to most modern Rosarians, but which delighted our grandfathers and grandmothers with their profusion of fragrant flowers. Such Roses as these are seen clambering over porches or arbours and trailing up walls, or, like the old Souvenir de la Malmaison, forming immense bushes or hedges of growth and flowers. The pretty R. polyantha varieties, the China Roses, the Austrian Briars, R. rugosa, the Bourbons, and innumerable others might be added to the list; and we recommend those who love simple flowers, to procure a collection of "old Roses," which can be had from most nurserymen who make a speciality of these plants.

The principal work in the flower garden at this time of the year is supplying the plants with water, and

keeping the beds and designs in shape by pinching the strongest growths. With carpet-beds this is particularly important, as they soon get rough and untidy in appearance if not constantly attended to. Lawns also need supplies of water while the weather continues so dry, or they will become brown and scorched to such an extent, that they will not recover the whole of the season. A fresh green lawn is an important part of the garden, and it is worth some trouble to keep it in good condition. Hose piping, fitted with a rose, and connected with the water supply, is a very convenient mode of watering lawns and flower beds, the evening being the best time for the operation. In any case give the soil a good soaking, as a mere surface-wetting is useless, as the water is evaporated before it can reach the roots and benefit the plants.—*Scolytus.*

LONG-STALKED FLOWERS.

That "everybody knows his own business best" is a saying in some form in all countries and in all languages; and so I suppose the statement must have truth for a basis, so far as its general application goes. We must, therefore, take it for granted that the growers of plants for cut flowers know well what they are about, and that the large number of short-stalked flowers sent into the market are sent to meet the demand for them. Notwithstanding this supposition, I am decidedly of opinion that they only get sold at all in consequence of the scarcity of flowers with long stems, and, indeed, the impossibility of procuring such at all in the market at times. For my own part I would sooner give double the price for long-stalked than I would for short-stemmed flowers. I cannot help thinking that it would be easy to give a certain portion of the cut-flower supply of most things with greater length of stem than we now have them, and that flowers sent to market are often wantonly cut so short as to greatly diminish their effectiveness when used, while only leaving on the plant the useless portion of stalk, which would add so much to the value of the flowers. Generally speaking, so far as the greater beauty of tall flowers goes, especially when mounted in large rooms, there can be no doubt.

I take for example eight or ten good blooms of Roses, with plenty of wood and leaves, or three or four spikes of Gladiolus, with their own leaves, or two or three heads of Lilium candidum, 18 ins. or so in height, arranged in a vase with a spray of Copper Beech and a twiner of Ivy. These, and many other such things, are lovely objects when cut with long stalks, and anyone can arrange them, which is not the case with the short flowers one usually buys, and which require skilful arrangement in order to make them look nice; indeed, some are so short that they are of no use for a vase of any importance. I think if some of our market growers were to take the hint, and try to let us have longer stems to our flowers, such of them as tried it would find the extra price given for them remunerative.

For my part I would sooner see a vase with various foliage on long sprays, such as Lime, Birch, Copper Beech, Maple, Willow, &c., than I would a squat arrangement of short-stemmed flowers. Elegant sprays of foliage from our hardy trees and shrubs are fine for indoor decoration, especially in town houses.—*M. A., Camb.*

TABLE DECORATIONS.

The mode and materials for table decorations are endless, the former depending a great deal on the size of the table, the style and magnitude of the room, and accessories, such as chandeliers, the nature of the plate, and the style of the ornaments to be used for the time. For instance, combinations of groups of plants may have to be used, or a lighter style of arrangement with cut flowers, or both combined. Sometimes a massive style could be most effective, in which vases of fruit might be introduced in company with plants; in fact, the modes of arrangements which one's ingenuity might suggest are endless, and the decorator who has an eye to business will have little difficulty in introducing fresh character, if he has anything like a stock of materials to work upon. Decoration of any sort is a matter of taste, there is no specific rule for its accomplishment; it changes like the commoner fashions of the day, though we hope it is not as unstable as contempory fashion in other branches.

From a gardener's point of view, any style that does not represent nature is not right. Probably we are all rather prone to dogmatise—to follow in the wake of some "guiding light," who indicates the way of his own choice. Natural decoration is a comprehensive study. We have nature represented in many different phases, still it is nature. We imitate it after a fashion, we trim it, as it were, or we do the opposite, in the same way as we train a plant that would look better untrained.

Much has been written on table decoration, and the tendency has been to confine it in one groove, admitting no plants but such as have slender stems with the foliage elevated above the line of sight, as in Palms, the ground work being flat. For instance, tracery of flowers and foliage laid on the table cloth, so that the view all over the table may be as little interrupted as possible. Now, an uninterrupted view all over the table is not always desirable—in fact we believe that it is very often desirable, and very much facilitates dinner table intercourse, as in cases where the company is large, and, may be, to some extent socially and mentally grouped. This involves the use of very varied materials and arrangement. Table decoration is like flower-gardening a matter individual taste. It is fashionable to decorate the dinner table with plants and flowers: but how these are to be disposed on each individual table is at the will of the decorator for the time being. The taste may lie in the way of light and graceful decoration, or it may be in a grand and massive style. Each is appropriate in its place, and each may be carried out with faultless taste; for we must insist that a style which might be pronounced massive, or even heavy, may be so tastefully done as to be a complete success. We think that a hard and fast rule cannot be laid down as to what is good and bad taste in table decoration. The size of the table must always decide the extent and style of the decoration. If simply a round table fit to dine, say, six or eight individuals, a single central plant, vase or epergne may only be admissable, with a few baskets or glasses of small size for plants or flowers to fill up; or if of sufficient length and width to dine thirty or forty, much more scope is given for the exercise of detailed arrangements; but taste is as much wanted with the small as the large table.

On the putting up of cut flowers it is useless to make suggestions, as their arrangement depends not only on the quantity and quality of material available, but also the individual taste of the decorator. We may, however, remark that the fewer colours that are introduced into any arrangement, the more simple the task of arranging them tastefully. It is not altogether the amount of material employed which makes the choicest and prettiest display, but it is rather the art of trying to imitate nature to a certain degree, so as to produce that which by a proper blending of hues and tints, and with some regard to outlines, you may obtain that which may be fittingly described as an harmonious whole—light and graceful, and devoid of all stiffness and formality.—*Indian Gardener.*

GARDEN ROSES.

In the demand for exhibition Roses of large size, fine proportions, and rich colours, but often with very little fragrance, some of the most charming garden varieties are overlooked by many ardent admirers of the "queen of flowers," who would be only too glad to include some old favourites in their collections if they had made their acquaintance. These old Roses are, however, neglected to an unreasonable extent, and it is only in a few places that we see the plants in good hands, yet some of the varieties are charming in the extreme. What, for instance, can equal the bright clear yellow of the Austrian Briar, Harrisoni? We do not know any flower that equals this in its tint; it is lovely, and it flowers with such freedom that its blooms can be cut by hundreds.

A lovely companion for it is the Austrian Copper, which in the brightness of the orange-red, beautifully-formed flowers stands as much unequalled as the yellow variety. When cut these flowers have a delightful appearance arranged in vases, and when upon the plants themselves they are similarly pleasing, the last-named remarkably so on a bright day, when the petals seem to possess something of a scarlet hue. The Scotch Roses, varieties of Rosa spinossissima, are lovely little gems, with neat flowers produced in great profusion; some are double or semi-double, and others are nearly single, white, blush, pink, and bright rose.

There are many named forms of these, but the following may be selected as distinct and pretty:—Mrs. Trotter, pale pink, larger than most of the others; Duchess of Bedford, bright rose-pink; Gil Blas, white or blush; Mrs. Stirling, very bright pink, a lovely variety; the double white, a very useful Rose; and Stanwell Perpetual, blush, medium size, and free. All these should be grown much more generally than is the case at present, and they should have a place in every garden where Roses thrive.—*B. D.*

MR. N. N. SHERWOOD.

Advantage is taken of the occurrence, last week, of the forty-third annual festival of the Gardeners' Royal Benevolent Institution, to give a portrait of the chairman on that occasion—N. N. Sherwood, Esq., the head of the firm of Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, E.C., and formerly of 6, Leadenhall Street, E.C. In requesting that Mr. Sherwood would occupy the position of chairman on this occasion, the committee of the society did honour to the seed industry of the country, through the Houndsditch firm; for its position in the commercial world, and the high esteem in which it is held in all parts of the country, as well as in our Colonies, America, and the Continent, justifies us in placing it at the head of the London seed trade.

The firm of Hurst and McMullen was first established in the year 1842, and it commenced business on the 1st of June in that year, at 6, Leadenhall Street. The late Mr. William Hurst, senr., and the late Mr. William McMullen, held positions of trust in the house of Messrs. Warner & Warner, seedsmen, of 28, Cornhill, City, a very old firm, and at that time the leading house in the trade. Mr. Hurst's father was a nurseryman at Pontefract, and Mr. Warner having met young Hurst when a lad, and seeing in him capacities for business, invited him to London, and entering Warner's firm, he soon made advancement, and with Mr. McMullen, ultimately became travellers. Both having been the means of considerably extending the business of the firm, thought themselves justified in asking for an interest in the business, but their joint request being refused, they resolved to go into business on their own account; this they did in 1842, as above stated.

We have seen the first cash book of the firm, for 1843-4-5, an ordinary memorandum book, suggestive of the modest manner in which the new house transacted business, but which, in a few years, began to assume large proportions.

In 1861, Mr. McMullen retired from the firm, having no son to succeed him, he doubtless thought he might retire, content with the success that had rewarded the exertions of himself and his partner. Mr. Hurst then took into partnership his son, William, and the firm became known as Hurst & Son, the designation by which the house is still known.

It was about 1865 that Mr. Sherwood came into the firm, being then a lad. He was articled to an engineer, but his health not being very robust, and having attracted the notice of Mr. Hurst, sen., he was invited by him to enter the house, which he did. Here, by an earnest and assiduous attention to business, he made rapid headway, and soon attained an interest in the house. About thirteen years ago he married the youngest daughter of Mr. Hurst, who died in 1883—a year after the death of her brother, Mr. Hurst, jun.—leaving a daughter and two sons. The death of the latter led to Mr. Sherwood becoming the head of this important establishment.

A few years ago the head-quarters of the business was removed from Leadenhall Street to 152, Houndsditch; but previous to this extensive warehouses in this place, and also at Aldgate, had been long established by the firm.

At a comparatively early age, Mr. Sherwood finds himself the head of a large and increasing business, and by virtue of this position one of the most notable men in the London seed trade. The esteem in which he is held in the trade testifies to his personal character and business qualifications; and from the highest to the lowest in the service of the firm he is regarded as a generous and kind employer, taking a warm interest in all that relates to their comfort, and looked up to by them with a measure of respect bordering close upon lively regard. It may be added that Mr. Sherwood is one of the trustees of the Gardeners' Royal Benevolent Institution, and that he has the gratification of knowing that his occupancy of the chair, at the annual festival, resulted in a larger subscription list than has ever before been obtained. Mr. Sherwood takes such a lively interest in the management of the institution, that no greater compliment could have been paid him.

WIMBLEDON HOUSE, SURREY.

Many a wayfarer, in passing the long brick wall which bounds Sir Henry Peek's estate, on the border of Wimbledon Common, has doubtless fancied that a snug property lies within, but none can imagine anything like its beauty and completeness; indeed, when viewing the place itself it is difficult to realize the fact, that the great metropolis is within a few miles, so beautiful is the natural scenery of its undulating ground, studded with stately oaks and beautified by a wildly rural stretch of water, all rendered more unlike the suburbs of London, by the presence of numerous water fowls, of herons on the wing, and deer in the park. But so it is, that while the neighbourhood has grown more populous and town-like, the little world within the walls has still preserved its individuality, and retained its perfect beauty and repose.

Nearly one hundred acres in extent, the grounds are so arranged that many different views are opened up at the various turns in the paths, and modern gardening or woodland views with tall oaks overhead, and the rustic growth of Ferns, Polygonums, and ornamental grasses beneath, in turn present themselves.

The terrace outside the ornamental range of houses overlooks a pretty prospect, the square which encloses the chief bedding display, being set out with arches and festoons of Roses, the centre of the middle walk being occupied by a fountain, round which are planted eight fine specimens of Irish Yews, and further on still, on the right, is an ornamental piece of water with a great show of white water Lilies in it, and a very pretty and evergreen edging of Ivy. Such an edging, trained as it is here, over trellises, which it completely hides, is much more characteristic than a stone or rock one. Further use is made of Ivies in Sir Henry Peek's garden, by training them to cover stumps, and so arranged, they are of inestimable value for giving variety among the more prominent of the shrubs.

The flower garden is gay, neat, and all the more interesting that the show of bedding plants, such as scarlet Pelargoniums, &c., is kept well within bounds, and only allowed to form a portion, many of the beds being occupied by Iris, Pyrethrums, Pæonies, Delphiniums, yellow Aquilegias, Phloxes, Foxgloves, &c., which ensures a better present effect, and also a longer continuance of bloom, than is the case where bedding plants only are used. In this portion of the garden, which really forms a perfect garden in itself, are studded some magnificent specimen conifers, clumps of Rhododendrons and Azaleas, a fine bed of scarlet Pyrus japonica, and another of golden Elder, and the whole is backed by a shady shrubbery, along the borders of which the herbaceous perennials and annuals are very bright, the blue Cornflower and the handsome self-sown Poppies being especially gay.

Through the garden, and by a pleasant way through the park and crossing the bridge over the water, we come to a very pretty and secluded spot, which, by the age of the large Medlar and Mulberry trees, must have been a favourite retreat for many years. The interest of the spot is still further enhanced by a curious little temple, which contains a grotto, the whole of which is wonderfully worked in various shells, the floor being equally curiously worked in various kinds of small stones, and the whole a good example of what patience and skill may work out of strange materials. From the front of this grotto a fine view of the Crystal Palace is obtained, and other pretty scenes present themselves from other parts of the grounds.

The Wellingtonia walk, returning from the lower part of the grounds, is a distinct and beautiful and uncommon feature in a garden. Along it, on either hand, are grand specimens of Wellingtonia gigantea, from 20 ft. to 30 ft. in height, each in itself a pleasant thing to behold; viewed collectively along the avenue, they present a rare sight. Among them are planted other fine conifers, which emit a delightful fragrance under the hot rays of the sun. Continuing towards the comfortable and substantial mansion, the path lies under the shade of trees, and alongside a very picturesque piece of water, in which, and on its bank, many interesting plants are growing wild, such as the yellow Nuphar, the white Water Lily, the Bog Bean, Willow Herb, and other plants, which are so lovely when seen in large untended masses. About the place are many pleasant retreats, the most unassailable, perhaps, being the tall rustic house built over the water.

Mr. N. N. Sherwood,

President of the Forty-third Annual Festival of the Gardeners' Royal Benevolent Institution.

The Plant Houses.

The main block is a long and lofty range in many divisions, with the loftiest dome-topped one in the middle. As is usual with such ornamental structures, the plants have to be arranged very carefully as to their requirements, and in this matter great discrimination has been exhibited, the Orchids, &c., being grown in the shadier lean-to's, while other plants which like, or will stand sunlight, are grown on the other. In the lobby, at the entrance, is a bright display of scarlet and other zonal Pelargoniums, then follows a Peach house leading to the Banana house, in which are also other tropical fruits, and economic plants such as Mango, Nutmeg, Allspice, Anona, &c. Stephanotis and Bougainvillea glabra are grandly blooming over the roof. Next comes the warm tank house, with Nymphæas in the water, specimen Ferns on pedestals over it, and immense specimens of Philodendron pertusum, fruiting on the back wall; the large yellow Allamanda Schotti on this roof is very beautiful. The centre house, some 30 ft. in height, has a rockery in the centre planted with Ferns, Phormium tenax variegata, Palms, &c.; Habrothamnus elegans is beautifully in flower on the pillars; and the sides of the house are planted with Camellias. Then follows the second house of Grapes, good in crop, colour, and finish, and afterwards the Fig-house in full bearing, and the last on that side, a Muscat-house well advanced in fruit.

The Orchids are grown in lean-to houses, on the shady side of the range just passed, and the first one contains a fine lot of bloom on Odontoglossum Roezlii, O. vexillarium, O. nævium majus, O. cirrhosum, many O. Alexandræ, and O. Pescatorei, Oncidium ampliatum majus, O. flexuosum, many varieties of Aërides odoratum, Saccolabium Blumei majus, S. curvifolium, Dendrobium suavissimum, a fine showy plant with nine spikes, Cattleya Mendelii, C. Mossiæ, and a fine C. labiata Warnerii, Calanthe veratrifolia, Masdevallias, and Cypripediums; the front being occupied by very healthy specimens of Odontoglossums. The next division is remarkable for the fine Pleiones, hundreds of which are grown in pans suspended overhead, and are a fine sight in the flowering season. All are grown in this cool house, except about sixty good pans of P. maculata, which are here found to like a little more heat, and are similarly suspended in a warmer house. When we consider how rare bad culture used to make these plants, the benefit of better understanding them is evident. In the same house are Lycastes, Odontoglossum vexillarium, O. grande, O. citrosmum, &c., all in good health; and the back wall is rendered very pretty by training the tall-growing Begonias up it.

The next division is devoted mainly to a fine lot of Cœlogyne cristata, the back wall being rendered very ornamental with Fern-clad rockery, the Nephrolepis on which is very handsome, mingled as it is with Maidenhair and other Ferns, foliage Begonias, &c. The fourth house on this side contains Cattleyas and some well-grown Oncidium Lanceanum, and the fifth Cyprpediums, Thunias and Maidenhairs, and these complete the ornamental block. Among the other houses are a warm Orchid-house, some stoves, greenhouses, good Peach, Nectarine, Melon, Pine, and Cucumber houses, and a range of early and late Vineries in good condition. Other houses and pits are devoted to Crotons, Dracænas, Ferns, and other decorative plants, and large batches of things good for cut flowers and for decoration, among which we noted a fine stock of Gardenias, Tabernæ-

montanas, Bouvardias, Poinsettias, Euphorbia jacquiniflora, Roses, Chrysanthemums, and the largest lot we ever saw of the fragrant white Pancratium fragrans. In three of the houses the pretty old Plumbago rosea and P. coccinea are specially grown to cover the back wall and arch over the walks. These are cut back every year, and are beautiful as well as useful from late summer to early winter. The several varieties of Calanthes are also grown in quantity and in fine condition, the aid of a little Clay's Fertiliser with them, as with most other terrestrial Orchids and other flowering plants, being found of great service in getting a sturdy growth on them, and thus ensuring a fine crop of flowers.

The kitchen gardens and fruits outdoors are in a neat and satisfactory condition, and the whole place is in just such a trim condition as might be expected under the supervision of Mr. Ollerhead, who is well known as a thorough gardener, although he does not now stage exhibits at our great flower shows as of yore. Probably, the calls made on his time by Sir Henry's large and magnificent estate of Rowdon, in Devonshire, prevents it. Sir Henry Peek is known to have a great love for his garden, and with two such fine estates as those at Wimbledon and in Devonshire he has ample means for gratifying his tastes in that direction.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

It is with the greatest pleasure that we record the fact of the forty-third annual festival of this admirable institution, being the most successful yet recorded. The annual gathering of the supporters of the institution took place at the Albion, Aldersgate Street, on the 2nd inst., under the presidency of N. N. Sherwood, Esq., of the firm of Messrs. Hurst & Son, Seed Merchants, of Houndsditch and Mark Lane (whose portrait will be found in another page), and this being the first occasion upon which the chair has been taken by a member of the Seed trade, we need scarcely add that "the trade" was strongly represented. The attendance was indeed very large, every seat being occupied, and the subscription list, which amounted to nearly £1,450, was the largest that has ever been obtained. The usual loyal and patriotic toasts having been ably given from the chair, and most heartily received by the company, the chairman proceeded to give the toast of the evening, "Continued Prosperity to the Gardeners' Royal Benevolent Institution," and, in so doing, gave an interesting *resumé* of the history of the Institution from its foundation in 1838. Started by the late Mr. George Glenny, with the assistance of Mr. John Lee, and a few other gentlemen, of whom, alas! but one or two now remain—in order to afford relief to poor and distressed gardeners in their old age, the Institution has grown and flourished to a most gratifying extent, and it was now in the satisfactory financial position of having an annual income of some £2,000, and a reserve of £21,000 invested in public securities. But when it was remembered that it was estimated that there were over 21,000 gardeners in the country, that as a class they were not highly remunerated, and that their duties were of a laborious and most trying character to their health, it was clear that the supporters of the institution must not relax in their efforts. Their mission was to ask for more, and by good and economical management of the funds entrusted to them, to afford help to as many as they possibly could. The reserve fund they must look upon as a nest egg, so that they had necessarily to rely upon annual subscriptions and donations to meet current expenditure. He regretted to say that the gardeners, on whose behalf the institution was maintained, had not added much to his list, but he could not too strongly impress upon them the importance of becoming subscribers to the institution, for, looking at it as an investment, he knew of nothing to equal it. Having further alluded to the advantages of gardeners being subscribing members, to the great amount of good the institution had done in the past, and to its future prospects, Mr. Sherwood concluded with an eloquent appeal to all present to unloosen their purse strings, and to give liberally in the cause of so good a charity; and with the toast coupled the name of Mr. John Lee, the father of the institution.

Mr. Lee, who on rising met with an enthusiastic reception, reminded his hearers that he had had the pleasure of attending forty-two out of the forty-three annual festivals, and alluded in warm terms of commendation to the success of the efforts that had been made to increase the amount of the pensions. Mr. J. R. Bourne, proposed the next toast, viz., The President, Vice-Presidents, and Treasurer, coupled with the names of Baron Schroder and Mr. Edward Tidswell, and on rising to respond, the Baron met with an ovation of a very hearty character, so great is his popularity among horticulturists of all degrees. Mr. Tidswell having humourously remarked that as Chancellor of the Exchequer to the institution, he would be pleased to hear from anyone whose "conscience" troubled them in the matter of unpaid subscriptions or donations, returned thanks on behalf of the committee of management to Miss Williams, of Holloway, who had kindly arranged the decorations, and to Mr. B. S. Williams, Messrs. Veitch & Sons, Chelsea, Messrs. Cutbush & Son, Messrs. John Laing & Co., Mr. Veitch, Exeter, Messrs. Paul & Son, Cheshunt, Messrs. Low & Co., Clapton, and others for the loan of plants, flowers, &c. Major Lambert next gave the health of "The Chairman," and in response, Mr. Sherwood thanked all who had assisted him in making his tenure of the chair so agreeable to himself, and so satisfactory to the institution, and before sitting down, proposed the health of the secretary, Mr. Edward Roger Cutler, whom he described as the best beggar he had ever met with, a remark which elicited hearty recognition of its truth from all present, on the indefatigable secretary rising to make his financial statement, and to return thanks for the acknowledgment by the company of the long and valuable services he had rendered to the institution. Sir Trevor Lawrence, Bart., M.P., responded to the toast of "The Botanical and Horticultural Societies"; and Mr. George Dickson, Mayor of Chester, responded for "The Seed and Nursery Trades," proposed by Mr. Shirley Hibberd. During the evening the proceedings were agreeably diversified by a choice selection of songs, rendered under the direction of Miss Mary Belval, whose "Under a Hedge" was, as usual, heartily applauded.

UTRICULARIAS.

Although not Orchids these are more generally grown with them, and by many of the inexperienced considered to be such. Both the old U. montana, whose flowers are pure white, with yellow blotch, and U. Endresi, of a mauve or pale lilac, make very pretty and handsome plants, and last in flower several weeks. They may be grown either in shallow pans or baskets but I much prefer the latter, which, if not disturbed too often—say once in two years—furnish the sides of the baskets, and which side growth would, of course, be lost in pans. Some cultivators grow them on blocks, but from personal experience I can only refer to that method, but having been successful with baskets myself, I am in a position to recommend the same to others.

As soon as the plants go out of flower, I either top-dress them or rebasket, according to requirements, using peat, sphagnum, charcoal, and coarse sand. The curious semi-transparent roots somewhat resemble miniature Dahlia tubers, and which are impatient of being bruised in the operation. U. Endresi, which is both new and delicate, requires careful attention as to water during the winter months, but must not be allowed to become so dry as to cause the bulbs to shrivel. U. montana being evergreen, requires to be kept more damp than its lovely congenor; and as soon as they commence to grow, copious supplies of water is necessary to ensure strong growth, which means strong drooping racemes of flowers later on, and the latter being so graceful, are sure to be appreciated.

The cool end of a stove or East Indian house is the most suitable place to grow them. I tried U. montana in a Cattleya house two years since, through seeing it thus advised in a contemporary, but shall not do so again. If grown in a dry atmosphere, Utricularias are subject to red spider, but in a moist house this pest will be tolerably safe. I make it a practice to dip them head and ears, to use a common expression, and keep them well syringed.—*E. D.*

DOUBLE & SINGLE-FLOWERED PYRETHRUMS.

The numerous double and single forms of Pyrethrum constitute some of the showiest and most beautiful of mid-summer flowering perennials. They are acknowledged by all to be well worth a place in every garden, not a position out of sight, but one where everyone who enters the garden may see and admire them, and I wonder who cannot admire these charming flowers? for they have points in their favour that cannot be overlooked, even if any were prone to do so. Taking the majority of them they average about 2 ft., some few others about 2 ft. 6 ins., and one or two kinds still, when about three years established in the ground, which attain to 3 ft. high. Looking at them from another stand point, we find them possessed of extremely handsome tufts of Fern-like leaves, from amidst which the numerous flower stems issue, and still later on when viewing them in the pride of their flowering season, we can find numerous shades of rose and lilac, intense crimson and carmine hues; the purest whites, together with the softest shades of sulphur and buff, besides which there are innumerable intermediate shades of the colours I have named. Then, if we turn to the durability of their flowers, either on or off the plants, we have really few flowers which can equal them, and none to surpass.

Despite the hot burning sun of late, I have had flowers of that magnificent variety, J. N. Tweedy, one of the largest and very best of high coloured double varieties, whose flowers have been expanded for upwards of a month on the plant, and which has been one of the most conspicuous plants in the garden. But while I have singled out this kind, it should be stated that this is only the ordinary time which these plants last in flower, and this not the least overdrawn. Such then is a rough idea of the double-flowered Pyrethrums, which, with all their extreme floriferousness, are excelled in the latter respect by the single-flowered kinds, for we have nothing to touch these latter in this respect. Furthermore, we have a greater variety of colour, since we find several rich and valuable shades in these, which are not as yet found in the doubles; conspicuous among which are decidedly deep velvety maroon shades, which make up a very telling whole to the group. Then, again, we are beginning to find glimpses of fancy kinds, *i.e.*, where one flower is conspicuous in having various shades of colour distributed over the florets either regularly or irregularly blotched or marbled. Yet another point in favour of the latter group, is their unique, elegant and graceful appearance, an uniform lightness, so much so that a slight breeze will waft them hither and thither, and which further greatly assists in the general effect, especially when viewed from a distance.

Many people have a dislike to double flowers owing to their stiff and somewhat formal appearance. Such, however, will find all they require in the singles, for no plants of my acquaintance are capable of producing such an effective, rich, and varied display as these; but they must be seen in clumps to form an adequate idea of their beauty and usefulness. They invariably take two seasons to form fine clumps capable of producing a hundred or more blossoms each, though under good culture, and in a light, deep, rich soil, very good plants may be established in twelve months. Their cultural requirements are the simplest, given such a soil as above, with plenty of manure and an abundant supply of water in dry seasons, and there will be little difficulty in obtaining fine tufts of Pyrethrums, single or double, and an abundant supply of useful flowers. It may here be worthy of note to observe that the single-flowered kinds, although in many cases only possessed of a single row of florets, that they do not quickly fall, as in the case of single-flowered Dahlias, but that their petals remain, and almost without exception wither upon the stems. This is an interesting fact to record, inasmuch as it illustrates most fully the real value of these flowers.

Now a word as to planting. Provided good plants are obtainable now—and these should be numerous at any of the many hardy plant-growing establishments—my advice is to get them at once, giving preference to established plants in pots, and having well loosened the ball of earth, plant firmly in a well-prepared border or bed, after which give a thorough watering. If the weather continues dry occasional still *thorough* waterings will be necessary till the plants have obtained a good hold of the soil; and it need hardly be added that the constant use of the hoe is of great assistance, not only for keeping weeds in check, but for the general well-being and future of the plants. It may form a fitting supplement to these remarks, probably, if I give a few from the many distinct kinds of each section.

Doubles:—Emilie Lemoine, purplish crimson, tipped with gold; Dr. Livingstone, pale lilac; Captain Nares,

fine bright crimson; Glorie d'Italie, rich purplish carmine; Imperatrice Charlotte, white, shaded rosy lilac; Ceres, flesh very pleasing; Mont Blanc, pure white; J. N. Tweedy, amaranth, tipped with golden yellow, a magnificent variety; Madame Numier, blush rose; Solfaterre, sulphur; Voi Lactee, pure white, suffused with pink; Progress, fine crimson; Fulgens plenissimum, fine rich glowing carmine; Cleopatra, yellow; Chamois, buff; Princess de Metternich, very pure white; Beauty of Lacken, velvety red; Panorama, blush, tipped with orange.

Singles:—Coccinea, rich reddish purple; Hamlet fine rich pink, good form; Mathilda, pure white, fine substance; Mrs. Bateman Brown, the largest-flowered kind, purplish pink; Lumen, crimson, shaded purple; Kunbloz, rich velvety crimson, fine flower; Kleinboltz, rich crimson; Vivid, brilliant amaranth; Roseum, soft rosy lilac, very dwarf; Duchess de Brabant, bright rosy lilac; Letrini, French-white, shaded lilac; Almoner, rich purplish crimson. These are some of the most distinct and pleasing in each section, and which cannot fail to give satisfaction. There are, however, a great many more, all equally valuable from a decorative standpoint, either in the borders or as cut flowers for vases.

In conclusion, one cannot but feel how rapidly the single flowers have come to the front during the last few years; flowers, too, which for years past have been so rigidly weeded out, and cast away as not worthy a place in our midst. Happily, however, we have outlived that time, and in opposition, as it were, to our former bad taste, we now gladly welcome those plants which are so easily grown and increased, and which are so highly valuable in all gardens where beauty is of the first moment.—*J.*

FRUITS, FLOWERS & VEGETABLES.

Yellow Roses.—The spring and summer hitherto has not been favourable to the majority of Tea and Noisette Roses. Maréchal Niel, which last season made splendid growth, is now nearly leafless, but shows signs of commencing to make a stir. About a fortnight since I visited the gardens at Plassy, and leaving the broad walk which runs through the kitchen garden to the flower garden, the eye travelled in an oblique direction to the south-west corner, adjoining the conservatory, where I was surprised to see the beautiful double yellow Persian Rose in grand condition, its lovely clear yellow flowers and ample foliage would be sufficient to ensure the admiration of the most fastidious. The plant referred to covers a wall say 16 ft. wide and about 8 ft. in height, and I should think by the stem cannot be much less than 20 years old. This is the best specimen of this Rose, which is well-known to be rather delicate, I ever remember seeing, and is doubtless a source of pleasure to the owners as well as to the gardener, Mr. Smith.—*E. Dumper.*

Dianthus neglectus.—Much in the way of the, perhaps, better known D. alpinus, this lovely little pink deserves on its own merits to be more widely disseminated in British gardens, especially where attention is given to the cultivation of Alpines on rockwork. In the ordinary flat border it would not only be altogether out of place, but its individual character and beauty would be lost. Most species of Dianthus never seem more at home than when planted in the crevices of rocks, old walls, or where they can hang over a rocky ledge; some little tufts so planted on a rockery have been extremely attractive for some time past, where it must be confessed they owe much of their conspicuousness to the surroundings. This by no means implies that the flowers are diminutive, but seeing that the flower stems do not exceed 2 ins. or 3 ins., they would be altogether dwarfed or overpowered if allowed to struggle for an existence amongst other kinds of vegetation. The individual flowers are large, and generally produced singly on the stem with deep rose-coloured petals, serrated at their edges, and crowned around the orifice of the flower with a ring of hairs, as in D. alpinus, growing in close proximity, together with D. neglectus Fischeri. The flowers are somewhat smaller, however, than those of D. alpinus, and have linear, slender, acute, green leaves, while those of the latter are very blunt. All three are devoid of that glaucous hue so common amongst the numerous species of pink.—*J. F.*

Early Peas.—Our earliest gathering of Peas was made this season the first week in June, from that dwarf and prolific variety, American Wonder. The plants were raised in pots as sturdily as possible, and were placed out at the end of March, at the foot of a south wall, in an exceptionally warm border. Protection was also afforded in the very severe weather, and the plants made good progress for the season. Since the first gathering there has been a good succession, and American Wonder was quickly followed by Day's Early Sunrise, of which several rows are now bearing excellent crops. There has been some difference of opinion respecting the merits of the last named variety, in different districts, but here in a warm corner of Surrey we find it quite satisfactory, both in cropping quality and earliness.—*J. Williams.*

Window, Table, and Indoor Plants.—It is not generally known that the common Solomon's Seal is a very good plant for growing indoors, or for growing out-doors, or in cold frames, to bring in for table decoration, when in bud and bloom. In several houses I have seen it very fine this year, and very charming as a table plant, with four or five gracefully arched shoots, with their pendant blooms. Anyone can grow it, and fine plants with many shoots, in small pots, can be made by occasionally breaking up the old plants, discarding the long old rhizomes, and potting up several of the points, each about two inches, together. A very good set of such easily grown plants may be worked up by growing the many varieties, the Plaintain Lilies (Funkia), green and variegated, the Phalænopsis, and other hardy plants of similar nature. For indoor growing, in shady places, they are always to be depended on, and when grown into pretty plants are very serviceable as a change for table decoration.—*M. A., Camb.*

The Vanilla.—I should be obliged if some of your readers would tell me how to keep Vanilla fruits soft and pulpy, as a good lot of mine became quite dry. I treated them in the following manner:—When I saw the fruits splitting at the base, I took them off, plunged them in Olive oil, and wrapped them up in a cloth. They were then put in a warm, dry place, and a month afterwards were in good condition, that is to say, they were of a rich brown colour, and nicely scented. I thought they would remain in that state, but, as I said before, they became quite dry, and lost their odour. I should be thankful for information as to how they should be managed. — *Ch. Maron, Jardinier Chef, Chateau de St. Germain, les Corteil, France.*

Humea elegans.—Your correspondent "Hortus," in his useful note on this plant accompanying the illustration at p. 677, speaks of his failure with the plant from some unaccountable cause one season. Having frequently seen whole batches of this plant, or in some cases two kinds of them go off as though struck by lightening in a manner I never heard accounted for, I should be glad if any of your correspondents can tell me the reason of it. The plants seem to me to die at the root and stem, the leaves withering off completely when near flowering. However, the plumes are not affected, and I have used them for decorative purposes among foliage plants weeks after the plants themselves have been actually dead. Sometimes a few only will die out of a batch, and more or less every batch of Humeas seem to be affected. To me they seem to go off in just the same manner as shrubby Calceolarias are apt to do, whatever the cause of that might be.—*J. B.*

Viola Greavei and Peat.—I believe that peat will prove a capital thing for Violas—aye, and Pansies too, no doubt. Having to plant in the winter of 1885 a row of Rhododendrons around a small circular island at one end of the fish-pond here on which the front part of the house overlooks, we gave the border a good dressing of moor-peat, commonly called black soil or bog. This was well incorporated with the soil, into which the Rhododendrons were planted. The plants being small, it of course left a space for about a yard between and the grass-edge for their future development. This space in April had another dressing of stable manure, which was again forked and mixed into the soil, both black and brown, into which was planted various herbaceous plants, and a ring of Viola Greavei next the grass. The floriferousness of the Violas was all that could be desired, and was especially admired, it being a perfect mass of gold. It is now following suit this summer; but commencing earlier, I shall not expect it to bloom into September as last year, nor has the late severe winter made a break in it. It is a variety which one seldom sees in the catalogues, nor yet seems to have a place in any of your correspondents' notes when writing upon these now popular bedding plants. Whether this is because they have got a better, or have not tried it, I cannot say, but it will be a long time before it will be driven from here. The flowers are of a rich sulphur-yellow, and the habit is dwarf and running, a commendable quality in an exposed place. I may say that we have other borders of it in manure and the ordinary soil of the garden; but they are nothing in comparison to the one that contains the peat. We shall adopt peat for Violas in the future. I may ask if any of your readers can recommend to me a good white Viola that has the habit of the old Perfection Viola, an old variety I think well of. The best white we have is Pilrig Park, but it is more of a Pansy, and is liable to be blown about with the wind and their necks wrenched off by the collar unless well pegged down. We want a white with the habit of, and freeness of blooming, as good as any of these two. Has it come out, kind reader? Say where and what is its name.—*B. L.*

Cucumber Prince of Wales.—Amongst the many Cucumbers, I consider this a good white spined variety, both on account of its prolificness, shape, and the size it can be grown to for exhibition. For general use there is nothing yet to beat Rollisson's Telegraph, if it can be got true; but there are so many Telegraphs in the market that one scarcely knows what or when one has got, everyone having a Telegraph raised by himself. But the Prince of Wales has done me good service. I do not know who the raiser is; suffice it to say that it is immaterial as long as you can get the desired result when wanted.—*B. L.*

Campanula glomerata dahurica.—The genus Campanula contains many very fine and highly decorative subjects, notably at the present time, C. glomerata dahurica, a fine form, attaining 18 ins. high, with terminal heads of rich purple flowers; the terminal clusters are, of course, much the largest, but it produces auxillary clusters also. This is everybody's plant, or at least it should be, it is one of the most desirable of perennials, and one of the very best of hardy plants grown, and cannot be too strongly recommended. It is readily increased by division, either early in spring or immediately after flowering; a mass of it is most effective, and it is not only distinct from the other members of this genus, for it is quite alone in the border at the time of its flowering.—*J.*

The Wilson Junior Blackberry.—The subjoined few facts concerning the above will, we think, be of interest to many of your readers. In the spring of 1885 one of our foremen took it into his head to pot a few of the Wilson Junior Blackberries, which had just then arrived. As he left soon after, they were, it appears, put into an out of-the-way place outside, and up to a couple of months ago received no further attention than an occasional watering. About the time just mentioned their vigorous action attracted our attention; but even then the only thing done was to bring them out of their cramped position and allow them room in a cold house, simply seeing that they did not flag for want of water, our idea being to see how the variety would act as a "pot plant." The result has been as follows:—About the middle of June many of the fruits were not only very fine in size, but jet-black as well, and by the third week were ripe! At the time of writing (July 5th) they are quite a sight, and we shall be pleased to show to any horticulturist who may happen to be in the neighbourhood what we think is not often seen in this country—viz., magnificent Blackberries early in July! Or, if any lover of fruit will visit the Royal Horticultural Society's Show at South Kensington, on the 13th, they will, we trust, see a pot of this variety in fruit, as we hope to have a plant there on exhibition. This incident has given us a wrinkle which we think will be well worth the attention not only of those private growers who would delight in having this splendid fruit at dessert during the hot summer months; but also of market growers, and that is, if this variety is grown in pots, and sent to market in June, July, and August (in fact, until the outside Wilson Junior is ready), such a course is sure to pay uncommonly well. The labour is of the very simplest, thus entailing scarcely any of the expense attached to pot fruit in general, and then the fruit is large, unusually handsome, produced in great abundance, and, as any Covent Garden or other

fruit salesman will acknowledge, fine Blackberries will always readily command first-class prices. In fact, as is evident, with some in pots for very earliest use, followed by others planted on a very early warm border outside; after these the ordinary crop, and lastly by a few with a north aspect, Blackberries could be gathered from early in June, to say the end of November, if not before, for it must be remembered that our plants of which we now write did not receive, until two months ago, any of the attention, position, &c., necessary to what would come under the appellation of "orchard house culture." We should perhaps further mention, for the edification of those who have the later and much more tender variety, Kittatinny, that a couple of plants of this also had exactly the same treatment, but the disparity is at once to be seen, for the Kittatinny is only just commencing to colour, and instead of growing "stocky," and of pyramidal form, like the Wilson Junior, it appears to be of a thin and delicate nature, not near so prolific, besides showing that terrible disease "rust" which marks this old and infirm variety, as likely to prove a heavy pecuniary loss to any planter, who, in growing Blackberries, would trust to this once fine, but now failing variety. A "Lawton," it seems, was also planted, but being such a late variety, appears to be nowhere in the race.—*Viccars Collyer & Co., Leicester.*

Disqualification at Flower Shows.—At p. 692, "R. D." draws attention to the very important question of disqualification at Flower Shows, although I do not think him altogether consistent in his treatment of the case in the schedule he speaks of having received lately, a class for twelve bunches of cut flowers "distinct," with note appended. Had the word distinct been left out, there was no need for any note, and the exhibitor could then make up his bunches of as many colours or varieties as he preferred without fear of being disqualified. Where "R. D." seems to be wrong in his ideas, is in connection with the class so distinctly worded, as "twelve varieties of cut flowers, 'distinct,'" in which case, if he found two or more colours mixed as one variety, he would not disqualify. I would not draw hard and fast lines, where cottagers or amateurs are concerned, but in professional classes it would be a downright injustice to let pass an entry where no heed was paid to distinction between variety and kind, species or genera. Surely where a schedule is so distinctly worded as that referred to, it would, to say the least, be very unfair to let, perhaps, a novice at competition, go away with the prize, by staging, perhaps, twenty-four or more colours or varieties, instead of twelve, before the man who understood the schedule, and staged his entry in strict conformity thereto. Neither can I support "R. D." in his contention that "kind and variety" can be looked upon as synonymous terms when used for exhibition purposes more than any other purpose, and when white and black Grapes are staged as two distinct "kinds" of fruit, and no provision is made for such in the wording of the class, the exhibitor was quite right in protesting. But I can support "R. D.'s" decision in his award of the prizes for the twelve bunches of stove or greenhouse cut flowers, "if" his award was given at a time when it was impossible to have cut the Roses from the open air; the same argument must hold good in regard to the other stand, as although not hardy if the blooms were cut at a time when they could not have been used for outdoor decoration they were certainly eligible.—*A. Grigor, Fairfield, Aberdeen.*

Cuckoo Spittle.—Your correspondent, "A. D.," is under a misapprehension when he states that "Cuckoo Spittle" does not injure plants. In the case of such rank growths as Pansy, &c., on which the insect generally *does* seem to make its appearance at the junction between the stem and the leaf, it certainly does not appear to hurt the plant; but more delicate objects suffer decidedly. Godetias, for instance, I have found attacked at the head, close to the buds; and it would appear to interfere materially with the health of the plant, besides making it most unsightly by curling up the leaves which it touches. Again on Chrysanthemums, I have in many instances found it on the underside of the leaf, far removed from the stem; and here again the leaves are tightly crinkled up and utterly ruined. By the use of the "finger and thumb" process, I am glad to say I have been able to get the pest under control, and now have very few of the insects about at a time, which are easily removed by dint of frequent watching.—"*Puzzled.*"

Vanilla Culture.—I have a Vanilla plant 24 ft. wide and 8 ft. high, growing against the wall of an Ananassa-house, on the face of which is a trellis, holding a layer of moss into position. The plant is very strong, and the roots are running through the moss, but it flowers very sparsely. What would be the best way to make it bloom freely? Would it be best to hang a roller in front of it and allow a few branches to run along it, and if so, should the roller be wrapped in moss or not? Any information will oblige.—*A. C., France.*

The Gardeners' Calendar.

THE PLANT HOUSES

Attention must now be given to the stock of plants for autumn and winter flowering, as if not given their final shift in good time, they cannot be got into a condition likely to give the amount of flower for cutting purposes that they ought to; plants potted too late never become thoroughly ripened, and to this, in a very great extent, may be attributed a consequent paucity of bloom; the plants may be fully grown, but if not well rooted and ripened, well flowered plants cannot be expected. All such subjects as soft-wooded Begonias, which are admirable for cutting and decorative work, Bouvardias, Euphorbia Jacquinæflora, Centropogon Lucyanus, in fact, all of this class should now receive a shift into 6 in. pots, and if they have been grown in houses so far, I would advise their being removed into pits with a south aspect, and where, after being potted, they may be kept rather close, and shaded for an hour or two at mid-day, until they become accustomed to their new abode, after which, let them be freely ventilated and kept well attended to in the way of watering and syringing, shading only very lightly in the case of very hot sun; by this treatment a stock of thoroughly reliable plants may with certainty be secured.

It will be advisable now to look to the increasing of the stock of Souvenir de la Malmaison and Pride of Peushurst Carnations. The last named is certainly one of the good things, and worth all the care that can be bestowed on it. Secure the strongest "grass" obtainable, and when making the cutting, be careful that the joint is not torn or jagged. By carefully holding the base of the cutting between the forefinger and thumb, all danger in this respect is avoided. Use soil of an open nature, with plenty of sharp sand added, and the pots should be thoroughly drained. Insert the cuttings round the sides of the pots quite thickly, giving the soil a good watering to settle all firmly, after which plunge at once in a good brisk bottom heat, and they will strike quite readily. If the light is very strong where they are plunged, they must be shaded the greater part of the day; and I need scarcely add, the hand-lights or bell-glasses covering them must be removed, and the condensed moisture wiped off at least every morning.

Extra shading in the shape of a mat will be found of the greatest good to the stock of Cinerarias and Primulas, as they suffer terribly from the direct rays of the sun; ventilate and damp freely, or green fly will be sure to attack them, and with the former will be found difficult to eradicate when in a young state. If not already done, lose no time in sowing all plants required for spring gardening: ours are all well up—that is, Wallflowers, Pansies, Campanulas, Silene and so on. We always prefer to sow in boxes, placing them in the frames, where they are kept shaded until well up, after which they are gradually hardened off. This is far preferable to sowing them outside, particularly in a season like the present, when so much watering is necessary. Make a good sowing of Mignonette in 6-in. pots, for autumn flowering.

THE FRUIT HOUSES.

While this intensly hot weather prevails, it will be advisable to give extra mulchings to the outside vine borders, or they will become dry very rapidly, and probably render the finishing of the crops rather troublesome, added to which, red spider will be sure to make its appearance, causing injury to next year's crop; if the foliage becomes much infested, take care also that the houses from which the fruit is all cut are kept thoroughly attended to in the way of watering and syringing, let the lights be thrown right open and so remain that the wood may become thoroughly hardened. So far we have escaped scalding with the Lady Downe's, although we rather expected it, particularly as the sun is so very fierce.

Be careful to look over the vineries and remove all the clusters as they may appear on the lateral growths, they will be found especially along the top of the house, and frequently escape observation until well advanced, of course putting an unnecessary strain upon the vines. Look well to the setting of the Melons as they come into flower until the requisite number are obtained, when as the fires are out, it will be advisable to have the bottom heat renewed.

THE KITCHEN GARDEN.

Care must be exercised, and watering and mulching thoroughly attended to, or crops of such things as dwarf Beans, salads, and Turnips will quickly go by and not be fit for use, and should this weather last it will be necessary to make the most of everything. Where manure cannot be had for mulching purposes, long grass from under trees may sometimes be obtained, and will answer the purpose. We have planted-out the main batch of Celery, first giving a thorough soaking over night to the trenches, and also a good flooding after planting, which will hold good for some days. The early planting also requires constant watering, or it will become pithy; but always remember that whatever is being watered let it be done thoroughly. We have not yet finished the planting-out of green crops, the weather being so much against the operation, but as the plants are becoming very strong, it must be taken in hand at all hazard.

Keep the hoes at work as much as possible, so as to destroy all weeds before seeding. Where the Globe Artichokes are fully exposed, they will be greatly benefitted by a good soaking of water; in fact, we should greatly enjoy a night's rain. Let the summer pruning and tacking-in of fruit trees be completed as soon as possible. In the case of Pears this is a consideration, as the fruit, by full exposure, attains a much higher colour. Look to the netting of the Currants, or birds will play sad havoc with them now that they are ripening; those on walls for late use should be netted in good time. Towards the middle of next week will be a good time to make a sowing of some good Cabbage for spring cutting; for this purpose we find none to equal Ellam's Early Dwarf.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers Calendar.—The work in the Orchid houses at present consists, mainly, in the ordinary care of the plants as to watering, cleansing, &c.; the preservation of cleanliness and order in everything about them, and the careful observation of the rule to give to each section a shading suitable in texture to its likes in that respect (as notes in previous numbers). Every week brings to me fresh proofs, that for the purposes of the amateur whose houses contain many varieties and species, no Orchid house should be without a roller blind, unless, in the case of houses built under the shade of trees, in which case, Lælias and Cattleyas thrive well without further protection from the sun's rays. While always advocating the careful shading of all Orchids, I am not unmindful of the harm done by too heavy shading, and the neglect of rolling up the blinds as soon as possible after the full power of the sun has passed; such neglect induces sappy drawn growths, prone to spot, and of indifferent flowering capacity. At this season, as at all other times, a look-out should be kept for plants requiring repotting; there are many species now in the proper condition of growth and rooting, which were not ready when large batches were undergoing the process of repotting. Water should be used copiously for damping down in all the houses, and in order to eke out the rain-water supply for watering, that used for syringing under the stages, &c., for the purpose of keeping the houses cool and moist, should be brought from a cistern or other source outside. Leave half an inch of top and bottom ventilation on all the houses all night, from now until the end of summer.—*James O'Brien.*

Orchid Portraits.—The last issued part of *Lindenia* contains illustrations of Cypripedium œnanthum superbum, the beautiful hybrid raised by Mr.

Seden; Masdevallia Lindeni var. grandiflora, a good rich magenta-purple flowered variety; Odontoglossum Wilckeanum albens, a magnificently spotted variety, which first made its appearance with Mr. Charles Vuylstecke, of Loochristy. The flowers are of fine form, greenish white, and heavily spotted with purple-brown; and Restrepia antennifera, a beautiful old species with handsome flowers, the lip being of reddish orange ground colour, densely spotted with reddish crimson. The May number of *The Orchid Album*, the last part to hand, opens with a fine plate of the bright cinnabar-orange coloured Comparettia speciosa, followed by the valuable Lycaste Skinneri alba, the new and remarkably beautiful hybrid Lælia callistoglossa, and the fine white Saccolabium violaceum Harrisonianum.

THE NATIONAL ROSE SHOW.

On Monday night, after about eight days of drought and broiling sunshine, he would have been a sanguine man who predicted a successful National Rose Show for the morrow, and yet, spite of heat and drought, which, no doubt, spoilt the chances of many, the display of the queen of flowers was a remarkably good one, and as full of interest as ever to Rosarians and the great mass of holiday visitors to the "Colinderies." Finer shows the society has had, undoubtedly, especially of hybrid perpetuals, but the Teas were magnificent, and all were as bright and as fresh as possible under the circumstances. Mr. B. R. Cant was in fine form again, winning the Challenge Cup, given by the amateurs for seventy-two singles, for the fifth time, and the first prize for forty-eight trebles; and the second prize for seventy-two also went to Colchester, the successful exhibitor being Mr. F. Cant. Mr. G. Prince, of Oxford, again took the lead with twenty-four Teas or Noisettes in the same section; and other successful competitors were the well-known growers, Messrs. Keynes, Williams & Co., Salisbury, Messrs. Paul & Son, Cheshunt, Mr. Turner, Slough, and the Cranston Nursery Co., Hereford.

In division B, open to nurserymen not competing in the previous classes, the first prizes for forty-eight singles and twenty-four trebles went to Messrs. Curtis, Sandford, & Co., Torquay, their last-named collection being especially fine. In these classes, which were well contested, Messrs. Burrell & Co., Howe House, Cambridge, Messrs. G. Cooling & Son, Bath, and Messrs. Jefferies & Son, Cirencester, also distinguished themselves, showing well and securing awards. For twenty-four singles, Mr. Geo. Mount, Canterbury, was the most successful exhibitor; while Mr. J. Mattock, Upper Headington, Oxford, had the best eighteen Teas.

The amateur's division, C, brought out a grand lot of blooms, and the collection of forty-eight singles, which won the Nurserymen's Challenge Cup for the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, were worthy of the award. In this class, Mr. W. J. Grant, Ledbury, Hereford, was a good second; and Mr. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, a close third. Mr. Haywood, who had previously secured twelve first prizes this season, showed very well considering that he had been cutting so heavily. Mr. Gray, gardener to Earl Stanhope, Chevening, Sevenoaks, secured the highest award for twenty-four singles; Mr. Grant the first for a dozen trebles; and the Rev. Dr. King, Cambridge, the first for eighteen Teas or Noisettes. One of the prettiest classes in the exhibition was that for twelve bunches of button-hole Roses, in which, however, there were only two competitors, Mr. J. Mattock and Messrs. G. Bunyard & Co., Maidstone, who secured the awards in the order named, and who between them had very showy examples of Amazone, yellow; David Madel, blush-rose; Innocenti Pirola, creamy white; Madame de Watteville, Homer, Madame Charles, M. Van Houtte, Niphetos, Comtesse de Nadaillac, W. Allan Richardson, and Souvenir de Paul Neyron. Among the old fashioned section of Moss Roses, Blanche Meredith, James Veitch, Laneii, Provence Unique, Cristata, Little Gem, and Reine Blanche were finely represented. The garden Roses shown by the Rev. J. H. Pemberton were also specially worthy of commendation. The new Roses were not a particularly striking lot, but for twelve single trusses of any new variety, Mr. Cant came in first with the lovely Tea, Madame de Watteville; Messrs. Curtis, Sanford & Co., second, with the dark red H. P., Benoit Comte; and Messrs. Paul & Son, third, with the H. P., Madame Norman-Neruda. The best half-dozen blooms of any Tea or Noisette came from E. Claxton, Esq., The Rosery, Allerton, a lovely set of blooms of Madame H. Jamain. In a very fine class of twelve blooms of any white Rose, Mr. B. R. Cant staged a grand lot of Niphetos; Messrs. Curtis, Sanford & Co., a superb dozen of Merveille de Lyon; Mr. G. H. Piper, Uckfield, Niphetos also; and Mr. Turner, Alba rosea, and secured the awards in the order named. The best crimson Rose, shown in dozens, was A. K. Williams, and the best dark velvety crimson variety, Reynolds Hole. Mr. Bennett, of Shepperton, with Lady Mary Fitzwilliam, took the first award for a dozen blooms of any Rose, with a superb lot; indeed, it was the subject of remark that among the new varieties introduced of late years, Lady Mary Fitzwilliam was the most finely represented in the various stands. Among the Teas, Souvenir d'Elise Varden took the lead of all, being shown of splendid size and form throughout; and than the blooms which secured the prizes as the best in the show for Mr. B. R. Cant and the Rev. Dr. King, probably more massive examples have never been seen. H. K. Williams, exhibited by the Rev. J. H. Pemberton, was the best H. P. staged by an amateur; and Boïeldieu, shown by Mr. Cant, the finest H. P. shown by a nurseryman.

Among the well-known sorts which appeared most often in the various stands, and generally in the best form, may be named La Havre, Madame Prosper Langier, Dr. Andry, Duke of Edinburgh, Senateur Vaisse, Reynolds Hole, General Jacqueminot, Ulrich Brunner, very fine; Etienne Levet, Charles Lefebvre, Marie Baumann, Marie Van Houtte, François Michelon, Hippolyte Flandrin, Fisher Holmes, Baroness Rothschild, Ville de Lyon, A. K. Williams, Mons. Noman, Madame Cusin, Alfred Dumesuil, very fine, from Torquay; Xavier Olibo, Captain Christy, &c. We append a list of the

Awards of the Judges.

Nurserymen.—Division A.—Class 1.—Seventy-two distinct, single trusses.—First, Mr. B. R. Cant, Colchester; second, Mr. F. Cant, Colchester; third, Messrs. Paul & Son, Cheshunt; fourth, Mr. Charles Turner, Slough.

Class 2.—Forty-eight distinct, three trusses of each.—First, Mr. B. R. Cant.; second, Messrs. Keynes, Williams, & Co., Salisbury; third, Messrs. Paul & Son; fourth, The Cranston Nursery Co., Hereford.

Class 3.—Twenty-four Teas or Noisettes, distinct, single trusses.—First, Mr. G. Prince, Oxford; second, Mr. F. Cant; third, Mr. B. R. Cant; fourth, Mr. Charles Turner.

Division B.—Class 4.—Forty-eight distinct, single trusses.—First, Messrs. Curtis, Sanford, & Co.; second, Messrs. Burrell & Co., Cambridge; third, Messrs. Cooling & Son, Bath; fourth, Messrs. Jefferies & Son, Cirencester.

Class 5.—Twenty-four distinct, three trusses of each.—First, Messrs. Curtis, Sanford, & Co.; second, Messrs. Jefferies; third, Messrs. Cooling & Son; fourth, Messrs. Burrell & Co.

Class 6.—Twenty-four distinct, single trusses.—First, Mr. Geo. Mount, Canterbury; second, Messrs. Harkness & Sons, Bedale, Yorks; third, Mr. T. B. Bunyard, Ashford; fourth, Mr. J. Mattock, Upper Headington, Oxford.

Class 7.—Eighteen Teas or Noisettes, distinct, single trusses.—First, Mr. J. Mattock; second, Messrs. Burrell & Co.; third, Mr. G. Mount; fourth, Messrs. Jefferies & Sons.

Amateurs.—Division C.—Class 8.—Forty-eight distinct, single trusses.—First, Rev. J. H. Pemberton, Havering, Romford; second, Mr. W. J. Grant, Ledbury; third, T. B. Haywood, Esq., gardener, J. Ridout; fourth, S. P. Budd, Esq., Bath.

Class 9.—Twenty-four distinct, single trusses.—First, the Earl of Stanhope, gardener, Mr. Gray; second, Geo. Christy, Esq., Westerham; third, E. M. Bethune, Esq., Denne Park, Horsham; fourth, J. E. Fowler, Esq., Woodford, Essex.

Class 10.—Twelve distinct, three trusses of each.—First, Mr. J. Grant; equal first, Rev. J. H. Pemberton; third, Mr. T. B. Hall, Rockferry, Liverpool; fourth, T. W. Girdlestone, Esq.

Class 11.—Eighteen Teas or Noisettes, distinct, single trusses.—First, Rev. Dr. King, Cambridge; second, Rev. J. H. Pemberton; third, Rev. F. Page Roberts; equal third, E. M. Bethune, Esq.

Division D.—Class 12.—Thirty-six distinct, single trusses.—First, A. J. Waterlow, Esq., Great Doods, Reigate, gardener, Mr. J. Brown; second, E. Warde, Esq., Maidstone; third, E. Mitchell, Esq., Romford.

Class 13.—Eight distinct, three trusses of each.—First, Mr. J. Brown; second, E. B. Lindsell, Esq., Hitchin; third, Rev. E. L. Fellows, Wimpole Rectory, Royston; fourth, F. Warde, Esq.

Class 14.—Eighteen distinct, single trusses.—First, E. B. Lindsell, Esq.; second, Rev. L. Garnett, Chester; third, Mr. F. Budgen, Reigate; fourth, Mr. W. H. Wakeley, Rainham, Kent.

Class 15.—Twelve Teas or Noisettes, distinct, single trusses.—First, E. Claxton, The Rosery, Allerton, Liverpool; second, J. Brown; third, Rev. L. Garnett; fourth, E. B. Lindsell, Esq.

Class 16.—Eighteen distinct, single trusses.—First, Edward Mawley, Esq., Berkhamstead; second, Rev. W. H. Jackson, Bedford; third, Mr. W. Narroway, New Headington, Oxford; fourth, Mr. H. Lister, The Gardens, Easton Lodge, Dunmore.

Class 17.—Twelve distinct, single trusses.—First, Rev. Alan Cheales, Brockham Vicarage, Surrey; second, Mr. H. Foster, Ashford; third, H. H. Hayward, Esq., Castle Bar, Ealing; fourth, Mrs. Rothery, Bagshot, gardener, Mr. Godfrey.

Class 18.—Nine distinct, single trusses.—First, Rev. H. B. Biron, Hythe; second, C. Cuthell, Esq., Dorking; third, Rev. Canon Hodgson, Hythe, gardener, Mr. Shoesmith; fourth, Mr. Edward Horne, Park House, Reigate.

Class 19.—Six distinct, single trusses.—First, Rev. F. S. Taylor, Eversham; second, Alice Mary Lucas, Hitchin; third, Mr. J. W. Ashurst, Farningham; fourth, Mr. J. Bateman, Highgate Road, N.

Class 20.—Six Teas or Noisettes, distinct, single trusses.—First, Rev. F. H. Burnside, Chipping Camden, Gloucestershire; second, Rev. Canon Hodgson, gardener, Mr. Shoesmith; third, Mrs. Fuller, The Vicarage, Bexley, Kent; fourth, Julius Sladden, Esq., Badsey, Worcestershire.

Extra Classes.—Class 21.—Twenty-four distinct, single trusses, viz., twelve hybrid perpetuals, and twelve Teas or Noisettes.—First, Rev. R. C. Hales, Henfield, gardener, Mr. H. Simmons: second, Rev. W. H. Jackson, Bedford; third, Mr. W. J. Grant.

Class 22.—A basket of Teas or Noisettes.—First, Mrs. C. Cuthell; second, E. Claxton, Esq.; third, Rev. J. A. Williams, Stratford-on-Avon.

Class 23.—Twelve distinct single trusses.—First, Mr. Shoesmith; second, Mr. W. J. Grant.

Class 24.—Six distinct single trusses.—First, Mr. J. W. Ashurst; second, Samuel Tuke, Esq., Hitchin; third, L. Times, Esq., Hitchin; fourth, Rev. F. F. Lambert, Clothall Rectory, Baldeck.

Class 25.—Six new Roses, distinct, single trusses.—First, T. W. Girdlestone, Esq.; third, Rev. Alan Cheales.

Class 26.—Six single trusses of any hybrid perpetual.—First, Mr. W. J. Grant; second, T. B. Hall, Esq.; third, W. Narroway; fourth, S. P. Budd, Esq., Bath.

Class 27.—Six single trusses of any Tea or Noisette.—First, E. Claxton, Esq.; second, Rev. F. H. Burnside; third, T. W. Girdlestone, Esq.; fourth, Alfred Slaughter, Esq., Steyning.

Open Classes.—Class 28.—Twelve Teas or Noisettes, distinct, three trusses of each.—First, Mr. B. R. Cant; second, Mr. F. Cant; third, Rev. F. Page-Roberts; fourth, Mr. W. Piper, Uckfield.

Class 29.—A collection of Garden Roses.—First, Rev. J. H. Pemberton; second, Julius Sladden, Esq.; third, Mr. J. Walker, Thame, Oxon.

Class 30.—Twelve bunches of Moss and Provence Roses.—First, Messrs. Paul & Son; second, Messrs. G. Bunyard & Co., Maidstone; third, Cranston Nursery Company.

Class 31.—Twelve bunches of Roses suitable for button-holes.—First, Mr. J. Mattock; second, G. Bunyard & Co.

Class 32.—Twelve new Roses, distinct, single trusses.—First, Messrs. Paul & Son; second, Curtis, Sanford & Co.; third, Mr. B. R. Cant.

Class 33.—Twelve single trusses of any new Rose.—First, Mr. B. R. Cant; second, Curtis, Sanford & Co.; third, Messrs. Paul & Son.

Class 34.—Twelve single trusses of any yellow Rose.—First, Mr. W. J. Grant; second, W. H. Wakeley, Esq.; third, Mr. J. Walker; fourth, Mr. B. R. Cant.

Class 35.—Twelve single trusses of any white Rose.—First, Mr. B. R. Cant; second, Messrs. Curtis, Sanford & Co.; third, Mr. Piper; fourth, Mr. Charles Turner.

Class 36.—Twelve single trusses of any crimson Rose.—First, Mr. B. R. Cant; second, Mr. F. Cant; third, Messrs. Curtis, Sanford & Co.; fourth, W. H. Wakeley.

Class 37.—Twelve single trusses of any dark velvety crimson Rose.—First, Messrs. Keynes Williams & Co.; second, Messrs. Cooling; third, Mr. G. Prince; fourth, Mr. B. R. Cant.

Class 38.—Twelve single trusses of any Rose.—First, Mr. H. Bennett, Shepperton; second, Messrs. Curtis, Sanford & Co.; third, Mr. B. R. Cant; fourth, Messrs. Keynes, Williams & Co.

Class 39.—Three trusses of any new seedling Rose, or distinct sport.—Nurserymen: Best H. P., Boïeldieu, B. R. Cant; best Tea, Souvenir d'Elise Varden, B. R. Cant. Amateurs: best H. P., A. K. Williams, Rev. J. H. Pemberton; best Tea, Souvenir d'Elise Varden, Rev. Dr. King.

HORTICULTURAL SOCIETIES.

Shepperton Horticultural.—*July 1st.*—Held in beautiful weather in the delightful grounds attached to Mrs. W. A. Lindsay's residence, which overlooks the Thames at one of its most beautiful points. The gardens are extensive, and were at the time very gay

and admirably kept. Disposed in one large tent and a number of small tents, the show was a very good one, but of course suffered by being so much broken up. Plants were fairly good, the best stove and greenhouse collection coming from Mr. Reeves, gardener to W. Hewett, Esq., Oatlands Park, and included a good Brassia Wrayii, Statice profusa, Clerodendron Balfourianum, &c. Mr. Child, gardener to Mrs. Slade, Claygate, Surrey, who was second, had in his lot a good Hydrangea and an admirable Anthurium Schertzerianum. Mr. Reeves also had the best foliage plants in a good Croton, Caladium, Pandanus Veitchii, &c. Mr. Reed, gardener to E. Pettitt, Esq., was second. Ferns were of moderate dimensions and fairly good, the best six coming from Mr. Reed; and Mr. Sparrow, gardener to the Rev. J. A. Brander, had six capital Adiantums. Mr. Reeves had the best six Fuchsias, good well-bloomed pyramids of popular kinds. Gloxinias were in considerable numbers and very fine. The best twelve, all finely flowered, came from Mr. Bradley, gardener to Mrs. Walker, Shepperton, and Mr. Reeves the best six plants. Coleus were in good colour and of pyramidal form Mr. Waite, gardener to the Hon. Colonel Talbot, Esher, showed the best plants in good kinds; and Mr. Job Batt, gardener to H. W. Cuthbert, Esq., Charlton, came next with fairly good plants also. Mr. Child had the best six Begonias, well-bloomed plants; and other good ones came from Mr. J. Thorne, gardener to A. E. Flood, Esq., Walton-on-Thames. Some capital double zonal Pelargoniums, finely bloomed, came from Mr. Waite, who also had the best single kinds, really fine plants, helping the show in the matter of colour immensely. The only collection of Orchids came from Messrs. Jackson & Sons, Kingston, and included some good pieces of Dendrobium suavissimum, Cattleya Mossiæ, Odontoglossum vexillarium, &c. This firm also exhibited a very effective group, and Mr. Wiggins, of Kingston, sent a group of showy large-flowered Pelargoniums.

Roses were fairly good, the open class for forty-eight blooms bringing Messrs. Cant, of Colchester, Charles Turner, of Slough, and other good growers, the two named taking the prizes. Mr. Warwick, gardener to — Kitchin, Esq., Hampton, was first with twenty-four blooms, also for the best twelve blooms, and was also first in the largely competed class for the best six blooms of any one kind, having General Jacqueminot, whilst Lady Mary Fitzwilliam came second. Mr. H. Bennett of Shepperton, showed a box of twenty-four blooms of this soft hued kind of the finest form, every bloom fit for a place in any show box. Mr. Will Taylor, Hampton, also exhibited cut Roses; Mr. Warwick had beautiful Gloxinias. Of Fruit, the best Black Grapes were Hamburghs, and came from Mr. Osman, gardener to G. T. Baker, Esq., Chertsey; Mr. Waite coming second. Mr. Osman, also, was first in the white class, with good Buckland Sweetwater, Mr. Weed coming second with Foster's Seedling. Royal George was the finest Peach; President, a good sample from Mr. Briggs, gardener to the Rev. H. Vigue, Newbury, the best Strawberry; James Veitch and Sir Joseph Paxton were also shown well. The best Melon was William Tillery; the best brace of Cucumbers, the handsome Blue Gown, from Mr. H. Merrick, gardener to A. Stearns, Esq., Halliford; Mr. Waite having the second best in handsome Tender and True. The latter exhibitor, who is a first-rate vegetable grower, took the first prize in both classes for baskets of vegetables, twelve kinds, with capital samples, Mr. Batt coming second in one case, and Mr. Child in the other. A large number of bouquets were shown, rather solid than otherwise, whilst there were no less than seventeen tables needed for table decorations, which were very interesting and varied, rather solid or bushy arrangements being preferred by the lady judges, whilst some exceedingly simple ones that were very pleasing were overlooked. Miss A. Lucas of Halliford was first, and Miss Alice Leudy second.

Obituary.

We regret to record the death, at Trafford Park, Manchester, on Friday, June 25th, of Mr. William Sargesson, gardener to the late Sir Humphrey and Lady Annette de Trafford. Mr. Sargesson took charge of The Trafford Park gardens in 1849, and held the position as head gardener up to the last. He had suffered much during the past seven years, yet it is a pleasure to write that his employers did not dismiss their old servant or pension him off, but, while studying all his wants, allowed him to hold his position as their head gardener. He was a worthy representative of the good old school of gardeners, now fast passing away. His knowledge of plants was extensive, his reading wide, and he was a man of strong sympathies, and respected by all. He was in his 82nd year.

We have also with sorrow to announce the death of an old friend in the person of Mr. James Laing, who for many years was gardener to the Duchess of Sutherland, at New Tarbat in Rosshire. On his retirement on account of failing sight and other infirmities, Mr. Laing came to reside with his brother, Mr. John Laing, at Forest Hill, and in his house he died a fortnight ago, aged 65 years. Mr. Laing was a good all-round gardener, and much respected.

QUESTIONS AND ANSWERS.

Asparagus.—*J. S. C.:* You can apply salt with perfect safety during the growing season, *i.e.*, at the present time. The best dressing is at the rate of about 20 lbs. per 100 square yds.

Grapes Scalded.—*A Young Gardener:* It is easy to account for the mischief done to the berries, after the bright sunshine of the past ten days. The sun caught the berries while bathed in dew or covered with moisture, hence the scalding. To prevent it occurring again, give air early in the morning to dry up the condensed moisture.

Liverpool Show.—*A disgusted Exhibitor:* We quite agree with you, but wait a little while.

Green-fly.—*Rosa:* Boil 4 ozs. of Quassia chips for ten minutes, in a gallon of soft water; strain off the chips and add 4 ozs. of soft soap, dissolving it as the decoction cools. When cold, syringe the Rose trees, and about a quarter of an hour afterwards, wash the trees with clear water.

Pelargonium Society.—*Old Exhibitor:* Dead, so far as we know to the contrary.

G. Fleming.—*Staffordshire Knot:* July 27th, 1876, but he was not then gardener at Trentham.

Hollyhocks.—*Florist:* Whatever may be the matter with the plants, the leaves show no trace of the Hollyhock Fungus. Their poor condition must be due to some local condition of which we know nothing.

Roman Hyacinths.—*T. S. B.:* Thanks for the hint, which shall be attended to in due time. The bulk have not come over yet, but we understand the samples are good.

Mint diseased.—*T. Jones:* The plants are attacked by a Fungus, Æcidium menthæ, and we can suggest no other course than picking off the affected leaves and burning them. The fungus is well known, but not common this season so far as we know.

Rose.—*E. C.:* It is the old York and Lancaster Rose, a very pretty and interesting garden flower.

Godetia Lady Albemarle.—*Foreman:* Your opponent wins. It was sent out by Messrs. Daniell's, of Norwich, with whom we believe it originated.

Names of Plants.—*R. Y.:* The largest flower is Promenæa stapelioides, and the smaller one, Maxillaria Barkeri. *Mrs. Leadbetter:* Stanhopea insignis.

Communications Received.—W. T. D.—E. J.—J. D.—E. B.—J. C. & Co.—J. G.

LONDON SEED TRADE.

July 7th, 1886.

Messrs. Hurst & Son, Seed Merchants, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report the usual quietude on market at this season, and business in Agricultural Seeds may be said to be at a stand still. There is no movement in Clovers, and information from the producing districts as to the prospects of the growing crops is not calculated to induce speculation. Samples of new French Trifolium of fair quality are now coming to hand, and prices are somewhat lower, but the figures are still considered too high, and buyers prefer waiting until the extent and value of the home crop is ascertained before making purchases. The dry weather continues to restrict sales of Rape and Mustard; there is, however, a limited demand, and last week's quotations are well maintained. Hemp is a little easier; White Millet scarce; other Bird Seeds unchanged.

COVENT GARDEN MARKET.

July 8th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	6 0	12 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes per lb.	2 0	4 0	Pears per dozen		
Kent Cobs, per 100 lbs.	40 0		Strawberries per lb.	0 6	1 6
Peaches, per doz.	2 0	10 0	Canadian Apples, brl.	12 0	21 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0	2 6	Lettuces per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages per doz.	2 0	2 6	Onions, per bushel	5 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	6 0	9 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	1 0	Sea Kale, per basket		
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	1 0	
			New Turnips, per bun.	1 0	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	4 0	6 0	Narciss, various,		
Azalea, 12 sprays			Pansies, 12 bunches	1 0	3 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, per 12 sprays	0 9	1 0
Campanula 12 bun.	4 0	9 0	— scarlet, 12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	3 0	Pinks, various, 12 bun.	2 0	4 0
Cornflower 12 bun.	1 6	3 0	Primula, double, bun.	0 6	1 0
Delphinium 12 bun.	3 0	6 0	Primroses		
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Eucharis, per dozen	4 0	6 0	Ranunculus, 12 bches.	2 0	4 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses 12 bunches	3 0	9 0
Gardenias, 12 blooms.	2 6	4 0	Roses (coloured)	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Moss 12 bun.	2 0	8 0
Iris, various, 12 blms.	0 6	1 0	Roses, Tea per dozen	0 9	2 0
Lapageria, red, 12 blms.	1 0	2 0	Stephanotis, 12 sprays	1 6	3 0
Lilium longiflorum, 12 blooms	4 0	6 0	Spiræa, doz. bunches	6 0	9 0
Marguerites, 12 bun.	3 0	6 0	Sweet Sultan, 12 bun.	3 0	4 0
Mignonette, 12 bun.	3 0	9 0	Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	1 0
			White Jasmine, bun.	0 6	0 9

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Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Calceolaria, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	2 0	4 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	2 0	6 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen	9 0	15 0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 17, 1886.

THE RECENT LIVERPOOL SHOW.—We had hoped the council of the Royal Horticultural Society might have been spared the humiliation of having its distressing financial failure at Liverpool proclaimed from the housetops. That has, however, been done elsewhere, and any further reticence on our part would be absurd. We must, however, express hearty and deep concern with the council and with all who laboured so hard to promote the success of the show, because we felt from the first inception of the proposal to go to Liverpool, that it was a movement which merited the hearty support of the entire horticultural community. We have seen the society badgered on every hand to make a move of this description, and those who remember the *eclat* and undoubted success which was attached to the earlier provincial shows, naturally felt that much could be done by the society in re-starting these exhibitions to improve its position in the country, and to give it a truly national basis.

However, the venture has once more been boldly made at one of the largest and most advanced horticultural towns in the provinces, and financially it has proved to be a disastrous failure. The show was there, generally a grand show, and one which was anticipated would have attracted myriads from the Lancashire and Cheshire towns and densely populated districts. Unhappily no such results followed, and the people treated this costly and interesting exhibition with utter indifference. It may be true that some of the projected features of the exhibition were not fully a success. Those were, however, mere matters of detail, and did not affect the general aspects of the exhibition, which was in material and area both excellent and interesting, and well worthy the society which promoted it. The exhibition certainly had splendid weather in its favour—far from being a common experience in Lancashire—and it cannot be said to have appreciably suffered from the elections which proceeded at the time, because those failed to excite any strong feeling or special party interest in Liverpool. Notwithstanding the counter and more powerful attraction close by—"The Shipperies"—it is exceedingly difficult to tell where to look for the causes of public indifference to the show, although in some quarters hints are freely thrown out that the council of the Royal Horticultural Society were not happy in their choice of the ambassador or *avant-coureur* who was specially commissioned to arrange matters locally in the interests of the exhibition.

The long possession of actual dictatorial powers in connection with an exhibition of a somewhat diverse kind would hardly conduce to the development of the suavity and geniality of disposition needed to procure the hearty co-operation of the Liverpool people, even though allied to semi-aristocratic connections. It is, indeed, feared that in its governing body the Royal Horticultural Society is singularly unfortunate, as it seems to lack the possession of those elements through which alone success may be hoped for. To be clever amateur horticulturists, or respectable men of science, doubtless befits for some positions, but to conduct the affairs of a great society, or one which should be both great and national, and especially to successfully carry out a great exhibition, requires something more than mere respectability or "science"; it needs very considerable influence, business capacity, tact, suavity, and many other elements which are not too common in humanity.

We may take it for granted that henceforth, or for some years, at all events, no more will be heard of provincial shows on the part of the R. H. S., and that the aspirations of that irrepressible enthusiast, Mr. Manning, are, as far as this society is concerned, utterly squashed. Still farther, the heavy deficit arising from the Liverpool Show must sit, like an old man of the sea, on the back of the society for many years to come, crippling its resources, and at a peculiar moment of trial in the conduct of its future arrangements with the South Kensington authorities handicapping its executive. It is of no use to blame, let the fault, if any, be where it may. Too probably the same result would have happened almost anywhere now, because the "Royal" is a society known pretty well to *habitues* of South Kensington and readers of the gardening papers, but to the vast mass of the people is as strange as if its habitation were in Timbuctoo.

Probably, the Council owes this ignorance and apparent indifference to its own inertness, for it has been so much absorbed in the past in its little efforts at South Kensington that it has forgotten its title, and that to fit that title its work and range of operations should be national. The president of the society did the other day offer the observation apparent to us and myriads of others long since, "that in this country we were too apt to think we were the centre of the universe, and that all other countries simply circulated round us as the planets do round the sun." It was a proper slap at our detestable insular pride and prejudice, which should have been apparent to Sir Trevor Lawrence long since. Just these very failings have been too long dominant at South Kensington, and the same illusion has there prevailed. At last, however, it has received a calamitous rebuke, for the outer world, horticultural and general, now treats the Royal Horticultural Society with scant courtesy—indeed, with absolute indifference.

THE GAS PLANT, DICTAMNUS FRAXINELLA.—The *American Agriculturist* notes that anyone may note the gas-producing emanations from this plant by lighting a match under it at night. It is one of the most beautiful of hardy herbaceous plants, independently of this interesting character, and easily grown.

GARDENING MISCELLANY.

Meetings for next week.—*Tuesday:* Christleton Rose Show. *Wednesday:* Horticultural Exhibition at Newcastle-on-Tyne (three days).

Agave filifera.—In the fine collection of plants, exhibited in the grounds of the International Exhibition at Edinburgh by Messrs. Ireland & Thomson, there is a fine specimen of this Agave throwing up a flower-stem. This is so rare an occurrence, that very few gardeners of even the longest experience have ever seen the plant in flower. It is a very old specimen, but as to what its exact age may be there is no means of ascertaining.

A New Insect Enemy to the Potato is reported to have appeared on Long Island farms, New York, and is proving more destructive than the Potato bug. It is about the size of the ordinary Potato beetle, and eats the underside of the tender leaves, leaving the fibre only.

Myrmecodia Beccari, a native of tropical Australia, sent to Kew in January last by Messrs. James Veitch & Sons, is described by Sir Joseph Hooker in the current number of the *Botanical Magazine*, as being "one of the most singular plants ever imported in a living state into this country, and it belongs to a genus, or rather to one of a group of genera of epiphytic Rubiaceæ, which have been long known from their singular habit of forming often spinous tubers of great size, the interior of which is galleried by ants of various species, and of which insects these are the native homes."

Plants Certificated in Ghent.—At the meeting of the Belgian Chamber of Horticulture, held on the 5th instant, Certificates of Merit were awarded to Pernettya lilacina nigra major and P. l. fructu albo from M. Alex. Dallière; Hoplophyton robustum variegatum from M. Ang. Van Geert; Anthurium Schertzerianum var. sanguineum, from M. Desmet-Duvivier; Cœlogyne Massangeana from MM. Vervaet & Co.; Alocasia Angustiana, A. gigas, A. marmorata, A. nigricans, Phrynium variegatum, Sagenia mammillosa, and Amaryllis Bongueroth from the Continental Horticultural Company (Director, M. J. Linden).

Pelargonium, Duchess of Albany.—Messrs. J. Lewis & Son, Newtown Nurseries, Malvern.—We have received some cut blooms of a new Regal Pelargonium, named Duchess of Albany, which appears to be a desirable acquisition. The blooms are large with stiff footstalks, three to four in a truss, semi-double, and the petals beautifully crisped as in the Regal type proper. Its colour is dark crimson, with velvety maroon blotch, and light centre, and some of the petals are splashed with rose—a pretty combination of colours.

Summer-flowering Chrysanthemums.—One of the first of the early-flowering Chrysanthemums to come into bloom this season, is the pretty little variety named Surprise, of which we gave an illustration in our issue for November 7th last. Some flowers before us, received from Mr. W. E. Boyce, of Highgate, are very pleasing, being about the size of a double Daisy, remarkably neat and full, and bright rose in colour, but becoming paler with age. It is a wondrously free bloomer, the same plants yielding flowers from July to November.

Royalty in South London.—Her Royal Highness the Princess Mary Adelaide, Duchess of Teck, always to the front in good works, has graciously consented to open a large People's Flower Show and Industrial Exhibition in the parish of All Saints, South Lambeth. The exhibition is to be held at the Manor House, Priory Road, Wandsworth Road, S.W., and the promoters are most desirous that it shall be in every way a success. Its object is to encourage the poor of this sadly overcrowded neighbourhood to grow flowers, and to teach them to cultivate that industry, in which they take a special interest. About 200 money prizes are offered, amongst which are special prizes given by well-known philanthropists, as the Duke of Westminster, K.G., the Lady Emily Cavendish, Sir Donald Currie, K.C.M.G., M.P., and others, many of whom have promised to support the Princess at the opening ceremony on July 19th. The entrance money is very small, and all competitors receive a free ticket for the distribution of prizes on Wednesday, 21st of July, at which Lieut.-General Sir Frederick Fitzwygram, Bart., M.P., has promised to preside.

TEN-WEEKS STOCKS.

The cultivation of Ten-weeks Stocks at the Forest Hill Nursery of Messrs. James Carter & Co., as noted in our last, is of a specially interesting character, as being conducted on the system followed by the famous German growers, which, so far as our experience goes, has not before been tried on such an extensive scale in this country. The system may be briefly described as consisting of sowing the seeds in the usual manner in spring, and when large enough, potting them off in good loam, &c., to the number of seven plants in 32-sized pots; after potting, the plants are kept in frames until they can be safely put out of doors, when a specially constructed set of staging is brought into use. There are seven of these sets at Forest Hill, each of considerable length, and following the German style of construction; the stages are about 4 ft. wide, 2 ft. 6 in. high in front, and 12 in. higher at the back, with the slopes facing due south. On iron framework fixed over the stage, wooden shutters are placed during unfavourable weather, and wholly removed when favourable climatic conditions prevail; and along the front canvas curtains can be hung, to protect the plants in case of a driving rain or gale from the south rendering such protection necessary.

The number of plants under cultivation is about 10,000, classed in four divisions, *i.e.*, large-flowered, pyramidal, Wallflower-leaved, and dwarf German (which is about a fortnight earlier than the others). and these again are subdivided into what are regarded as decided colours; thus the large-flowered section comprises eight well-defined colours, the pyramidal and Wallflower-leaved twelve each, and the dwarf German fourteen, and the seeds obtained are sold in colours, and not by any distinguishing name. During the past fortnight they have been singularly attractive, the percentage of double flowers being about sixty—quite large enough, or it need scarcely be added the crop of seeds would not amount to much. The plants having been carefully proved true to character, the next step is to cut off the whole of the spikes of double flowers, in order to favour the growth of the single-flowered varieties from which the seeds are obtained, and this, we understand, will be done in a few days, the sweet-smelling blossoms being sent to various public institutions, such as hospitals, where cut flowers of any kind are always gladly welcomed.

We understand that the cultivation of Stocks, on the same system, though on a less extensive scale, was carried out here last season, and with results that must be regarded as of a gratifying character, judging from the first-rate percentage of double flowers obtained from last year's crop of seeds. In a short time, the collections of Balsams and Petunias, all raised from own saved seeds, and containing some 7000 plants of each, will be in fine condition for inspection. Among the Petunias in bloom at present, we noted a strain of what are called "veined flowers" as being very showy, the blossoms being self-coloured, in various shades, and the veins distinctly marked of a deeper shade. By selection from year to year, the firm are also endeavouring to fix a good strain of blue Petunias, and with every prospect of succeeding in the undertaking.

GLADIOLUS COLVILLI ALBA.

This is at the present time one of the most elegant and chaste flowers in the garden; in point of purity it is such as commands for it a place in all choice floral arrangements, either in a cut state, or as a pot plant, in either of which it holds an unique position.

Grown in pots for conservatory decoration, it may be had in flower from the middle or end of March to the end of July, the latter mouth being its natural flowering period out-of-doors. Of its perfect hardiness there remains no doubt, since no winter of late years has been more trying to plants generally in the open ground than that of 1885 and 1886, for we experienced frost and thaw nightly and daily for weeks, and that just as they were beginning to grow. The hard winter frost will not harm them, it is the nipping frosts of spring, when they are young and tender in leaf, that seems to injure them if left unprotected.

Fortunately a goodly portion of my stock is planted in a turf pit, so that, if necessary, a slight protection can be afforded them. This was done by placing some old pea sticks across the pit, and then lightly shaking a little straw litter from the stable upon them; this carried them safely through, and for a fortnight past they have been yielding quantities of their pure white spikes of flowers. These lend themselves admirably to the many and various requirements of the bouquetist, and are extremely handsome, either alone, or in company with other suitable flowers. It may be forced with impunity, but when thus treated, it should be remembered that this Gladiolus is of equal service another year, provided it be grown on and cared for, and not regarded as an outcast and worthless as many forced plants are, simply because they cannot receive accommodation at the time they need it most.

It is a true example of *multum in parvo*, simply because a 48-sized pot, will accommodate five good sized corms (which are only equal to a good sized Crocus), and each of these will produce from three to six breaks, according to individual strength, and each break under good culture, a spike bearing from six to ten of its pure white blossoms; moreover, it will stand almost pot thick on the stages, which cannot be said of many flowering plants. To the bouquetist who can utilise the individual blossoms as they expand, it is simply invaluable. It delights in rich light loam, grows 2 ft. high, and should be planted from the end of August to the end of October.—*J.*

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.—III.

All who have grown the Chrysanthemum are aware that the watering forms a very important feature in its cultivation. To a great extent, it is a water-plant, and most probably its proper habitat is a sort of bog of fertile soil; therefore, when under pot culture, it should never be neglected. Of course, the season has something to do with it. In the long sunny days of summer, when the atmosphere is dry and the sun very powerful, the plants should at least have two good waterings a day, morning and evening; but I give mine three and it does not seem at all too much. If the drainage be perfect, there is no fear of hurting them by too much moisture. Of course, I would not water so copiously at mid-day as at night when the sun goes down; just enough to keep them from drooping. In the evening, and especially after a very hot day, in addition to water at the roots, the plants should all be syringed with water that has stood exposed to the sun in a tub all day. This will be most grateful to the foliage, and is almost as essential to the well-being of the plants as water at the roots. Never water or syringe with that fresh from the tap; it is likely to cause a chill, because it is of a much lower temperature than the soil among which the roots are growing, especially after hot sunny days. Always keep a large tub full in some corner of the garden where the sun has full access to it, and as you empty out for watering, fill up again immediately after, so that it will be getting warmed and softened before you require to use it again.

Now with regard to stimulants, and when to apply them, and on this matter I would say do not begin with anything powerful until the plants become pot-bound in the 10-in. pots. If the soil in which the plants are growing has been skilfully prepared, there is no need of any extra stimulus until the flower-buds begin to show themselves, at which time a few applications of strong cow or sheep liquid manure may be given with water, weak at first, gradually increasing in strength as the buds enlarge. It is not well to apply the same material on every occasion; plants appreciate variety of diet quite as much as animals. I never give the same material twice in succession. If liquid manure from the cow or sheep be used at one time, then the next time I should try a handful of guano in a large canful of water, then, probably, a little pungent soot dissolved in water. By varying it in this manner, each material is likely to produce a better effect than as though you adhered exclusively to one thing, because the plants would become accustomed to it, and, as a natural consequence, would to a certain extent be unaffected by it. About a dessert spoonful of sulphate of ammonia dissolved in a large canful of water is not amiss when the buds begin to swell, but it should not be often repeated.

I will now speak of the pests which most commonly attack the Chrysanthemum, during the period of its growth, which are chiefly the green-fly, and occasionally a small green caterpillar, whose colour is so identical with that of the foliage of the plant on which it feeds, that you must make up your mind that you are searching for a caterpillar and nothing else, or it is more than ten to one you will overlook it. They are very destructive to the leaves, and in a single night one individual will leave disagreeable traces behind him, as eating is the favourite employment with him during this period of his existence. By and bye he will "enter into his closet" where he will remain for a few months, after which he will emerge therefrom, having acquired more ethereal tastes, and being endowed with a superior means of locomotion, instead of eating and crawling, flying and sipping will form his chief characteristics.

The earwig, so troublesome and annoying to Dahlia growers, is also often found trespassing on the foliage of the Chrysanthemum, but I have yet had no reason to suspect that it is there for any felonious purpose; probably, he is seeking protection in some curled leaf, which is his favourite hiding place. I do not for a moment believe that it eats or in any way injures or destroys the foliage; the time when he is most to be dreaded is when the plants are blooming, as he will often let down the outside petals by biting them through at the base, though not with an intention of feeding on them; it seems to be a bit of wanton mischief which he likes to amuse himself with, for the petals so cut are invariably dangling to the flower. It is safest, therefore, after the plants are housed for blooming, to make a diligent search for them, lest a few may have been carried in as stowaways. The green-fly is certainly the greatest pest to the Chrysanthemum, and should be kept under at any cost. They are always found on the extremities of the shoots where the leaves naturally afford protection by their curling tendency.

They may be removed by a stiff feather, or by an ordinary gum brush, and when once dislodged it is seldom that they acquire any other fixed position; their existence depending largely upon being able to retain the position on which they were generated; this is also true with regard to many other minute insects—if once displaced, confusion and death is the sure result. Some kinds of Chrysanthemums are far more liable to become badly infested than others; this I have proved beyond a doubt, for in two plants standing in a fixed position, the one has been literally covered with them while the other was unmolested. The weak growers are in most danger, and have less repelling power than the vigorous kinds, and should consequently be often examined.—*Geo. Kidson, Hull.*

(To be continued.)

SHADE IN GARDENS.

The improver's axe, as well as the hand of time, have lain heavily on the shadows that abounded in ancient gardens. So deep, dense, and long were the shadows at times, that they reminded one, says "D. T. F." in *The Field*, of the great dreamer's description of that valley of which all of us have read. Still, such shadows were full of poetry and feeling, and most suggestive of rest and security. They furnished safe retreats alike from storm and sunshine throughout the changing year. Nor June sunshine, nor March nor October winds, could pierce through the crowded ranks of tall Yews or other trees that formed the garden shadows of the olden times. These ancient shadows in gardens were as durable as they were efficient. The old Yew hedges never died; but what could never have happened through the decay of nature was brought about by a violent revolution of national taste in gardening.

An age of clearance succeeded to a long age of shade in British gardens. While the former lasted, no shade, however venerable, was safe. On the contrary, the more venerable the age, unique the beauty, and efficient the shade, the more certain to be rooted up and destroyed. The growth and culture of centuries were too often levelled in a day. Landscapes clothed with verdure, ancient halls buttressed round with a secondary basis of venerable trees, were stripped bare and left bleak and bald as if a mansion had been cut out of a London square and set down in the middle of an open park, without a shred of verdure to tone down the glitter and glare of large masses of brick or stone. Fortunately, a few examples of the old style were spared; but these have had but few imitators of late years. Nor must it be inferred that all the clearances

were carried to such extremes. In not a few instances the clearance was arrested before completion. Hence, charming morsels of the old shadows are met with at times in out-of-the-way places. And there have also been attempted revivals, more or less successful.

Still, making due allowance for all these qualifying circumstances, there can be no doubt that most modern gardens and landscapes are deficient in shade. This may be proved by anyone spending the month of June in visiting some of the finer gardens in Britain. If his eyes are not glared half out of his head, and he is not brown as a beetle at the end of his tour, he will be more fortunate than the writer. Of course, in vegetable and fruit gardens, and to a lesser extent in flower gardens, direct sunshine is essential to success. Though, even in this, it is by no means needful always to choose a southern aspect. On the contrary, in most of the southern and warmer counties, hardy fruits and vegetables may be as successfully grown, and with less labour of watering, &c., on cooler aspects and sites. The same holds good of flowers. Plants and bloom last far longer on cool sites and aspects than in hotter, drier ones. Many flowers also attain to higher colour and texture if partially shaded for two or three hours from the sun. All may be said to be more beautiful and enjoyable when seen under the shadow of a cloud, a wall, or fence, or a tree. The most enjoyable and brilliantly coloured ribbon border I have ever seen was an east border, behind a very high wall facing due west. In the early morning it was too dazzling, but after noon and all through the evening every tint stood out in its full freshness, distinctness, and beauty; anyone will readily recall similar bits of perfect colouring on shady sites. One of our greatest rosarians came suddenly on a mass of Charles Lefebvre on a north border, and was so astonished at its peculiar depth and purity of colouring, that for a moment he was nonplussed, and thought it a new variety of surpassing loveliness. Such examples of the effects of mere shade on colouring might be multiplied to any extent.

But my purpose now is not to insist on the importance of shade as an aid to culture or colouring, but to provide a welcome means for the enjoyment of the existing beauty of our gardens and landscapes. The majority of these are crying out for deeper shadows, into which one can retire for refreshment, rest, and for enjoying the beauty around us with the least amount of exhaustion and fatigue. Mural shadows and rests are now-a-days out of fashion. They, however, if skilfully placed and designed and furnished, might still be useful in many large gardens, affording shelter from rain as well as sunshine, and increasing the number and area of seats all too few in most large gardens. Tunnels, again, through natural strata of stone or chalk, might often be introduced with excellent effect, and so disposed as to avoid steep hills, and afford perfect shelter as well as shade. In cases where springs or rills of water abound, a drinking fountain and seat under a tunnel, furnished with a fernery at either entrance, provide at once a welcome rest and a refreshing shade. But the best and most suitable shade in gardens is that afforded by walls, hedges, shrubs and trees. It may, however, be taken for granted that some shade is essential. Many years ago I visited a fine garden, accompanied by its owner, a lady of cultured taste and fond of horticulture. Her last words with me were, "This is called Sunnydale." I ventured to reply, that "its sunniness was its chief fault; to render it perfect, it wants shade and water." The latter was found to be impossible, but the shade was provided in the form of a yew walk—nearly 300 yards long, and 10 ft. wide; a large fernery in a dale, with sunken and tunnelled walks; and thus the new charm of shade and shelter at all seasons was added to the prevailing sunshine, and the garden became more perfect. This walk was planned and carried out from east to west, and the tall yews encouraged to arch over provided shelter and shade when most needed throughout the year.

The question of the line of walls, hedges, and belts for purposes of shade is important. Not a few run from north to south; such add to the heat when at its maximum, and increase the evils they were meant to remedy. Large wide-spreading Beech, Lebanon Cedars, and other trees have the merit of providing shade for all, and of sustaining a brisk circulation of air beneath them in the hottest weather. Trees are far more efficient for shade than arbours of Roses or other climbers, either over walks or seats in the open air. In fact, the trim way in which such are too often trained and pruned rather adds to the heat than moderates or shuts it out. Where such contrivances are used, a wild and free rambling growth should be encouraged; so that tier above tier of branchlets, whether of flower or foliage, should shut out the heat from the covered path or seat beneath. But a Beech, Lime, Chestnut, Oak, or Plane forms the most effective shade over a seat in the open air. No one should ever sit under the shadow of old Elms, on account of their constitutional liability to limb-dropping. Lebanon Cedars, the Douglas and other Spruces, and Yews, also furnish shadows at once dense and deep. But these and other conifers are far inferior to such deciduous trees as the Beech, Oak, the broader-leaved Poplars, Planes, Limes, Sycamores for furnishing shade and shelter in gardens. The circulation of air is far more constant and powerful under deciduous trees, while the rippling of their leaves with every gentle breeze reminds one of the soft music of gently running water; and this dash of sentiment seems to cool the shadow, and add a softness and sweetness to the refreshment provided by the trees.

Impatiens Hawkerii.

IMPATIENS HAWKERII.

We have several times recently had an opportunity of seeing a splendid new Balsam from the South Sea Islands, that Mr. William Bull has included among the novelties which he is sending out this season, and which there will be a run upon immediately it becomes known, for few finer things have been seen of late years. It was discovered and sent home by Lieutenant Hawker, and under cultivation proves to be a good free grower, of neat habit, and a most profuse bloomer from spring till autumn, while its flowers, large and smooth, are of a remarkably beautiful colour—an indescribable shade of brilliant deep carmine, suffused with a bluish tint round the small white eye. The lovely Impatiens Sultanii has become a great favourite, but it is altogether eclipsed by the new comer, of which we give an illustration, kindly placed at our service by Mr. Bull. The plant was exhibited at South Kensington on Tuesday, and was awarded a First Class Certificate.

A ROSE SHOW IN KENT.

The Cray Valley and Sidcup Horticultural Society held their annual show in Frognal Park, Earl Sydney's, near Sidcup, on the 10th inst. It is a society which has been established for some years, but for the last year or two has been under new management. The hon. secretary is Mr. J. A. Doyle, of Sidcup, and several of the leading amateurs in the neighbourhood take a great interest in the work of the society, and are active on the show day. Roses are a leading feature, and it was as one of the judges of these flowers I was invited on the above occasion. Sidcup lies in the middle of a large fruit growing district, where Strawberries especially are largely grown, and the soil being a stiffish loam, Roses do well in it. Many villa residences line the road between the station and Frognal Park, and in the front gardens Roses grow and flower freely, and make a great display. Roses abound on every hand, many old fashioned varieties grow on walls and against pillars, even the smallest cottages have their Roses just now in the fullest bloom.

Some excellent prizes were offered for Roses, open to all comers, and it was remarkable to notice what an extensive competition they brought. In the class for forty-eight varieties, single trusses, there were eight competitors, including Paul of Cheshunt, the two Cants from Colchester, Keynes & Co., Salisbury, Rumsey of Waltham Cross, Bunyard of Maidstone, &c.; but despite the trade being in such strong array, the first prize went to Mr. T. W. Girdlestone, of Sunningdale, with a superb lot of blooms, large, fresh, varied, and grandly coloured, comprising Crown Prince, Victor Verdier, Jean Ducher, Reynolds Hole, Marie Finger, Charles Lefebvre, Madame Emma Hall, Abel Carriere, Comte Rainband, Baroness Rothschild, Dr. Sewell, Souvenir de Madame Alfred Vy, Mons. Noman, Prince Arthur, Madame George Schwartz, Marie Baumann, Merveille de Lyon, Duke of Teck, Marquise de Castellane, Star of Waltham, Pride of Waltham, Madame a Dumesnil, Duchesse de Vallombrosa, Horace Vernet, Etoile d'Lyon, Henri Ledechaux, Madame Bravy, Jean Lamy, Souvenir d'Elisè Vardon, Thomas Mills, Caroline Kuster, Etienne Levet, Mons. E. Y. Teas, Catherine Mermet, Francois Michelon, Innocente Pirola, General Jacqueminot, A. K. Williams, Constantine Tretiakoff, Lord Macaulay, &c. Mr. B. R. Cant, nurseryman, Colchester, was second with a very fine lot of flowers, comprising Comtesse d'Oxford, Earl of Pembroke, Louis Van Houtte, Reynolds Hole, Merveille de Lyon, Jules Chretien, Queen of Queens, Charles Lefebvre, A. K. Williams, Souvenir d'Elisè, Marie Baumann, Etienne Levet, Ulrich Brunner, Abel Carriere, Marechal Niel, Jean Soupert, Madame C. Wood, Marquise de Castellane, Madame C. Joigneaux, Camille de Bernardin, &c. The awarding of the third prize gave the judges some trouble, my colleague inclined to a stand shown by Mr. W. Rumsey, Waltham Cross, I decidedly favoured one from Messrs. Paul & Son, with the result that a third person was called in who decided against me; Mr. Rumsey was placed third, and an extra prize was awarded to Messrs. Paul & Son. A good lot of flowers from Mr F. Cant, of Colchester, were disqualified through containing two blooms of Madame de Watteville.

The class for twenty-four varieties, single blooms, brought ten competitors, and Mr. B. R. Cant was placed first, with very fine fresh flowers of Horace Vernet, Marquise de Castellane, Duchesse de Morny, Comte d'Oxford, Alfred Colomb, Le Havre, Madame de Watteville, Marechal Niel, Madame Eugenie Verdier, A. K. Williams, Ulrich Brunner, Xavier Olibo, and Souvenir d'Elise; second, R. E. West, Esq., Reigate; third, Mr. T. W. Girdlestone. Then there was a class for twelve Tea or Noisette Roses, five competitors staged, the first going to Mr. B. R. Cant, who had very fine blooms of Catherine Mermet, Souvenir d'Elise, Comte de Nadaillae, Marechal Niel, Souvenir d'Un Ami, Etoile de Lyon, Madame de Watteville, Innocente Pirola, Marie Van Houtte, Souvenir de Paul Néron, Moire, and Madame Bravy. Second, Mr. F. Cant, who had Souvenir d'Elise, Jean Ducher, Madame Bravy, La Boule d'Or, &c. Third, Messrs. Geo. Bunyard & Co., Maidstone.

Then there was a class for twelve varieties of Teas and Noisettes, and five collections competed, Mr. B. R. Cant being placed first with superb blooms of Catherine Mermet, Souvenir d'Elise, Comtesse de Nadaillac, Maréchal Niel, Souvenir d'un Ami, Etoile de Lyon, Madame de Watteville, Innocente Pirola, Marie Van Houtte, Souvenir de Paul Néron, Moire, and Madame Bravy. Mr. F. Cant came second with a very fine lot, his bloom of Madame Bravy being the very best I ever saw; Souvenir d'Elise, Jean Ducher, and La Boule d'Or were also most striking. Third, Messrs. Geo. Bunyard & Co., Maidstone. Then followed a class for six blooms of any one variety, Mr. T. W. Girdlestone leading the way with a half-dozen Marie Baumann of splendid quality; Mr. B. R. Cant coming second with Ulrich Brunner; and Mr. F. Cant third with Maréchal Niel. Several half-dozens were staged, and they made quite a little show in themselves. In all the four foregoing classes, the competition was so good that the judges regretted they could not award some extra prizes, the funds of the society being low.

Then there were several classes for amateurs, and I must bear testimony to the fact, that not only were the flowers produced in good quantities, but they were highly creditable to the exhibitors; and especially those shown by Mrs. Fuller, of Bexley, and Mr. G. T. Ougley, of Eltham. Unfortunately time did not admit of my taking notes of the leading flowers shown in the amateurs' classes, for I had to take an early train to Bexley; but I can record that the best twenty-four blooms came from Mrs. Fuller, Bexley, Mr. G. T. Ougley being second; and the same positions were held in the class for twelve varieties. In that for six Tea-scented Roses the order was reversed. Then there was a class for six Roses, in which Mr. E. A. Lockhart, of Sidcup, was first, and Mr. S. Hodkinson, also of Sidcup, second.

Special prizes were offered by some of the trade growers of Roses, who are in the habit of competing at Sidcup. Messrs. Geo. Bunyard & Co., Maidstone, offered prizes for twenty-four Roses, to consist of twelve Teas and twelve hybrid perpetuals, and Mr. G. T. Ougley was first. Mr. B. R. Cant, for eighteen varieties of Roses, Mrs. Fuller being first, and Mr. R. T. West, Reigate, second. Mr. W. Rumsey, for twelve Roses, when Mr. G. T. Ougley was first.

In regard to the general departments of the show, there were classes for groups arranged for effect—stove and greenhouse plants, Ferns, cut flowers, fruit and vegetables, and there were not wanting indications of progress in the cultivation of the same. Clearly the Cray valley and Sidcup represent growing districts, not only in regard to population, but also in reference to horticultural enterprise.

Groups of plants from the trade were a striking feature. Messrs. T. Rivers & Son sent from Sawbridgeworth a fine collection of fruiting trees in pots—Peaches, Vines, Nectarines, Cherries, Plums, &c. Mr. B. S. Williams, of Holloway, had a charming collection of choice plants, that filled the centre stage of one of the tents. Messrs. J. Laing & Co., Stanstead Park Nurseries, Forest Hill, furnished a pretty group, including some of their famed Begonias. Messrs. James Carter & Co., Holborn and the Crystal Palace, had a pretty group also, in it were some Stocks in pots, in variety. These were all highly commended. Mr. T. Crasp, gardener to Earl Sydney, Frognal, was awarded the silver medal of the society for a collection of plants, including some well-grown and fruited pot vines.—*R. D.*

THE ONION IN LITERATURE.

At the November meeting of the Summit County (Ohio) Horticultural Society, Mrs. Claypole gave an interesting address on the Onion, from which we, *Gardeners' Monthly*, make the following extract:—

"It is plain by this time that our visitant is possessed with the idea that there must have been a first Onion behind all those of which he hears, and that he will give us no rest until we can put it before him and say, 'Behold, here is the native plant which by wise cultivation has developed these handsome bulbs which you see.' Be the search for this first Onion then long or short, it seems that we must undertake it. Let us take the first step in the inquiry. Shall we find this native plant, this Allium cepa, this parent of all cultivated Onions on this continent? No; it has been sought for, but America is not rich in species of Allium, and Allium cepa is nowhere to be found. Cortez, when relating incidents of his brilliant conquests in Mexico, is reported by Humboldt to have said that he saw Onions in the market-place of the ancient Teuochtitlan, and that the Mexicans called these Onions Xonacatl; but careful inquiry shows that the name of Xonacatl does not apply to our cultivated species of Allium. In the seventeenth century only one single Allium was reported from Jamaica, and that was our species—Allium cepa—and it was in the garden with other vegetables from Europe. Acosta, in his *Natural History of the Indies*, says expressly that the Onions of Peru were brought from Europe. To Europe, then, we must go on the track of the first Onion. Any European will tell us that Onions have always been cultivated there. But aware that our visitor will inquire into that 'always,' we will see if we can find out what it means, so far as England is concerned.

"Shakespeare mentions the Onion. In the 'Midsummer Night's Dream,' Bottom, a weaver, giving final directions to Quince, the carpenter, Flute, the bellows mender, Snout, the tinker, and Starveling, the tailor—all humble folks, who are about to present a play before the Duke and his party, after telling them to go home and attend to this, that and the other, says:—

"'And most dear actors eat no Onions nor Garlic, for we are to utter sweet breath; and I do not doubt but to hear them say it is a sweet comedy.'

"When Helena, at the close of 'All's Well that Ends Well,' finds at the same time her husband and her mother, the old Lord Lafen exclaims:—

"'Mine eyes smell Onions; I shall weep anon,
Good Tom Drum, lend me a handkercher; so;
I thank thee; wait on me home, I'll make sport with thee.'

"In the introduction to the 'Taming of the Shrew,' the lord, sending instruction to his page to enact the part of wife to the old drunkard whom they are about to befool, say:—

"'Bid him shed tears,
And if the boy have not a woman's gift
To rain a shower of commanded tears,
An Onion will do well for such a shift.'

"Enobarbus, comforting Anthony on the death of his wife, Fulvia, says:—

"'The tears live in an Onion that shall water this sorrow.'

"And later the same Enobarbus exclaims, on an occasion when he deems it well to turn the current of pathetic thoughts—

"'Look, they weep, and I—am Onion-eyed.'

"Now, I think it must be conceded that the joke connecting a mere show of grief with the use of an Onion is old and well worn—*requiescat in pace.* But let us remember that at the time when the Potato was a new-comer into Europe, the Onion and its properties were so widely known, and so familiar to all, that Shakespeare could rely on the word to bring—even to the dull brains in the pit—a vivid picture of tears without woe.

"Shall we find our first Onion in England? No, its name tells us that it is no native. Onion is merely the English way of pronouncing the French 'Oignon,' and by the French, at some time or other, the bulb was brought into England.

"Chaucer, writing five hundred years ago, mentions the Onion as a well-known domestic vegetable. Another three hundred years takes us back to the Norman Conquest, and I think we may take another two hundred and say that a thousand years ago the Onion was making its way into England. A thousand years sweeps away the history of England, and leaves a small island torn with the strife of its recent Saxon conquerors and harassed with sea pirates, Alfred striving to bring unity from discord, and the dreaded Danes or Red Shanks seizing more and more of the fertile land. An island almost unknown to the nations on the Continent who have enough to do to hold their own from each other and foreign foes, but who, nevertheless, not unmindful of seed time and harvest, gather in annual crops of the juicy bulb we call the Onion.

"Another thousand years and Britain is an island lying far, far away from civilization. Vague rumours of a land beyond the sea there may be, but vagueness lends terror and makes the island the home of monsters and ogres. And Europe? Misery untold. Wherever nature has been kind war has laid waste. Rome is pushing her conquest on the Rhone, and hordes of hungry Teutons are pouring into Gaul from the north-east, while as many Cimbrians are making their way into the south through the passes of the Alps. Italy itself is threatened, and fear of foreign invasion arrests for the moment the strife of parties at home. And yet somewhere in Italy someone is finding leisure to cultivate the Onion, and many varieties are grown for

the rich men's tables, and gourmands discuss the flavour and call their favourites by the names of countries. The Cretan, Samothracian, Cyprian, and so on.

"Two thousand years have taken us back to the border land between history ancient and modern. Another thousand, and a few more, and we shall hear the groans of the Hebrews in Egypt, as they drag the heavy stones for the massive forts of Rameses and Pithom, or make their daily tale of bricks under the sharp gaze of guards, who stand over them with rods. In vain they petition for relief. The work is pressing. Useless are all attempts at revolt. The power of Rameses is great; his vigilance leaves no loophole for escape. But death, greater than Rameses, takes the mighty conqueror, and his son and Menephthah rules in his stead. Then a successful conspiracy is made, and the Hebrews, under Moses and Aaron, throw off the yoke of Pharaoh, and defeat him on the shores of the Red Sea, and we hear the songs of triumph of these emancipated slaves as they take their first steps in freedom.

"But now unthought of difficulties appear—the journey to the land of promise is not one long holiday of pleasure. Some present privations seem harder to bear than the late fearful slavery, and praising the good old times, they revile Moses, and ask him bitterly, 'who shall give us flesh to eat? We remember the fish which we did eat in Egypt freely, the Cucumbers and the Melons, and the Leeks and the Onions, and the Garlic.'

"And these Onions whose flavour could be better remembered than the hardships of tyranny; can they be of the same species as the Onions exhibited here? Certainly they are, they are grown in Egypt to this day, and called now by the very name used for them by masters and slaves when Israel was there in bondage.

"More than this, the designs on the ancient monuments show us often this very Onion. For the Onion was highly prized by the Egyptians, and a variety was grown so excellent in all its properties, that they worshipped it as a divinity. Shall we then find our first Onion in Egypt? No, there is no native plant there which could have produced it, and as long as we can find a trace of it in Egypt it is a cultivated plant, and highly cultivated too. How long has it been cultivated there? Three thousand years, four thousand, five, six, seven thousand. Seven thousand years ago, when a few wretched savages scattered over Europe were tearing from nature and each other a bare subsistence, in the valley of the Nile the Egyptians were enjoying a happy, peaceful, and sometimes jolly life. The tombs of Memphis are covered with pictures of feasts and games, dances and boat tournaments; poets are chanting verses, and girls are dancing with hair dressed up with plates of gold. Seven thousand years have passed since the building of the first pyramid. Yet even then Egypt was an old country; its people civilized; its architecture grand in idea and perfect in execution; its language not only formed but reduced to writing; its agricultural life was rich with oxen, asses, dogs and monkeys, antelopes and gazelles, geese, ducks, swans, and slaves of Numidia. Egyptian history begins before the building of this pyramid perhaps three thousand years, and behind that again there must be an immensely older history, making the emergence of this civilization from the savage life of the cave-dweller. Where are we now?

"Ten thousand years away from the life of to-day—far away in Egypt, with the rich farmers on the banks of the Nile. Whether or not we shall meet our Onion there, who shall say? Some time, in that remote past it was brought into Egypt, and it was brought from India.

"History can tell us no more. The sacred writing of the Hindus, the oldest records of the Chinese, mention the Onion, but always as a cultivated plant.

"If we would find our first Onion we must leave history and try some other line of inquiry. Let us join the party of some exploring botanist, and with him search Europe, Africa and Asia for a specimen of the native Onion, which some time in the long-forgotten past was deemed worthy of cultivation. Our search, like our history, gradually narrows itself, until we find ourselves climbing the mountains of Afghanistan and Beloochistan, and exploring the table lands behind the Hindu Kush Mountains. And there, in the birthplace of our race, we find our Onion—the Allium cepa—from which have sprung all the Onions grown all over this wide world."

Scottish Gardening.

Roses.—The Rose season is now about at its best in the midland counties of Scotland, and I do not remember ever seeing the plants in finer condition, in every way, than at present; a total absence of vermin, which are often ruinous to them at this season, and not suffering from drought or violent storms renders it a pleasant occupation for the rosarian to work among his pets. Budding is now an important matter where kinds are to be increased; much of the disappointment which attends Rose budding, arises from the stocks being in poor dry sandy soil—the sap does not flow freely—the wood and bark becomes dried, and death of the bud becomes a certainty. If the number of stocks are limited, and the work of mulching is not of a formidable character; a good watering and surface dressing soon afterwards will do much to help the speedy union of buds. Where Roses do well on their own roots, the present is a good time to put in cuttings, young wood with a heel attached root freely, and make fine young plants before autumn. The cuttings, which should not be lengthy, may be placed thickly in light soil mixed with a little sand behind a hedge or wall, and covered by handlights.

Fruit Trees.—Where wall trees are expected to be profitable, and at the same time assume a creditable appearance, they should not be neglected at this season. We know well the theories adduced by many, of keeping growth on the branches till a certain period (generally in August) and making a wholesale onslaught on the young wood—clearing away what is supposed to be useless and retaining what is considered the best bearing wood for next season. Or in the case of Pears and other fruits which are to be spurred, a rough-and-ready trimming is given. We have even seen the hedge shears at work; but when such is the practice, we do not look for the crops which are gathered yearly from well-managed trees. The trees should be gone over at least about three times during the season, beginning at the upper parts first, then at the middle, and lower part (or where growth is weakest) having their turn last. Where trees are on the spur system (and these, when kept thin and the spurs close to the wall, do well on every fruit tree with which we are acquainted) they have outer growths well thinned and shortened during the growing season, and in autumn or early winter the shoots are cut close into an eye or removed altogether when there are plenty of good fruit buds to furnish the branches. Peaches, Nectarines, Morello Cherries, Plums, and Apricots should have all unnecessary growth well cleared off, retaining the wood which is expected to give the crops next year, to take the place of the shoots now bearing fruit. Overcrowding at this season is very detrimental to the trees and injurious to the present crop, by excluding sun and air, as well as proving a preventative to next year's fruiting. Dryness at the roots, vermin destroying the foliage, and the removal of suckers neglected are also ruinous.

Fruit Crops of the Season.—We have not yet seen a general report in print of the fruit crops, but judging from hasty glances at orchards, and an examination of a few, in a few of the best districts in England, we should suppose that small fruits, Pears and Plums were generally very abundant. The latter seems to be like a "deluge," as we noticed in some Worcestershire orchards that the trees were perfectly burdened by the crops, and in most cases they were clean, and the foliage healthy. The Pershore Egg Plums, which bears most seasons, are exceedingly productive this year; one gentlemen riding in the train with us had already concluded a bargain for 2,000 pots at two shillings each; others we conversed with are afraid of getting no market at all. Among Pears we noticed great numbers of such kinds as Williams' Bon Chretien, Jersey Gratioli, Louise Bonne of Jersey, in great abundance; and among these kinds at the Stoke school farm, near Bromsgrove, we noticed the old but useful Hessel Pear in great abundance on very healthy trees. This is a grand old Pear for northern parts, and at one time was found among most Scotch collections, it seldom fails to crop. We made an examination of the trees at Stoke one morning with the superintendant, Mr. McGilchrist, and was delighted to see the first Pear we ever knew in such promising condition. Soil has much to do with permanent good results. About Worcester some fine crops of hardy fruit was noticed by us, also in Essex and Kent, especially by Tunbridge Wells, trees were generally very clean.

Referring to crops in the north reports are that quantity is not general. With ourselves small fruits are very heavy—Gooseberries especially. We think when these fail anywhere there must be some fault in cultivation. Old bushes which were transplanted some three years past are weighted to the ground, and we have been prompted to invite some cottagers in to help themselves, and to relieve the branches for jam or jelly making; the latter being an excellent preserve, and in families makes a useful and economical auxiliary to the household supply of condiments. The non-pruning system of small fruits has not found favour with us yet; we believe in a good addition of young wood yearly, and getting rid of some old branches—thus securing plenty of fruit of the best quality. Plums of the hardy classes are fairly plentiful—Victoria, as usual, well to the front. Apples, which were so overloaded here last year, are mostly thin in crop; hardy kinds of Pears are abundant. We notice all the dwarf Apples of the Codlin kinds—Stirling Castle, Seatonhouse, King of Pippins, and a few others well represented in quantity—always supporting the argument that a selection of "never failing kinds" should be in every garden, and to have the above sorts, when others failed, one would not have much reason to complain; dwarf well-managed trees bear more or less every season, while orchards seldom do well two seasons in succession. Short firm growth, the less the better, on dwarf trees at this season with large leathery foliage is almost certain to be productive.—*M. T.*

The Amateurs' Garden.

THE VEGETABLE GARDEN.

In our part of the country sufficient rain has come to moisten the ground to a good depth, and thus save us much labour in supplying water to Peas, Beans, and other crops that would have made but poor progress lately without this assistance. Potatos, however, which we could not help in this way needed rain greatly, for the tubers are yet small though they will soon improve now. Turnips also required water, for they were rather small generally, and somewhat hot in flavour; all other vegetables will benefit by the rain, and in the event of another hot dry period it is well to take a few precautions. No better time could be chosen for applying a mulching than the present, for while helping to retain the moisture in the soil the manurial qualities pass more readily to the roots of the plants, and can be more quickly absorbed by them. It is a mistake to apply either mulching or liquid manure to very dry ground, and when this is done in hot weather in the absence of rain it is advisable to give a liberal supply of clear water beforehand. If old Mushroom-bed manure, lawn-mowings, or anything of a moisture-holding character be applied to the soil between rows of Peas, or over the roots of heavily cropped fruit trees the effect will be seen immediately the weather becomes hot again as it probably will.

Peas are now coming in well; William the First has been yielding freely, and the quality has been very satisfactory; American Wonder has been doing capitally, and is one of our best Peas this season; we intend growing more of it another year. Green Windsor Beans are producing good crops, but they were suffering from the drought, although they have been watered as much as possible. White Stone Turnips are turning in clean, and we have an instance of how thinning can be carried too far with these and other vegetables. Some were sown in rows, and some broadcast, and in every case where the plants were rather close together without being unduly crowded, the roots are of an even size and just suitable for the kitchen, while those that had more space have grown too strongly, are coarse, and not so good in flavour as the others. This must not be taken as favouring the crowding of vegetables, but as an indication that unless where excessively large productions are required, severe thinning must be avoided

Strawberries are bearing moderately well, and some are already exhausted; but runners are being produced in good numbers, and are fairly strong. These early runners must be looked after if it is intended to force a few plants next season, for the sooner the plants are well established, and the more roots they make before winter, the better are the results likely to be. Prepare some good fibrous yellow loam, and after placing one

crock at the bottom of each pot, fill firmly to half an inch from the brim. Some employ 60-size pots for pegging the runners into, and then repot the plants afterwards into 32-size pots, and where a small number only is done, this is much the better plan. In large gardens, where some thousands are grown for forcing, it saves considerable labour to layer the runners into the large size at starting, but the soil is liable to become sour, and there is little in its favour except the saving of time and labour. The pots should be placed between every alternate pair of rows, thus leaving one space unoccupied to enable them to be watered and otherwise attended. Select the strongest runners, and secure them in the centre of the pot either with a small stone placed on the shoot or by a wooden peg. Water them daily with a rose pot in dry weather, but do not separate the young plants from the parent until the former are well rooted in the soil.—*Scolytus.*

LONDON GARDENING.—I.

Among the non-professional readers of The Gardening World many, doubtless, live either in or close to London, and of these some, we must suppose, have breathing space behind their houses in the shape of small strips of vacant ground. Many such householders would be disposed to convert these empty plots into gardens proper, but that the discouragements attendant upon London gardening are usually held to be overpowering. To these unknown friends, and "especially to the women" among them, the experience of one who has faced the discouragements and found them, with a few exceptions, spectres that may either be laid or laughed at, will, perhaps, be not uninteresting, "especially to the women" among these potential gardeners, I say, because I am myself a woman, and a woman without much leisure or health, albeit the gardening that I deem worthy of the name cannot be done by proxy.

The late Mrs. Ewing, whose death last year made the world poorer to many who did not even know her except through her books, was a true gardener. At the time of her death she was contributing monthly papers, such as only she could write, to a magazine identified with her name. These were called "Letters from a Little Garden," and from one of them I will here quote a short passage bearing directly upon the line of demarcation between what I will venture to call spurious and genuine gardening :—

"There are owners of big gardens and little gardens who like to have a garden (what Englishman does not?) and like to see it gay and tidy, but who do not know one flower from the rest. On the other hand, some scientist are acquainted with botany, and learned in horticulture ; they know every plant and its value, but they care little about tidiness. Cut flowers are feminine frivolities in their eyes, and they count nosegays as childish gauds, like Daisy chains and Cowslip balls. They are not curious in colours, and do not know which flowers are fragrant and which are scentless. For them every garden is a botanical garden. Then, many persons fully appreciate the beauty and the scent of flowers, and enjoy selecting and arranging them for a room, who cannot abide to handle a fork or meddle with mother earth. Others again, amongst whom I number myself, love not only the lore of flowers, and the sight of them, and the fragrance of them, and the growing of them, and the picking of them, and the arranging of them, but also inherit from father Adam a natural relish for tilling the ground, whence they were taken, and to which they shall return."

In town gardening Mrs. Ewing took a warm and special interest, and in a letter written to me a few months before her death, she expressed a wish that general attention could be called to its pleasures and its possibilities. Now the fact is that people living in towns, and particularly in London, make up their minds far too readily that nothing can be done except what the "jobbing gardener" does, and moreover that no one but he can do even that. Whereas, the secret of enjoying a garden to the full, lies in tending your flowers with your own two hands, bending your own back to reach them, and straining your own eyes in the ceaseless watch that must be kept against their enemies. Very tiring it sounds, no doubt, and very hot, and imperious in its demands upon your time ; but let experience, and not imagination balance the merits and the demerits of the system, and you will find that there is such a thing as refreshing fatigue, and that the gradual mastery of difficulties has a fascination all its own.

Comparatively few women, even in the country, have any personal knowledge of the soothing, strengthening, exhilarating power of gardening. The mere putting forth of a little bodily effort reacts healthily on the mind, while the diversion of thought into fresh channels, the up-springing of a new interest, daily renewed, and the gradual acquisition of practical knowledge, all contribute to swell a chorus of "Begone dull care !" —Who could count the worries that have been forked into stiffish borders, the vexations that have been plucked up by the roots with tough weeds, the fits of depression that have been buried whole with the trowel. In smoky towns, notably in London, it is true, certainly, that the expectations of would-be-gardeners must be closely pruned at first, but we all know that pruning encourages a more generous, if not always a very rapid growth. And when the beginner has learnt by a little experience what she cannot do, the fog of *probable failure-in-the-abstract* clears slowly away, she can see to mark out the boundary lines of the situation, and presently the pleasure of discovering what she can do will be found awaiting her within the new enclosure. Let us therefore address ourselves to the consideration, first, of the difficulties presented by the typical London garden, and carefully separate the invincibles from those which may be robbed of their arms, if not converted into actual allies.—*C. A. G.*

THE WOODLANDS, STREATHAM.

It needs but a glance from the gateway along the smooth carriage-drive edged with ornamental tiles and brightened with flowering plants fronting the neatly kept shrubs and stately trees, in which nestles the comfortable residence of R. H. Measures, Esq., to tell one in search of good examples of gardening that he has discovered a worthy specimen of that in which he is interested. A closer inspection proves that he has not been deceived, and that it would be difficult to find a better kept garden in which the various kinds of plants are grown, from a showy herbaceous perennial up to a splendid collection of Orchids, in the neighbourhood of London. The garden is gay with Roses, which have done remarkably well this year, with a sufficient quantity of the ordinary bedding plants carefully arranged with a view to effect, with loosely rambling and profusely flowered Jessamine and Honeysuckles, with a great variety of herbaceous perennials in flower in the border which runs round the whole of the garden towards the paddock and kitchen garden, and with various flowering shrubs planted here and there, while a homely and rural appearance is imparted by some fine old Walnut trees, an occasional Apple, Pear, or Chestnut tree of large size, some fine Thorns, Acacias, Elms, and conifers, all of which are fine objects, some of them harbouring shady seats, and others giving a great show of flowers in their season, which are none the less acceptable that they are borne on well-known trees. One of the brightest and most effective of these shrubs is the golden-leaved Elder, several fine bushes of which appear along the herbaceous border.

The Plant Houses.

These consist of thirty-five structures of different sizes, all characterised by their neatness and the perfect arrangements made for ventilation, a matter which is much studied at The Woodlands. Among other good arrangements for this purpose, the skeleton doors covered with close netting, used in summer instead of the ordinary wooden doors, cannot be too highly spoken of. If more of our growers were to adopt them there would be fewer delicate plants killed in summer than there are. Another matter observable throughout the houses is the lightness and strength which is imparted by the use of the neat spiral iron supports wherever such are required. These are much stronger than any other kind of pillar, and light and ornamental as well. Also a feature worthy of notice is the use made of stone-ware edgings, pedestals, vases and fountains with a view to neatness, and as aids in making the arrangement of the plants more effective ; and another matter worthy of observation is the hard granite-like flooring of the walks, which are made all over the place, indoors and out, and in the making of which perfection seems to have been attained here, although in many places where it is attempted but indifferent results are obtained, probably from a want of knowledge of the proper ingredients and proportions.

Of the thirty-five houses some twenty are devoted to Orchids, and it may fairly be said that the whole of the large and varied collection is in the most vigorous condition possible. This is as it should be, where so much care has been taken in providing suitable quarters for each section. One of the most successful additions is the new cool range in three divisions, each fitted with the open woodwork stage over the close one, which seems to give a better chance to all Orchids. The first contains a rare selection of Lælia anceps, some of the new white ones being very large masses ; and the still handsomest L. a. Dawsoni represented by several good specimens. The other side of the house is filled with Odontoglossum grande, O. Insleayi splendens, and others of that class. The second division contains a fine lot of Odontoglossums, with scores of sturdy plants of the scarlet Sophronites grandiflora overhead, and the third section holds the Masdevallias, in bloom being M. Harryana in many varieties, including the rich maroon-striped M. H. versicolor, M. Peristeria, literally surrounded with flowers, M. Reichenbachiana, M. Bella, M. Backhousiana, &c. The Chimæroid varieties are suspended overhead, and are profusely flowered.

Cattleya and Lælia Houses.

The several Cattleya and Lælia houses are rich in large specimens of L. purpurata, of which, perhaps, a dozen distinct varieties are here. The Lælia elegans, too, are equally good, one of the forms being a beat on the old L. e. Turneri, which is saying a great deal for it. Also allied to this species is the unique L. Measuresiana, figured in *The Orchid Album*, a very neat and handsome species with a peculiarly frilled labellum. Other noteworthy plants are the finest Cattleya labiata Pescatorei, an autumn flower with three large double sheaths well advanced ; Cattleya Gaskelliana alba, the loveliest pure white Cattleya, and one of the only two pure white Gaskellianas we have seen. Well in bloom in the Cattleya house are a quantity of the showy Cattleya Gaskelliana, the white C. Wagnerii, many forms of C. Mossiæ, and C. Eldorada, some superb Cattleya gigas, with grand expansion of their velvety crimson labellums ; a few C. Mendelli, C. guttata, and C. Schilleriana.

In the Phalænopsis houses are flowering two grand forms of the lovely P. Mariæ, one with twenty-four flowers, and the other the finest form, perhaps, which has yet appeared ; the flowers are large and wax-like, white, barred with violet. In the other warm houses appear Saccolabium Blumei majus, with twenty-five or more spikes coming up ; many Ærides and Vandas, the rare and difficult to grow Saccolabium Hendersoni, with two spikes ; Angræcum caudatum, a grand mass with many heads ; Cœlogyne pandurata, C. Massangeana, C. cristata alba, with twenty-seven leading growths ; Cypripedium Schroederii, C. Lawrenceanum, C. Roezlii, C. Parishii, C. Godefroyæ, C. niveum, Oncidium Papilio, O. Krameri, Pescatorea cerina, Coryanthes macrantha, Dendrobium Dearei, and other Dendrobes.

In the other houses are several very distinct forms of Lycaste Deppei, L. Skinneri alba, L. aromatica, Bifrenaria inodora zanthina covered with golden yellow flowers ; Oncidium curtum, several fine forms of Anguloa Ruckeri, Epidendrum prismatocarpum, Calanthe Textorei, &c., and in the cold house a nice lot of large-flowered white Odontoglossum Alexandræ, O. cristatellum, and a glowing batch of the orange-scarlet Epidendrum vitellinum majus, one superb form bearing heavy spikes of flowers, each over 2 ins. across.

The Flowering House, &c.

The large specimens of Cymbidium Lowianum, on pedestals, which have been frequently noted at The Woodlands, are in fine order, the small quantity of Jensen's Fish Manure which is applied to them seeming to impart astonishing vigour ; the collection of Calanthes also are very strong, a little assistance of the same kind being probably given them. The chief flowering house is always gay all the year round, and now very charming, its centre vase having for a middle plant an Odontoglossum vexillarium, which, although only in a 24-in. pot, bears nine beautiful spikes of bloom. Others equally well flowered are also in the house, arranged with Cymbidium Lowianum, Oncidium varicosum, Dendrobium superbiens, D. suavissimum, Cattleyas, many forms of Oncidium Jonesianum, &c., skilfully set up with Ferns and foliage plants.

Another flowering house, containing principally rare Cypripediums on the stages, and having an elegant fountain in the centre, has the whole of the roof covered with Odontoglossum citrosmum, of which we

ODONTOGLOSSUM CITROSMUM, AS GROWN BY R. H. MEASURES, ESQ., AT THE WOODLANDS, STREATHAM.

are enabled to give a representation from a clever photograph by Mr. Bertie Measures. The aspect of the house, with the numerous pendant sprays of large wax-like fragrant flowers overhead, exceeds anything of the kind we have seen, the delicate tint of the flowers varying in the different examples from pure white to clear rose, some unspotted and some dotted all over with purple, some with pale yellow centres, and some with dark orange, being indescribable. Evidently, this is the way to grow O. citrosmum to see its full beauty, and those who grow it in pots on stages hardly know what it is like when at its best. The heavy nature of the flowers and the slender flower-spikes suggests that the plant is one for suspending; nevertheless, we invariably see it grown on the stages in pots. We advise the adoption of Mr. Measures' plan.

In the Phalænopsis houses, the scarlet Anthuriums and Pitcher Plants are grown on the stages, over which the Phalænopsis are suspended, and in the other plant houses are some good examples of stove and greenhouse plants, well flowered, such as Eucharis, Bougainvilleas, &c., and all the houses are liable to be used for the accommodation of any special Orchid they may seem to suit.

Several Fern rockeries under glass are also to be found at The Woodlands, the most interesting of them being that belonging to Master Bertie. A word must be said for Mr. R. C. Fraser, the gardener, who has now occupied his onerous post long enough to prove that he is the right man, his charge, which, be it said, was in good condition when he took to it, showing marked improvements under his hands, nevertheless. With such a kind master as Mr. Measures, who spares no expense, and who is himself a good Orchidist, such a diligent young man should show us great things, and that with pleasure and comfort to himself.

HINTS ON VINE CULTURE.

This formed the subject of an interesting paper read by Mr. Alfred Waters, of The Gardens, Farington House, to the members of the Preston and Fulwood Horticultural Society, at a meeting held on Saturday evening last in Preston. Mr. E. Garlick, J.P., presided, and there was a good attendance. After a few remarks from the chairman on the importance of Vine culture Mr. Waters read his paper. In it he devoted particular attention to Vines in full bearing strength, and dealt with the four Vineries in the following order :—Early Vinery, second early house, Muscat house, and late house, noticing only such varieties as were best known and most suitable for supplying Grapes throughout the year. The early house was filled with the favourite Black Hamburgh, with one or two Vines of Forster's Seedling as companions. The treatment of one suited the other. To have fruit ready for table at the end of April or beginning of May, they must commence preparations immediately the fruit of the season was taken off, by examining the border. Providing it had been kept on the dry side for the good of the fruit, the syringe must be used freely, once or twice a day according to the weather. Endeavour to keep the foliage fresh and clean, and if the sub-laterals showed signs of growing stop them in the usual way to prevent overcrowding. This would cause the eyes which were to produce the next crop to plump up and appear almost ready for growing again. Keep the house open night and day.

As to pruning, he preferred to do it early in October, even if there were a few golden leaves on, than forcing them off by drying the border. In pruning not less than two or more good eyes must be left from which to select the forthcoming crop. Then very lightly prick over the surface of the borders, and with a wooden rake and broom remove refuse, manure, and rubbish ; dress the borders with fresh loam with a little lime rubbish added, and when plenty of manure is at hand from stables and cow-yards put on a good coating. This is better to water upon, and from it the Vines derive sufficient food until the fruit has been thinned. At the end of October close the early house, damp the border with tepid water, and syringe the Vines twice daily until they flower. No artificial heat should be applied for two or three weeks, but the second or third week in November apply just sufficient to maintain a temperature of 40° to 45° gradually rising as the Vines break until the flowering period when the night temperature will have reached 60° to 65° with a rise of 5° in the day by fire-heat, and 10° or 15° by sun-heat. While the Vines are in flower the atmosphere should be somewhat drier until the fruit is set, when the water-pot may again be freely used. He favoured syringing on fine days, with water heated to the temperature of the house until the Grapes began to colour, providing the water was soft and free from filth. Watering being an important operation it must be attended to regularly and liberally. The system carried out by him—and which applied to all houses except those started later and doing their work in the warmer months of the year, when three or four times the quantity of water was necessary—was to use in the principal Vineries, 40 ft. long, from the end of March and throughout the summer months, on all bright days, no less than seventy to eighty gallons of tepid water, and when very hot as much as a hundred gallons in a day.

This constant and liberal system of damping, encouraged the roots to form a regular mass of feeders all over the surface of the soil, supplied the essential food for the foliage, and afforded the best means to keep in check that destructive pest, the red spider. Additional to the daily supply, a good watering is given every ten days or a fortnight, the amount depending on the amount of evaporation, which was only known to cultivators with a knowledge of their charge. Vines in a healthy condition required double those in a weakly state. He advocated the use of water of the temperature of 65° to 80°, and, after the fruit commenced to swell, to add manure water in small quantities from stables and cow yards, especially if the border was rich. To those termed poor he believed in using Thomson's Vine manure in preference to souring borders with liquid manure ; good guano, when an excellent quality could be secured, was advantageous. The occupants of the second early house should be similar to those in the earliest house, unless it was thought desirable to have a few large bunches, when a Vine or two of Trebiano or Raisin de Calabre will answer the purpose, and be good mid-season white Grapes. In this house, if started about the end of January, the fruit will be ready for the table by the end of July, and will supply plenty of Grapes until October and November ; the treatment of the former house will do for this. He deprecated the attempt to grow monstrously large bunches of Grapes.

In the Muscat house little variety should be introduced, as no Muscat Grape could equal the well-known Alexandria, either for free fruiting, flavour, or keeping properties. Muscats in general required more attention than Hamburghs, or any of the more freely setting kinds; and the temperature should be 5° or 6° higher than the early houses. He closed the Muscat house for starting not earlier than the middle of March. This gave six clear months for the fruit to grow and ripen by the end of September. Notice is given to maintain regular temperatures at the end of March, commencing at 45° at night, increasing it as the Vines break, and when nicely growing give 70° as the night heat. While the Vines were in flower, he gave 4° or 5° higher, until all were set, when it was lowered again to 70°. As to watering and syringing, Muscats were treated the same as other varieties. In noticing the late or Lady Downe's house, he said the cultivator's skill and strict attention were called for specially in this department. There was no other black Grape to equal it, and it grew and fruited well in the same house as Gros Colmar, Gros Guillaume, and Madresfield Court, all of which were good keeping kinds, except the last named sort, which was subject to cracking. He found that scalding might be greatly prevented by allowing sufficient foliage to protect the berries from the direct rays of the sun. Some advised a little shading by syringing slacked lime or any other prepared article upon the glass over the Vines ; the practice was simple, and possibly effectual. The foliage was not only beneficial in preventing scalding, but was advantageous whilst colouring.

His experience taught him that all black Grapes would colour well under a quantity of foliage. This was particularly impressed upon him two seasons ago, when in a late house filled with Lady Downe's and Mrs. Pince, the foliage was allowed to shade the fruit as much as though the house were covered by thick tiffany, with the result that it was the best even well-coloured crop he ever saw. Early ventilation must be strictly attended to. The Madresfield Court was a handsome and excellently flavoured fruit ; it fruited freely under cooler treatment than any other kind, and its flavour improved by keeping. The serious fault of cracking, to which it was subject, might be considerably reduced by the Vine being planted at one end of the house, with its roots separated from the other kinds by a brick wall built across the border to the depth of the drainage ; if so separated, it was an easy matter to withhold water as circumstances required. When the fruit began to colour, water should be given in small quantities, only sufficient to finish the fruit. When the berries had attained their full size, the laterals bearing the bunches might be partly severed with a sharp knife, which would be a sure check to the flow of sap ; the depth of the cut must be regulated by the size of the bunch beyond. Where the borders were divided, cutting off the laterals was not so necessary, because the roots might be kept in a somewhat drier state ; the two extremes must be guarded against.

Proceeding, Mr. Waters briefly alluded to disbudding and stopping, the causes of mildew and rust, and how to check them, and bottling or keeping the fruit. Disbudding, he said, should commence as soon as the young shoots were 1 in. or 2 ins. in length ; superfluous buds should be removed, those most likely to produce a good bunch being left. It was a mistake to allow young buds to remain until the bunches could be perceived ; this was not only unnecessary, but a waste of the Vine's energies. The usual practice was to stop the shoots at two points beyond the bunch ; but where there was room for the foliage to develop he allowed three. The greater quantity of fully developed foliage the more vigour was induced. The first stopping should always be done with the finger and thumb ; the use of a knife wasted the energies of the plant. The future stoppings required care ; they should never cause a check to the vines. In case superfluous growth has taken place, serious check might be avoided by taking the strongest out first, and after two or three days take out a little more, and in the space of ten days the Vine will be again under command, and, probably, little the worse. Mildew was a destructive fungus, and if allowed a footing in their Vineries, would very soon work sad havoc with the crop, and render it useless. Its introduction was brought about mainly by a cold and damp atmosphere, and in such weather the pipes must be kept well warmed, and a little air admitted during the day. Dusting with sulphur was the best remedy known to him. On no account would it be wise to sulphur pipes while the berries were very small and tender, as it would cause rust, which was very unsightly where a crop was in the least degree affected. The principal cause of this was a hot and parched atmosphere, and it might be the result of being touched by a man's hand when perspiring. In conclusion, he dealt with keeping fruit. He explained a system adopted by himself, and said that the temperature of a room for this purpose should be about 40° to 48°.

A discussion ensued, in which Mr. Terry, of Ashton Park, stated that an inspection of the Vineries under the care of Mr. Waters showed that he was capable of attaining a high degree of perfection in the culture of Vines ; the plants were in a thoroughly healthy condition. Mr. Swan, of Howick House, having spoken of the excellency of the paper, proposed a hearty vote of thanks to Mr. Waters ; the chairman seconded the proposition, which was carried with acclamation.

DOUBLE HYBRID POTENTILLAS.

These, at the present time, are most interesting and showy among the many hardy perennials in flower. They are always admired when seen, but that alas ! is too seldom, and I sum it up in this way. As a matter of fact, the Potentillas are of not much use in a cut state, and, in consequence, they do not figure at horticultural shows nearly so frequently as they ought to do to bring them before the public view. Again, they can hardly be grown to perfection in pots. They are, indeed, absolutely and essentially border flowers, and as such can hold their own with most flowers of their time. In the present instance, I have pointed out the weaker points of a charming group of plants ; therefore, let it not be said that praise is always bestowed without reference to any weak point which might have existence.

In the Potentilla we have nothing fastidious—nothing that requires any special mixture of soils in which to grow them well, for provided you give them a rich fertile loam, and secure well-established plants to begin with, their failing is next to impossible. They root deeply in rich border soil, and, in consequence, do not feel excessive drought so quickly as those which root so freely near the surface. The rich and varied hues of colour which are to be found in this little group of florists' flowers, as well as the combination of tints to be found in some, are quite unique, and so brilliant and effective are they that it is a great wonder they have not made greater headway than they really have. A selection of them should find a home in all good gardens, large or small, for they gladden the eye beyond measure ; and, further, their convenient size and compact habit of growth so specially fits them for the most select garden.

Assuming a natural growth, too, on the rockery, they are highly decorative subjects, and are thus at an advantage consequent upon their slightly trailing habit. The flower-stems issue from amidst a compact tuft of Strawberry-like leaves, and support a great number of their brilliantly-coloured blossoms. These expand in one unbroken chain, and continue producing flowers in quantity for weeks in succession. One little interesting fact anent these flowers—they are great sleepers, nightly closing their richly-coloured petals of crimson, scarlet, and gold, and rejecting, as it were, the freshening dew which is welcomed by so many.

There are several ways of increasing them—viz., by division, by cuttings, and by seeds ; the two former are those employed in the case of named kinds, and the latter will be found the "field"—the open course for the hybridist and all who are in search of new and improved kinds. Cuttings, it may be remarked, are best torn off from the main root-stock with a heel attached, and inserted without further trouble in sandy soil under a handlight, well watered and shaded when necessary. They may be divided about the middle of April, or as soon as they have ceased flowering, and by being potted and placed in a cold frame for a week or two, will hasten the forming of new roots, and when well rooted remove the lights, and finally transfer them to the open ground.

Some of the best kinds are to be found in the following:—In Californie, Gloire de Nancy, Carnival, and Reve d'Or we have all golden selfs, very bright and effective; in Hamlet, Belzebuth, Louis Van Houtte, Touissant Louverture, and Star of the North we have flowers of a deep velvety crimson hue; the remainder are combinations of scarlet, orange and gold, while in some the marblings are very remarkable. For instance, Wm. Rollisson has mahogany-coloured blossoms suffused with orange, Mars is a reddish chestnut, Jupiter glowing crimson, Dr. Andre gold suffused with vermilion, Jane Salter orange and scarlet, Victor Lemoine bright vermilion, Madame Rouillard rich scarlet amber shaded, and so on, while Versicolor as a flaked variety stands out alone. The varieties at present are anything but numerous, for the simple reason that improvements upon existing kinds among seedlings are rare, and one might raise hundreds without producing anything superior—at least, such is my experience. Still, the desire for improvement is great, and as it cannot be had without a deal of patience and work, we cannot do better than work and wait.—*J.*

"DISTINCTNESS."

The difficulties presented to judges at flower shows too often arise from the haziness which encircles the terms "kind" and "variety." Most certainly these should not be regarded as identical in meaning, and before schedules are framed, the real meaning of each term should be thoroughly understood and made clear. Now "kind" signifies family or species, which is, perhaps, more restricted. As, for instance, all Peas may be of one family, but everlasting, sweet, and edible Peas, are of distinct species; and here we are led to the subject of distinction in vegetables for instance. Thus of Peas or Potatos we are satisfied if the schedules asked for so many dishes of either, "distinct," because no two dishes must be of the same variety, and the addition of the term "varieties" seems superfluous, although still correct. But when we come to a collection of vegetables, "distinct kinds," or, perhaps, worded "twelve kinds of vegetables," we know at once that it signifies actual distinctness of kind, and not of variety, so that no two dishes of any one kind, whether Peas, Potatos, Cucumbers, Cabbages, &c., are admissable.

We find the same simplicity may be found in the case of fruits, by the interposition of the descriptive term where needed. Thus a collection of "twelve kinds of fruits" could not include two dishes of Grapes or Melons, or indeed of anything else. On the other hand, if simply put twelve dishes of fruits, distinct, the fullest liberty is given to the exhibitor, because diverse varieties even of the same kind are held to be distinct. In Grapes, for instance, there is a sort of captious admission that white and black Grapes are distinct, though really diverse coloured varieties of one kind of fruit, and yet there is otherwise, perhaps, less difference between a Black Hamburgh, and a Foster's Seedling, than there is between the former and Madresfield Court, or between Foster's Seedling and Muscat of Alexandria. In asking for collections of fruit, therefore, it is as unfair to admit white and black Grapes into it as distinct, as to admit white and purple Potatos into a collection of vegetables, unless such admissions are specially stipulated for. Wherever collections of twelve dishes of vegetables or fruits are invited, and it is felt that absolutely distinct kinds cannot be furnished, then it should be stipulated that not less than eight distinct kinds should be exhibited, and that would prevent much duplication of kinds.

In the case of cut flowers, it should always be easy to understand what "kinds" mean, and that varieties of the same kind are excluded. As, for instance, two varieties of Roses, Fuchsias, Pelargoniums (the zonal and show varieties being held as distinct kinds), Allamandas, Ixoras, &c., should not be admissable. The class for "twelve bunches of cut flowers" may give trouble to judges, simply because the wording of the class is indefinite. If the wording ran "twelve kinds of cut flowers in bunches," there could be no doubt as to the meaning, even if the word distinct be not added, because when twelve kinds are specified, distinctness is obvious. "B. L.'s" representation as to what he would do with cut Roses amongst stove and greenhouse flowers, seems hardly fair, as the flowers may have been gathered in a Rose house. Would he apply such a law to Clematises for instance, which are hardy plants, and yet very commonly grown as greenhouse plants also? I feel that every difficulty arising at shows in the matter of descriptions, might be surmounted if committees would adopt some simple and common sense wording, and carefully draw their classes, so that absolutely what was desired should be secured.—*A. D.*

FRUITS, FLOWERS & VEGETABLES.

Exhibiting Pansies.—An original subscriber to your journal, and an admirer of the sound sense of your articles, I am anxious to enlist your assistance in a matter of small importance to most of your readers, but still of sufficient interest to a few. To make a long story short, I want to secure your services in bringing the public, and more especially judges at provincial shows, to see that the manipulation of flowers by exhibitors, detracts rather than adds to their beauty; and, if possible, to get these latter to discountenance such manipulations. I have in my mind's eye, more especially, the torture to which the fancy Pansy is subjected. The Pansy has been called the poor man's flower, not because of its meekness when subjected to cruelty, but because of its price being within the range of the poorest, and for this very reason I should like to see it shown in its native simplicity and beauty. Whether in the garden of the rich or poor, the Pansy offers an example of the combination of colours in nature, which must always be interesting to the æsthetic eye. Now sir! to see this beautiful flower in its natural state, growing as nature intended, and to see it in the show stand in its stiff and formal starch, is, indeed, a downcome to be compared to nothing but the difference between natural and artificial flowers. The florist may be right, and I believe he is right in striving to attain an ideal in the shape and colouring of his flower, but surely a judge should discriminate between what is natural and what is artificial, and should not adjudicate when obviously the merit lay not in the flower, but in the manual dexterity shown by the exhibitor. I do not refer to the arrangement of the flowers in the stand, as to colour, but to the screwing, twisting, and pinning, to which the petals are subjected. A Pansy in its natural condition rarely has the under petal recurved, but, still, look as you may in a show and you will fail to discern it otherwise, and so with the other petals, all are turned back, turned in, or trimmed and made to look as artificial as possible. To add to the absurdity, circular pieces of white paper, plain in edge or scalloped, according to the fancy of the exhibitor, are placed under the blooms by way of a set off. Fancy a Rose with a paper collar on!—*Wm. Hy. Murray.* [Our sympathies are entirely with our correspondent, but we know from experience that constant protesting against established customs, however objectionable they may be, is very thankless work. However, we shall continue to direct attention to such matters as opportunity offers.—Ed.]

Own Root Roses. — Your correspondent "Scolytus," page 711, very properly observes, "Now is the time to go among Roses and observe results." I never lose an opportunity of doing so, both among my own and in neighbouring gardens. One of the things to compare is Roses, say, on briars and on their own roots. In so far as my experience goes, and it is pretty wide, Roses on their own roots will be in great demand in the future. In size, vigour, and quantity, not to mention durability, they are much the best. I am constantly asked what do I think prevents a standard from flowering freely, or why is it sickly-looking, or why is it dying? A look shows that the stock had probably seen twenty summers before the bud was inserted, and if you pull it up you find hardly a root. This I have noticed repeatedly. I hope before October to tell you fully how I succeed in propagating cuttings in the open air without difficulty.—*W. J. Murphy, Clonmel.*

Fabiana imbricata.—We usually associate this charming plant with the conservatory, where it is occasionally seen growing. It, however, has been our good fortune to see it flowering in profusion on a south wall in Messrs. W. P. Laird & Sinclair's nursery at Monifieth, where it had been planted out about ten years, fully exposed to the blast from the German Ocean, quite unprotected and uninjured. It now covers a space of 6 ft. by 4 ft., and is absolutely clothed with spikes of pure white flowers, 18 ins. in length, like sprays of Cape Heath. We should think this planted alternately with Ceanothus in a more favourable situation would give a most chaste effect. It is a plant that cannot be too highly recommended, and a nook should be found for it in every garden.—*G.*

Table Decorations.—I see you give an article on "Table Decorations" in your last number. It may be of interest to some of your readers in connection with said article, and with that on "short stems" to know that a very effective way of dealing with short-stemmed flowers is to make use of a common soup plate with a small upright specimen glass in the middle of the same. With a foundation of Ferns or Tansy leaves to cover the edges of the plate, and to hold up the flowers, a very handsome show can be made.—*Puzzled.*

New Peas.—In the vegetable section of the show held at South Kensington, on Tuesday, Messrs. James Carter & Co. exhibited samples of no less than eighty varieties of Peas, and though of necessity some of them were approaching the ripening stage, and others had but comparatively recently "started," the collection created a considerable amount of interest among those desirous of making comparisons. Among the varieties thus exhibited were two unnamed seedlings, which seem to us to be most desirable acquisitions, and which anyone can see growing at the Forest Hill Nursery. The first belongs to the same type as Telegraph and Telephone, but in the colour of the foliage and the Peas is of a darker hue, while the pods are fuller and the flavour better, which is saying a good deal, for Telephone especially is very hard to treat. But an even milder and more delicious variety than either of the above is a seedling from Best of All and Telephone, which, in appearance, comes nearest to Fillbasket, but is of a different colour and sweeter. It grows about 4 ft. high, crops right up the haulm, and the pods are a little scimitar shaped. This may not be sent out for a year or two, but it will be worth bearing in mind.

Pansies.—Ophelia told us that Pansies "are for thoughts." The lovely flowers have served for thoughts in many ways. Very pretty thoughts are expressed in the following lines, sent with a basket of these flowers to Frederick Fraley, one of Philadelphia's honored citizens, on entering his eighty-second birthday, by the Rev. Jessy Y. Burk:

"Pansies to 82!
A tribute strange—
But stranger still, such opportunity.
Of most of human kind the heart is dust,
Its tumult stilled, its passions all at rest,
Long ere such venerable years are gained.
Some linger on a vegetative life,
In circles ever wider from the heart,
That slowly dies to all the outer world
And finds inglorious ease in selfishness.
But thou, O friend, in whom the living heart
Is most alive—to thee Heartsease I bring—
A fitting tribute to the peace it holds,
Heartsease in retrospect—these purple hues
A token of the toils ands orrows past
That only chastened—did not spoil the life;
These sky-like blues, an emblem of to day,
Serene and calm, when all is well with thee,
And life is fragrant with the autumn fruits
Now ripened to the full; these golden tints
A symbol of the light in that fair land
Not far off now, where fuller heart's ease blooms.
And so I bring
Pansies to 82!"

—*Gardeners' Monthly.*

The Late Mr. Sargeson, whose demise was noted in your last, was born at Coniston, Windermere, in the early part of this century, and his father was steward and bailiff for over forty years to Lord Wrottesley, near Wolverhampton. Where Mr. Sargeson served his time I do not know, but he was for some time in the nurseries of the late Mr. Knight, at Chelsea (now Messrs. Veitch's), and from there he went to Newland Park, Normanton, Yorkshire, where he lived for twelve years, and on the death of Sir Steward Dodsworth he entered the service of Sir Thomas De Trafford as gardener at Trafford Park, where, after forty-four years service, he died, aged eighty years. So highly was he esteemed by the De Trafford family, that he was provided in his old age with every comfort, and two men were always at hand to wheel him about the park and through the gardens he loved so well. Before interment, the coffin was placed upon a bier in the entrance hall of Trafford Hall, and Lady Annette De Trafford herself placed the first of many beautiful wreaths upon it. Sir Humphrey Francis De Trafford, Bart., followed the faithful servant to his grave, and the churchyard at Barton was filled with sorrowing friends.—*N. J. D.*

Profitable Gardening.—I have a heated span-roofed house, 60 ft. long and 11 ft. wide, and am located fifty miles from London and eight miles from a railway station. What can I plant it with that would be easy of culture and yield the best return?—*H. W., Essex.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The stock of Cinerarias and Primulas are now quite ready for potting on. If the former are left to become pot-bound they rarely make good plants, added to which it is most difficult when in such a state to ward off the attacks of aphis, with this particular plant a troublesome pest. The foliage lying flat on the soil, the fumes from the tobacco-paper or cloth cannot be given in sufficient strength to kill the fly without running the greatest risk of scalding the tender foliage. Light fumigation on alternate nights four or five times is better than a strong dose, shading rather heavily during the whole length of the operation, after which treat as before advised. We have also given our earliest batch of Primulas their flowering shift (6 ins.), and these, after being kept rather close for a few days to start them, will be treated much in the same way as the Cinerarias, and are also grown in a north frame. By the removal of the lights at night, the foliage becomes much stouter than if kept shut up. We always peg the plants at the collar as potting proceeds, which prevents rocking and consequent injury during the staging of the plants. I might also add that Primulas will not require such heavy sprinklings overhead as the Cinerarias, or damping and spotting of the foliage will be apt to follow. Give an abundance of air throughout the day, with shading according to the state of the weather.

Zonal Pelargoniums which have been flowering since early spring should now have a rest, and will be benefitted by a small shift. Let them be removed from the houses on to an open ash border, fully exposed to the sun, remove all flower as it may appear and encourage a short-jointed stocky growth, and then when introduced to the house again in the autumn, the attention bestowed will be amply repaid. A few cuttings of all those it is intended to increase should be now put in, potting off as soon as struck; with their full foliage these will be found very useful for facing the older plants, and will replace the older stock in the spring. Show and fancy Pelargoniums being now past their best, it will be advisable to remove all the plants from the house to some sheltered spot outside, gradually reducing the supply of water that the plants may thoroughly ripen. We always take off cuttings before the wood becomes at all hard, striking them as quickly as possible, and growing them on they make good flowering stuff in 6 in. pots in the spring, and are most useful for decoration when of that size.

Keep a sharp look out upon the stock of Azaleas or thrip may become established and make a sad mess of the foliage; be very careful in the matter of watering, and ply the syringe very freely morning and evening, and where plants have been in the same pots for a great length of time, and are consequently becoming exhausted, a watering of clear liquid manure should be given to enable them to perfect their growth and be well set with bloom.

THE FRUIT HOUSES.

With the excessively hot weather, care must be taken that the Fig house does not suffer from want of water, as the slightest neglect in this respect will cause the forfeiture of the crop; we gave the border of our house a good soaking, and the second crop of fruit is now swelling away fast, and will come in most useful for dessert, though of course they will not be of the size of the first crop; syringe freely, and allow plenty of air to circulate through the house during the day, shutting up rather early in the afternoon with abundance of atmospheric moisture inside; a good soaking of manure water now and again will greatly benefit the crop. Take care that the Peach borders are not allowed to become dry, and also freely syringe the trees night and morning.

To-day, July 12th, we have quite a change in the weather, being dull and rather cold, so we have had the fires started to keep the houses comfortable, more particularly is this necessary with the Muscat Grapes and Melons. Let air circulate freely through all the Vineries, so that thorough ripening of the wood may be secured, and where there is an abundance of laterals, those not carrying fruit may with benefit be pruned back to about three leaves, of course this only applies to houses where the fruit is ripe, or very nearly so. During the colouring period, in all black Grapes it is advisable to encourage a free unrestrained growth. Look well to the thinning and training of Melons and Cucumbers or they will soon become entangled. We hope to plant our late batch of Melons towards the end of the week. Take care that the Strawberries which were layered out of doors are regularly supplied with water, so as to induce them to root as quickly as possible, and if time can be spared, prepare the compost for potting when ready.

THE KITCHEN GARDEN.

With the change of weather we are quite busy in this department, planting out the remainder of Broccoli, Kales, Couve Tronchuda, and other winter stuff; the ground is so hard that we are compelled to use the crowbars for making the holes, and we plant also from the thick manure as advised last week. The rain we have had has made but little impression, but still sufficient to enable us to put in a good square of Turnips, which will be our last sowing for this season, also a good sowing of dwarf French Beans. To-day we have sown in boxes Ellam's dwarf Cabbage, which will be pricked out as soon as large enough to handle. We hope also to make a good planting of Lettuce within a day or two, and also make another sowing, taking care that a good pinch of Brown Cos is sown this time in case of early autumn frosts; this comes in extremely useful as the Paris varieties are so very tender and easily damaged by frost.

As the Pea crop goes over have the haulm removed at once, and Cauliflower take its place. Earth up the Celery as growth advances, and give an abundance of water to prevent stringiness. If not already done, lose no time in cutting all herbs for drying for winter use. As the Strawberries are done with have the nets removed and placed over either Gooseberries or Currants. Look well to the Morello wall for the birds pay the greatest attention as soon as colouring commences. As the Roses go out of flower have the plants carefully cut over, equally for neatness sake, and also to benefit the young growth now appearing, so as to ensure a good second blooming. Prune all shrubs where necessary, using the knife to single specimens, avoiding formality as much as possible. Keep all verges frequently edged with the shears and mow regularly.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Dendrobium Williamsianum.—This very rare Dendrobe is now in flower with Mr. B. S. Williams, of Holloway, for the first time in this country, and well deserves the eulogium passed upon it by Professor Reichenbach when he described it in 1878. It was shown at South Kensington on Tuesday, and readily obtained recognition of its merits in the shape of a First Class Certificate. The plant was collected by Mr. Goldie in New Guinea, but owing to various causes, including an unlucky accident or two, fully developed flowers have not been seen until the present time; but it proves to be a gem, and quite distinct from any other Dendrobe. The sepals are nearly white, the petals pale rose coloured, and the broad well-rounded incurved lip of a rich warm purple colour, with the margin of a rosy shade of red. A very pretty species.

Cirrhæa saccata, *Lindl.*—Few botanic gardens contain more botanical treasures than the beautiful one at Glasnevin, Dublin, and none a more energetic pursuer of them than its clever young curator, Mr. F. W. Moore. Unfortunately we do not get notice of the rare things there in bloom so often as we should like. A correspondent, struck by its quaintness, informs us that the above-mentioned curious plant is there in bloom, one of its long drooping spikes bearing upwards of thirty clear greenish yellow flowers, with orange tips to the labellums. They are fragrant and attractive on account of their dissimilarity from the other things in bloom. C. saccata has the habit of growth of a Gongora, and produces its flowers in the same manner.

Cypripedium caudatum Grown Cool.—At the meeting of the Floral Committee, on Tuesday, Sir Trevor Lawrence, Bart., M.P., rendered Orchid growers good service by exhibiting a handsome specimen of the singularly beautiful Cypripedium caudatum, which had been grown for five years in an Odontoglossum house, and which, although flowering much later than its usual season, proved by the remarkably healthy, vigorous character of the growth, that cool treatment is the best for it. The plant bore three spikes of six flowers in all, and the leaves were of a very different shade of green to those grown in the warm house.

FLORICULTURE.

Dahlias.—In some localities, where the drought has been severely felt, Dahlias are not growing kindly, they are becoming drawn, and the growth is slender instead of being robust and vigorous. The Dahlia will take any amount of water when it is growing freely, and our advice to cultivators, and especially to such as are contemplating exhibiting, is—to water freely, both at the roots and overhead; let the water so employed have the benefit of the sun by day, and be sprinkled over the plants in the evening. Some thinning out of the main shoots is necessary, and such sorts as require it should be disbudded; but this is so much a matter of experience picked up by the cultivator, that it is very difficult indeed to lay down any exact rule concerning it. It is well to tie out some of the principal branches to stakes, that the air may freely circulate among them. Earwigs will soon become troublesome, and they need to be well looked after; if once they pierce the centre of the swelling bud, the flower will be practically useless for show purposes, and a good mulching must be given to the plants in order to keep the ground cool and moist about the roots. Dry weather does not favour the development of good Dahlias, hence the necessity for close watchfulness on the part of the cultivator.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*July 13th.*—Roses and herbaceous plants, fruits and vegetables were the staple subjects at this meeting, and the honours may be said to have been divided between them, for they were all good, and collectively made a capital little show. The principal Rose exhibitors were Messrs. William Paul & Son, Waltham Cross, who were awarded a Silver-gilt Banksian Medal for a superb lot of blooms, the size, freshness and brightness in colour being very remarkable. Messrs. Paul & Son, Cheshunt, also staged a very fine lot, and secured a Silver Banksian Medal; while Mr. T. Bunyard, Ashford, was commended for a box of flowers of excellent quality. Mr. T. S. Ware and Messrs. Barr & Son, contributed between them a marvellous assortment of cut blooms of the hardy flowers in season, and Messrs. Kelway & Son, Langport, also contributed a goodly display of hardy flowers. Orchids were represented by a small group, admirably staged by Mr. Simpkins, gardener to R. J. Measures, Esq., Camberwell, who took a Silver Banksian Medal. Messrs. James Veitch & Son, Chelsea, contributed a singularly fine lot of cut blooms of seedling varieties of the showy Iris Kæmpferi, cut blooms of white, rose and blue-coloured flowers of Campanula calycanthema, and some pretty new Gloxinias. From Mr. W. Gordon, Twickenham, also some cut blooms of seven varieties of Japanese Irises, of which General Wolseley, Duke of Cambridge, and Incomparable had both size and pleasing colours to recommend them. Mr. R. Dean, Ealing, showed a capital lot of plants of the beautiful Mauve Beauty Stock, and also of the Giant Crimson Ten-week Stock, a very fine variety. Mr. W. Bealby, Rochampton, showed a cut spike of a splendid new Delphinium named Colbert, a freely-branched spike of double flowers of a rich red wine colour shaded with violet; and the Rev. W. Wicks, Shirley Vicarage, Croydon, received a Commendation for some very showy varieties of Papaver rhea. Two capital stands of Pinks, such as are now seldom seen at London shows, came from J. Thurston, Esq., Merriedale, Wolverhampton; and Messrs. James Carter & Co. had a double-flowered form of Silene compacta with bright rose flowers.

The new plants certificated were Impatiens Hawkeri, from Mr. William Bull, one of the finest of new introduction, the plant being a strong grower and free bloomer, yielding flowers of fine size, and of a brilliant crimson-scarlet colour, with a lovely blotch of violet in the centre (see p. 725); Aphelandra chrysops, from Mr. William Bull, a very handsome stove plant with bold dark green leaves, and the veins boldly defined with pale green or lemon colour; the flowers are produced on an erect terminal, four-sided spike, and with the bracts are yellow in colour; Oncidium macranthum, Southgate's variety, from Mr. Salter, gardener to J. Southgate, Esq., a form larger in size than the ordinary one, and the sepals are of a much deeper hue; Dendrobium Williamsianum, from Mr. B. S. Williams, a very rare species from New Guinea, noted in another column; Pelargonium, Ivy-leaved, Eden Marchi, from Mr. W. Bealby, Rochampton, a very fine, semi-double continental novelty, with large flat flowers of a bright soft rose colour; Phaius Humbloti, from Sir Trevor

Lawrence's collection, a beautiful new species from Madagascar, with dark rose-coloured flowers, having a conspicuous yellow blotch in the centre; Odontoglossum crispum, var. Mrs. Charles Dorman, from Charles Dorman, Esq., a very good pure white variety; Odontoglossum crispum Hrubyanum, from Baron Hruby, Kotin, Austria, one of the very finest of the heavily spotted varieties, a real beauty for which a very high figure was lately refused; Pteris serrulata, Naylor's crested variety, from Mr. J. Naylor, St. Hilda's Nursery, Harrow, the finest and most beautifully-crested variety yet introduced, the plant being neat in habit and the crested fronds so finely cut as to closely resemble a fine strain of Parsley; Rose, Grand Mogul, from Messrs. W. Paul & Son; a H. P. seedling from A. K. Williams, with the shape, substance, and form of petal of its parent, and of a brilliant dark scarlet colour; Papaver nudicaule miniata from Mr. T. S. Ware, a remarkably free-flowering form with pleasing, medium-sized orange-scarlet blossoms, a very fine thing; Ornithogalum aureum, also from Mr. T. S. Ware, a species from the Cape, growing about 8 ins. high, with flowers of a bright lemon-yellow colour; and a Ten-week Stock, named "Snowflake," from Messrs. James Veitch & Sons, a fine double white.

The fruit and vegetable show was decidedly the best we have seen this season, not so large as a whole as the display at Liverpool, but of a higher order of merit as regards quality. In a good class of black Hamburghs, Mr. Tavener, gardener to Sir A. K. Macdonald, Bart., secured the first prize with good sized bunches, well-coloured, and carrying plenty of bloom; and in a class for any black Grape, Mr. Goodacre, gardener, Elvaston Castle, won well with very fine samples of Muscat Hamburgh, the bunches being of good size, very compact, the berries well-swelled, and well-coloured for the date. Some neat compact bunches of Gros Maroc shown by Mr. G. T. Miles, Wycombe Abbey, were placed second, and third honours went to Mr. T. Osman, gardener, Ottershaw Park, Chertsey, for a very highly finished sample of Alicante. The Muscat of Alexandria class was the smallest, and only one sample bore the golden tint denoting perfect ripeness. This came from Mr. Cakebread, gardener to Sir Philip Rose, Bart., Rayners' Penn, and was awarded the first prize. From some fourteen dishes of fine Peaches, the judges selected for distinction in the order named, a grand sample of Gros Mignonne, shown by Mr. Seymour, gardener, North Mymm's Park, Hatfield; a fine dish of Galande from Mr. J. Wallis, Keele Hall Gardens; and another capital dish of Gros Mignonne from Mr. Cakebread. The finest dish of Nectarines came from Mr. J. Roberts, of Gunnersbury, the largest and best coloured half-dozen fruits of Lord Napier that have ever come under our notice. The second prize went to a good sample of the same variety, staged by Mr. Robbins, Hartwell House Gardens, Aylesbury; and the third to a prettily coloured lot, not named, from Mr. Seymour. The two Strawberry classes brought out an admirable lot of fruit, and for two dishes, the premier award went to first rate examples of British Queen and Dr. Hogg, staged by Mr. G. Garlandvoy, gardener, Stanhope Park, Greenford; and next in order of merit came Mr. Waterman, Preston Hall Gardens, Aylesford, with British Queen and James Veitch; and Mr. J. Seymour, with Eclipse and President, all of very fine quality. The best single dish, was a good one of British Queen, from Mr. J. Roberts. The Fig prizes went to Mr. Tavener, Mr. Howe, gardener, Park Hill, Streatham, and Mr. Wallis, all showing Brown Turkey. The Pines were unusually good in quality for Queens, Mr. Miles being first both for a pair, and a single fruit; the former weighing 10 lbs., and the latter, 5 lbs. 2 oz., examples that would take a lot of beating anywhere. The Cherry class was also a good one, and here for two dishes, Mr. Hudson, gardener, Gunnersbury House, Acton, was first with fine samples of Black Circassian and Bigarreau Napoleon, and his neighbour, Mr. Roberts, second with the last named variety and Black Tartarian. Among the fifteen brace of Melons staged, it was surprising how few were even passable in flavour, and those which secured the awards were certainly not first-rate. The first prize went to Mr. C. J. Salter, gardener, Selborne, Streatham, for a well-grown brace of Carter's Blenheim Orange; Mr. Gilman, gardener, Ingestrie Hall, Stafford, coming in second with Hero of Lockinge; and Mr. H. W. Ward, Longford Castle Gardens, Salisbury, third, with Sutton's Imperial Green-flesh.

Nine collections of eight dishes of vegetables were staged, and a very fine lot they were, a credit to any exhibition. The first prize was won in good style by Mr. G. H. Richards, gardener, Somerley Park, Ringwood, who had quite first-rate examples of Green Globe Artichokes, Daniels' White Elephant Onion, Late Argenteuil Asparagus, Telegraph Peas, Snowdrop Kidney Potatos, and Perfection Tomatos, his weakest dishes being of Veitch's Matchless Scarlet Carrots, and Early London Cauliflowers. Mr. G. T. Miles was a close second with fine examples of similar kinds, and Mr. C. J. Waite, Glenhurst Gardens, Esher, a good third. In a good class of Tomatos, a good selection of Trophy, shown by Mr. R. Farrance, Chadwell Heath, secured the highest award.

Messrs. James Carter & Co. offered a series of prizes for four dishes of Peas, and were rewarded by a very fine competition, in which the first prize went to Mr. H. Marriott, Skirbeck, Lincoln (for Telegraph, Telephone, Stratagem, and Pride of the Market); the second to Mr. H. Marriott, Junr.; the third to Mr. C. Phillips, gardener, The Deodars, Meopham; and the fourth to Mr. H. W. Ward, Longford Castle. For size, colour, and freshness the whole of the samples staged were very fine indeed, showing little trace of the effects of the heat and drought.

Mr. J. House, of Peterborough, also offered prizes for his Perfection Marrow Pea, and the samples shown certainly took the fancy of several skilful growers. Its pods are fine in size and good in colour, while the flavour is all that can be desired. A Ne Plus Ultra improved was the general verdict. All the prizes went to Lincolnshire, the first and third being taken by Mr. Marriott and Mr. Marriott, junr., and the second by Mr. J. Cook, Boston Long Edge.

Messrs. James Carter & Co. also exhibited a collection of some eighty varieties of Peas, and samples of the Californian Curled Lettuce, a fine showy Cabbage variety with beautifully-fringed leaves; the Golden Gem Cabbage Lettuce, compact, solid, and pale green in colour; and the American Gathering Lettuce, a coloured-leaved Cabbage variety. The same firm also contributed with the Peas a showy assortment of Sweet Pea flowers. Mr. Mundell, Moore Park Gardens, Rickmansworth, also showed a small collection of Peas, as also did Mr. Laxton, of Bedford, who had several new seedlings.

At the meeting of the Fruit Committee, the Cape of Good Hope Commission exhibited some very fine samples of dried fruits from Messrs. W. Searle & Sons, Cape Town, which included loose Raisins, Apricots, Apples, Pears, Peaches, Figs, and Quince, and a very pleasantly-flavoured preserve made from the Cape Gooseberry, Physalis edulis. The dried Pears were especially appreciated for their fine quality, and the same fruits stewed were simply delicious. These should find a ready market, for we have tasted nothing better of their kind. From the Chiswick Garden came some fine specimens of the Waterloo Strawberry, a variety remarkable for its deep crimson colour, but much wanting in the sweetness that makes a good Strawberry so palatable. Messrs. Viccars Collyer & Co., Leicester, showed samples of the Wilson Junior Blackberry; and the Canadian Commission, among several sorts of Apples grown in Nova Scotia and Ontario, staged very fine fruits of the King of Tomkin's County and Tallawater, both highly-coloured sorts. Several seedling Melons were tasted, but all proved to be poor in flavour.

Nottingham Horticultural and Botanical.—*July 14th and 15th.*—The exhibition of this society was held on Wednesday and Thursday last in Mapperley Park, kindly lent for the occasion by the president, Alderman Lambert, J.P. The site is a most convenient one for such an exhibition, being of easy access from the town, with plenty of car accommodation. The society is in a flourishing condition, the labours of the secretary, Mr. Steward, and the hard working committee having resulted in establishing it upon a firm basis. In addition to the annual exhibition, monthly meetings are held, and they have more than fully sustained the objects for which they were intended, having been well attended and gave great satisfaction to the members. Botanical lectures have been given, and they are much appreciated by those who attended, and it is to be hoped that the future meetings will give the same instruction and pleasure as the past have done.

The entries were quite up to the numbers of the previous shows, although one or two well-known exhibitors were absent. In consequence of the death of Mr. Cutts (who was a great patron of the society), Mr. German, his gardener, did not show, and his fine well-grown plants were much missed. The show was nicely arranged in four spacious marquees, and the grouping reflected great credit upon Mr. Page, the energetic and obliging treasurer, and the secretary, Mr. Steward. The principal feature of the show was the magnificent groups arranged for effect. The old rivals, Mr. Thacker and Mr. Lyon, of Ossington Hall, again met, and, as I have stated on previous occasions, they are simply masterpieces of artistic arrangement. Mr. Thacker on this occasion had to lower his colours to Mr. Lyon, who showed a magnificent group, Mr. Ward, the Gardens, Riddings, being third. These groups all occupied 255 ft. super. each. In the competition with groups occupying 120 ft., there were three competitors, and here also a great improvement was noticeable. The Mayor, Alderman Lambert, was first, Col. Seeley second, and Mr. Thacker third. The class for six ornamental foliaged plants calls for no special comment, C. J. Cox, Esq., of Basford was first, with a nice lot; Mr. Lyon, gardener to Lady Ossington being a close second. For six stove and greenhouse plants, three flowering and three fine foliaged, Mr. Ward, gardener, Ridding House, who showed a very good half dozen, was first; C. J. Cox, Esq., second; and Lady Ossington third. Table plants were well shown, and a nice even half dozen from Mr. Ward came in first; Lady Ossington, who also showed well, being second; and Col. Seeley (Mr. Swannick, gardener) third. A good half dozen Ferns from Ossington were a very easy first; second, C. J. Cox, Esq. (gardener, Mr. Meadon). The tree Ferns were somewhat small, and in this class H. H. Farmer, Esq., was first. Begonias, Caladiums, Coleus, Fuchsias, Gloxinias, and Pelargoniums were poor, and call for no comment. Orchids were very poor, the only competitor being C. J. Cox, Esq., who took the first prize for three plants. Dinner-table decorations were also very poorly done, and there were only two exhibitors.

Roses were shown as cut flowers in better form than one expected; some good stands and fine flowers being staged. For thirty-six, Mr. Frettingham was first with a good clean lot; second, Mr. Howe, Nottingham; third, Mr. Thomas Hallam, Notts. For twenty-four, Mr. Howe was first, Mr. Hallam second, and Mr. Lowe third. The premier bloom of the show was found in a splendid specimen of Countess of Roseberry in the stand of Mr. Howe. Cut stove and greenhouse flowers, twelve varieties, were well shown by Mr. Ward, Riddings, who secured the highest award. Bouquets, Botton-hole Bouquets, and sprays were shown better this year, Messrs. Perkins & Son, Coventry, taking all the leading awards; also for a wreath which was splendidly done. Epergnes were fair, as were also spikes of Stocks, Phloxes, &c. Of hardy herbaceous cut flowers, a splendid collection came from Messrs. Pearson, of Chilwell, which was an easy first. The same firm were also first for trusses of zonal Pelargoniums.

For a collection of six sorts of fruits, Mr. Edmonds, gardener to the Duke of St. Albans, was first, with good Black Hamburgh Grapes, fine Peaches and Nectarines, good Figs, and a nice Melon and Pine. The same exhibitor was also first for a Pine and for Peaches and Nectarines, all good well-ripened fruits. Mr. Roberts was second for the collection, and Mr. Ward third. Grapes, two bunches, black: First, Mr. Ward, with magnificent bunches of Hamburghs, well coloured, and finely finished; second, Mr. James Forrest; third, Mr. D. Melville. White Grapes, two bunches: First, Mr. Roberts, closely followed by Mr. Ward, second, and Mr. Crawford, third. Cherries, Currants, Gooseberries, Raspberries, and Strawberries were well represented, the entries being numerous, and the quality good.

Vegetables as usual were well to the fore, and for a collection of twelve varieties, Mr. Crawford was first, Mr. Ward, second, and Mr. Roberts, third; they where nicely done, and well put up. Other vegetables such as Peas, Beans, Cabbage, Celery, &c., were shown in quantities in more cases, the quality being excellent.

Of miscellaneous subjects, Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, showed an excellent group of stove and greenhouse foliage and flowering plants, and several good Orchids occupied a prominent position in the group which was beautifully arranged, and greatly admired. Messrs. Pearson & Son, Chilwell, and Mr. S. Harvey, of Nottingham, both showed groups of stove and greenhouse plants, also not for competition. Mr. J. Don, seedsmen, Nottingham, exhibited garden frames, and window cases, filled with plants suitable for such work. Mr. Inman and Mr. W. Bardell, of Stapleford, showed rustic seats and summer houses. The show was opened by Alderman Lambert, the mayor, at two o'clock, but unfortunately the weather late in the afternoon on Wednesday was showery, but in the early part of the day a good number of persons visited the show.

County of Gloucester and Cheltenham Royal Horticultural Show.—*July 7th.*—This show was held in the picturesque Pitville Gardens at Cheltenham on the above date. A site more suitable could hardly be found for such a purpose, the grounds being admirably and tastefully laid out and kept; a broad gravel walk sloping gradually from a large temple-like stone building, known as the Spa, down to a considerable sheet of ornamental water, upon which are sailing or sporting about swans, wild fowl, seagulls, and a pelican, the last named only being permitted its liberty upon specified occasions, such as show or fête days. The tents, three in number, were devoted as follows:—The largest to fine foliage and flowering plants, specimen zonal Pelargoniums, Orchids, exotic and hardy Ferns, cut Roses, and a few other subjects; the second to flowering stove and greenhouse specimen plants, show and fancy specimen Pelargoniums and the collections and single dishes of fruit; and the third to vegetables and baskets of salading, which are here exhibited in a most tasteful manner in ornamental wire baskets, standing upon feet some 3 ft. from the ground, and at equal distances up the centre of the tent, and placed in this position are accessible all round, thus requiring a much greater amount of produce than if in flat baskets on side stages; in fact, they formed quite an attraction in this tent. All the finest salading is used, and of first-rate quality, most noticeable being the Endive, which was beautifully blanched; the different coloured Radishes being dotted thinly throughout; Mustard and Cress in small bunches being inserted here and there; Beetroot cut in halves added colouring; and with the Lettuce here and there cut through to show the blanching, Cucumbers almost if not quite perfect laid parallel, with fairly good Celery up the slope of the mound made it difficult of improvement as a good and comprehensive salad. The first prize in this class was awarded to Mr. J. J. Smith, a local grower.

Collections of vegetables (twelve dishes) were for the season fairly good, although we have seen much better here, the first prize being taken by Mr. A. Cook, a

noted exhibitor and also a local man. Tomatos were well-grown examples, the first prize being taken by A. J. Shinner, Esq. (gardener, Mr. Arkell). Cucumbers were also well represented, but I must not trespass too much upon your space, but pass on to tent No. 2, most noticeable in which were the collections of flowering stove and greenhouse plants exhibited by Mr. J. Cypher, of Cheltenham, and Mr. J. F. Mould, Pewsey, Wilts, who took the prizes in the order named, both in the classes for twelve and six. For six Cape Heaths the awards were in the same order; in fact, at home as well as abroad, Mr. Cypher appears well able to hold his own, all his plants being particularly clean and fresh and also well flowered, the trusses of Ixora Pilgrimii being very good. The show Pelargoniums, considering it was so late in the season, were well flowered, and for the greater part bright and fresh, Mr. J. Cypher taking the lead with a nice moderate-sized set. The fancies were a poor lot indeed, and ought not to have been staged. In the amateurs' class, R. M. Lingwood, Esq., took first prize.

For specimen Zonale Pelargoniums there were only two entries, the first prize being taken by H. Chapman, Esq. (gardener Mr. Sparks), with a fine well flowered set, each plant measuring some 4 ft. or 5 ft. in diameter, a very creditable lot. Tuberous Begonias were poor, the first prize being taken by Mr. Enos Smith. There was only one exhibit of half-a-dozen Gloxinias, and they were decidedly unfit to be staged. In the competition for fine foliaged plants, Mr. J. Cypher was far away first, his Crotons being highly coloured and well furnished, while the Palms were also very good, particularly Latania borbonica; Messrs. Heath & Son, Cheltenham, were second, and Mr. Mould third, the last named a fairly good piece of Croton Andreanum. For a dozen Exotic Ferns, Mr. J. Cypher again took the lead, the specimens, although not large, being fresh and bright. In Orchids there were but two entries, the first prize being taken by Messrs. Heath & Son, beating Mr. Cypher. In the first prize lot most noticeable were Cattleya Gaskelliana and Odontoglossum vexillarium Cobbiana. Some of Mr. Cypher's plants showed signs of travelling, still the specimens of Epidendrum vitellinum majus, Dendrobium Dearii and Cypripedium Lawrenceanum were very creditable; I noticed also a very highly coloured flower of Cattleya superba from a small plant on a raft.

For forty-eight single blooms of cut Roses there were three entries, Messrs. G. Cooling & Son, Bath, taking the first prize, closely pressed by Messrs. Jeffries & Son, Cirencester; Mr. J. Cypher, third, whose plants had evidently suffered from the excessive heat we have lately experienced. For twenty-four's, the positions of the winners were reversed, Messrs. Jeffries & Son winning well from Messrs. Cooling. In the amateurs' class for twelve blooms the exhibits were very moderate, the first prize being taken by Mrs. Ruddle (gardener Mr. Mackie). In the class for twelve trusses of Zonale Pelargoniums there were three exhibits, and the first prize was well won by R. M. Lingwood, Esq. The classes for fruit were fairly well contested, some very meritorious dishes being staged, both of Grapes and Peaches. For a collection of fruit (six dishes), Mr. Child, gardener to the Earl of Coventry, was first; while for black Grapes the prize was well won by G. Hunter, Esq. (gardener Mr. Wilson), with a well finished dish of B. Hamburghs. For Peaches the Rev. G. Coventry took first, and for white Grapes and Nectarines the Rev. H. Coventry, of Severn Stoke, was first. Melons were a very unsatisfactory lot and not true to name. Messrs. E. Smith & Son, St. Georges Nurseries, Cheltenham, exhibited a very fine dish (for the season) of President Strawberries, not for competition.—*Correspondent.*

Highgate Horticultural.—*July 8th.*—The twenty-seventh exhibition of flowers, fruit, and vegetables, under the auspices of this society, was held at Parkfield, Highgate, by permission of Mr. Allen W. Block. The exhibits were shown in two large tents, one being devoted to the gardeners' productions, the other to the cottagers'. The staging of the various exhibits was, as usual, entrusted to Mr. T. Bevan, who performed his task very successfully. Messrs. W. Cutbush & Sons, of Highgate Nurseries, again lent (not for competition) a splendid display of choice plants and flowers. Mr. B. S. Williams, of Upper Holloway, and Mr. R. J. Wood, of Haverstock Hill, also contributed (not for competition) some exceedingly choice plants. The gardeners to the various gentlemen in Highgate and the neighbourhood contributed some splendid specimens of Stephanotis, Ericas, Lilies, Palms, British Ferns, Coleus, Pelargoniums, Caladiums, Begonias, Lycopodium, Exotic Ferns, Ivy-leaved Pelargoniums, Balsams, Gloxinias, Petunias, &c., some of the plants being remarkably large and beautiful. The various groups of flowers and plants were greatly admired, as were also the table decorations and the bouquets, the hand bouquet which gained the first prize being an exceedingly beautiful and admirably arranged specimen of the florist's art. Some beautiful specimens of dried Ferns were shown by Mr. Bevan, also a suggested plan for laying out as a public recreation ground the gravel-pit or upper wood, Highgate, which has lately been presented to the public. In the other tent, containing the cottagers' produce, there were also some very fine specimens, the exhibits being about the average of these shows.

At the presentation of the prize bouquets, Colonel Wilkinson said that he had been requested to discharge a duty which he had for many years had the privilege of performing, but this year he had to perform that duty under peculiar circumstances. It was the first occasion for many years that he missed a well-known face which always stood beside him. He referred to the late treasurer, Mr. James Cutbush, an officer of the society who was greatly respected and prized by all who knew him. He was glad to say that Mr. Cutbush's son, who was present, was following in his father's footsteps, and that he had taken the office of treasurer so worthily filled by his father. This year, instead of presenting one bouquet, they intended to present two, the reason being that, owing to the prevalence of bricks and mortar, they were unable to get any grounds extensive and capacious enough for holding the show, and the president's grounds (Mr. W. Reynold's) not being sufficiently extensive he was unable to accommodate them. Mrs. W. Reynolds had the legal right to the bouquet. Therefore they had decided to present two, the gardeners' bouquet to Miss Block, and the cottagers' to Mrs. W. Reynolds.

Mr. W. M. Bürck, hon. sec. to the society, then handed the gardeners' first prize bouquet, which was made by Mr. E. Elcock, gardener to Miss Kimpton, of Hargrave House, Holloway, to Colonel Wilkinson's daughter, who presented it, at her father's request, to Miss Block. Mr. H. J. Cutbush, treasurer to the society, then handed the cottagers' first prize bouquet, which was made by Colonel Wilkinson's gardener, Mr. J. Smith, to Miss Wilkinson, who presented it to Mrs. W. Reynolds.

Wirral Rose Show.—The eighth annual show in connection with this society took place on Saturday last, at Hamilton Square, Birkenhead. The weather was beautifully fine, and, this show being one of the most interesting held in the neighbourhood, there was a large attendance of visitors coming from either side of the Mersey. Recently, as all horticulturists are aware, the hot and dry weather has not been favourable to the successful cultivation of Roses, the petals of which have become thin, and the general growth retarded. The colour also has been affected; but notwithstanding these drawbacks, there was a good show of Roses, though the exhibits were not perhaps so numerous as in former years. Among the other exhibitors were Mr. George Prince, Oxford; Mr. Fred Kent; Mr. T. B. Hall, Rock Ferry; the Rev. Canon Feilden; Mr. W. E. Hall, Higher Bebington; Mr. T. B. Hall, Larch Wood; Mr. C. K. Hall, Oxton; Mr. J. T. Raynes, Rock Ferry; Mr. Joseph Rimmer, Formby; Mr. T. W. Crowther, Oxton; Mr. J. G. Churton, Neston; Mr. T. R. Bulley, Liscard; the Rev. L. Garnett, Christleton; Mr. C. J. Day, Rowton; Mr. W. J. Grant, Ledbury; Messrs. James Dickson & Sons, Newton Nurseries, Chester; the Rev. Dr. King, Cambridge; Messrs. Paul & Son; Messrs. John Jefferies & Son, Cirencester; Mr. F. Cant, Colchester; Mr. H. Merryweather, Notts; Mr. John Burrell, Cambridge; Mr. John House, Peterborough; Messrs. James Dickson & Son, Chester; Messrs. F. & A. Dickson, Chester; Rev. J. H. Pemberton; Mr. D. Walford, Spital; Miss Hall, Larch Woods; and Mrs. E. Caxton, Allerton.

Mr. F. Cant, Colchester, was again first for seventy-two blooms; and Messrs. F. & A. Dickson & Sons, Chester, occupied the same position in the class for thirty-six; while Mr. G. Prince, of Oxford, was well to the fore with Teas, &c. In the amateurs class for thirty-six, the Rev. J. H. Pemberton, of Romford, beat the local grower, T. B. Hall, Esq., Rock Ferry, who, however, held his own in several other classes, notably winning the Gold Medal in a competition open to all amateurs in Lancashire and Cheshire. Mr. Samuel Johnson, of Oxton, was awarded a special extra prize for an extensive group of plants, comprising Orchids, Palms, Dracænas, Crotons, Ferns, &c. The same successful cultivator was also awarded an extra special prize for seven boxes of hybrid perpetual Roses.

QUESTIONS AND ANSWERS.

Erratum.—At p. 716, in the paragraph on Cuckoo Spittle, for "Pansy" read "Tansy."

Names of Plants.—*W. Moore:* The large white flower is Dendrobium formosum giganteum, and the small one, Cymbidium pendulum. *W. D. Marks:* Stanhopea insignis. *R. Young:* 1, 2, and 3, all like Aerides odoratum, but 3 may be A. virens; 4, Colax viridis: 5, probably Cymbidium aloifolium; if this does not agree with description, please send a leaf and flower; 6, Stanhopea graveolens; 7, Promenœa stapelioides; 8, Masdevallia peristeria. *J. Sanderson:* 1, Ononis rotundifolia; 2, not recognised; 3, Retinospora pisifera aurea; 4, Juniperus thurifera; 5, Thujopsis dolobrata variegata; 6, not recognised; 7, Retinospora selaginoides; 8, Juniperus squamata. *A. T. G.:* Orobanche major. *Flora:* Spiræa aruncus, Goat's Beard.

Carnation and Picotee.—*W. D. Marks:* It can be obtained from W. Bacon, Beckett Mill Works, Derby, or the author, E. S. Dodwell, Stanley Road, Oxford.

Books.—*Caledonia:* Johnson's "Gardeners' Dictionary," Bell & Sons, York Street, Covent Garden. *A. T. G.:* Henfreys' "Manual of Botany," published by Churchill, New Burlington Street, W. We do not know the price.

Communications Received.—J. H. H.—T. P. B.—W. B.—G. K.—W. S.—T. G.—E. J.—Cosmopolitan—W. J. T.—W. T.—W. E. B.—W. H.—M. L. H.—A. G. F.

LONDON SEED TRADE.

July 14th, 1886.

Messrs. Hurst & Son of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a very small attendance at to-day's market, with little or no business doing. A few sales have taken place in New Trifolium at low figures. The trade in Mustard and Rape is slightly better after the rain of the last few days. There is no trade for Clovers. A few Blue Peas have changed hands during the week. White Millet is scarce. Hemp cheaper; other Bird Seeds unchanged.

COVENT GARDEN MARKET.

July 15th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	3 6		Pine-apples, Eng., lb.	2 0	3 0
Grapes ... per lb.	1 3	3 0	Pears ... per dozen		
Kent Cobs, per 100 lbs.			Strawberries ... per lb.	0 6	1 6
Peaches, per doz.	2 0	10 0	Canadian Apples, brl.		

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ... per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ... per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Sea Kale, per basket		
Endive, French, doz.	2 6	3 6	Spinach, per strike	2 0	
Herbs, per bunch	0 2	0 4	Tomatos, per lb.	0 9	
			New Turnips, per bun.	0 9	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen blooms	0 6	0 9	Marguerites, 12 bun.	3 0	6 0
Arum Lilies, 12 blms.	4 0	6 0	Mignonette, 12 bun.	3 0	9 0
Azalea, 12 sprays			Narciss, varions,		
Bouvardias, per bun.	0 6	1 0	Pansies, 12 bunches	1 0	3 0
Campanula ... 12 bun.	4 0	9 0	Pelargoniums, per 12 sprays	0 9	1 0
Carnations, 12 blooms	1 0	3 0	— scarlet, 12 sprays	0 4	0 6
Cornflower ... 12 bun.	1 6	3 0	Pinks, various, 12 bun.	2 0	4 0
Delphinium ... 12 bun.	3 0	6 0	Primula, double, bun.	0 6	1 0
Daisies, common, 12 bunches	2 0	4 0	Primroses		
Eucharis, per dozen	2 6	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses ... 12 bunches	3 0	9 0
Gardenias, 12 blooms.	2 6	4 0	Roses (coloured)	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Moss ... 12 bun.	6 0	12 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilium caudidum, dozen bunches	1 0	15 0	Stephanotis, 12 sprays	1 6	3 0
Lilium candidum, dozen blooms	0 6	1 0	Spiræa, doz. bunches	6 0	9 0
Lilium longiflorum, 12 blooms	4 0	6 0	Sweet Peas, doz. bch.	1 6	3 0
			Sweet Sultan, 12 bun.	3 0	4 0
			Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	1 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	6 0	12 0
Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lobelia, per dozen	4 0	6 0
Calceolaria, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	2 0	4 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz.	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	2 0	6 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen	9 0	15 0

SITUATIONS WANTED.

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ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral at 11 a.m., in the Conservatory; Scientific at 1 p.m., in the Lindley Library, on TUESDAY next, JULY 27th.

NATIONAL CARNATION AND PICOTEE SOCIETY'S SHOW.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 24, 1886.

"GARDENS OF LIGHT AND SHADE."—An anonymous author, "G. S. C.," has written, and Mr. Elliott Stock, of Paternoster Row, has lately published under this title, a book of seventy pages, devoted, as the preface states, to the subject of rendering small suburban gardens "pleasing all the year round, and at little cost," which should prove a useful addition to works of this class. Whether it will do so, however, must needs depend on special circumstances, for the book is exceedingly peculiar in laying down new rules and principles in landscape gardening which seem to us extravagant if not radically unsound. It is not a book for gardeners, nor, as it seems to us, for any genuine lover of gardens and of plants. It happens that we have seen its doctrines carried into practice. There is a chapter entitled, "Spare the trees," but as the dimensions of the largest garden, described by the author by means of a plan (on which "groups of trees and shrubs" are marked on the lawn, and a "wild shrubbery" is introduced in the background!) are only 95 ft. by 110 ft., we should say, "Down with them for their own sake." Those who do not understand plants may not think so, but overcrowding, to a botanist or gardener, seems like intolerable cruelty. We have seen woods and shrubberies and even gardens ruined by it.

All must admire the beauties of nature; but "G. S. C." seems to us to misapprehend what he calls "the natural in gardening." He says, "what is unnatural can have but little real beauty. If we had not to reckon with consideration of space, we should be disposed to say, free nature of all restraint, let her do as she listeth." He admits here that some restraint is necessary, and such an admission is fatal to his theory. We should challenge his conclusions, too, on other grounds, since we cannot understand why the bit of fenced ground, which a man calls his garden, may not fitly and appropriately differ widely from the world outside without his being charged with violating those "cannons of natural law" which our author insists upon as rules for our guidance. There is scarcely any "nature" left in England, and none at all in those suburban places which "G. S. C." has in view. Setting contour aside, or taking the case of a level neighbourhood, man really made the country as well as the town, forming all the fences, planting all the woods, and creating all those "lines"—straight, curved, natural, or artificial—which the æsthetic school are so given to discourse about. All this work of the field or farm in a long-cultivated country has been effected by man haphazard, and, therefore, it is a mistake to call it "natural"; and when by pains and much expense he improves on his rough plan, and forms gardens for ornament instead of farms for utility, may not the result be highly artificial and yet unnatural.

In our belief, man is a part of nature, and the master figure on earth. He went on all fours once, it is said, and in those days he was far more hairy and hardy than he is now. At present, he takes a chair sometimes, and lies on a feather bed, aids to repose of a highly artficial kind, which are still not unnatural, since they are found by man himself, fitting and convenient. Common sense must be our guide, and extravagant views of "the natural in gardening," will take no hold, we feel persuaded, on the public mind. "Wild shrubberies" are not appropriate for small gardens, simply because they are less beautiful than "dressed grounds," and because in such gardens the space, at best, is not too great for the numerous subjects, which a lover of plants will desire to cultivate. "G. S. C.'s" nine month's "barrenness." may be obviated without sacrificing the "life" in gardens, which most of us love for the sake of the wildness which he extols. Plants may be shifted and borders filled all the year round, as is done in many a little garden that we have known. We must not fail to acknowledge some useful hints in the work before us, and some good lists of inexpensive trees and plants. It is a handsome book for the table.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* Royal Horticultural Society's Fruit and Floral Committees meet at South Kensington. National Carnation and Picotee Society's Show.

The Carnation and Picotee Union.—The schedule of prizes of this association for the Annual Feast of Carnations, to be held in Mr. Dodwell's garden, The Cottage, Stanley Road, Oxford, on Tuesday the 3rd prox., comprises forty-five prizes for collections of twelve or six blooms respectively, and seventy-eight prizes for single blooms, the total money value being some £45. The hon. sec. states: "The object of the founder of this association has been to foster interest and enthusiasm in the cultivation of the flowers rather by free fraternal communion than by the stimulus of large money prizes; therefore, an essential part of the programme is a modest luncheon, free to all subscribers, an arrangement which many years of experience has proved to be good." Last year, we understand, upwards of sixty friends, coming from all parts of the three kingdoms, were gathered in this conference, and the promises for the present year is of a yet larger number.

Foreign Visitors at Swanley.—On Tuesday, a party of twelve Belgian, French and Dutch horticulturists, now on a visit to this country, and among whom are Mr. H. J. Van Hulle, of Ghent, Mr. E. Lemoine, of Nancy, and M. Delaux, the famous Chrysanthemum raiser, went to Swanley, and under the guidance of Mr. Cannell, inspected The Home of Flowers, and subsequently visited several fruit farms in the neighbourhood, including Mr. Philip Ladd's immense fruit-growing establishment under glass. At The Home of Flowers, the grounds and plant houses were thrown open, and ample time allowed for the inspection of everything of interest, which included the construction of the houses, the heating apparatuses in use, &c. The visitors were favoured with glorious weather, and full justice was done during the perambulation of the nursery, to the supply of luscious strawberries which had been thoughtfully provided by their host, and for which we may add the Swanley district is renowned. Having passed through the various departments, luncheon was served at the Lullingstone Castle Hotel, after which a tour of inspection was made of the fruit-growing portion of the district, and which is at present "in full pick," and the visit proved extremely interesting and instructive, the visitors being somewhat surprised at the immense quantities which are being daily despatched to the northern towns. After a walk through Mr. Ladd's establishment, the visitors returned to London, highly delighted with their day's outing.

French Striped Marigolds.—Mr. William Caudwell, the Ivies, Wantage, who grows these showy old-fashioned autumn flowers in large quantities, has favoured us with some blooms of his single and double-flowered strains. The colours are very bright, and the flowers of good form. We are pleased to see the single ones looking up again, for they are very pretty. The rich velvety crimson petals, with broad band of clear yellow down the centre, are singularly effective.

A Royal Bouquet of Roses.—During the royal visit to the Royal Agricultural Society's Show at Norwich, Mr. Sharman, manager to Messrs. James Carter & Co., High Holborn, had the honour of presenting to H.R.H. the Princess of Wales a very handsome bouquet of Roses from Messrs. Carter's Rose-grounds in Kent.

Fruits from "The Garden of England."—In a new descriptive catalogue of fruits grown in their nurseries at Maidstone, Messrs. George Bunyard & Co. have somewhat departed from their usual custom, and besides enlarging their list by giving more detailed descriptions and cultural hints, have, in order to meet the growing demand for sound information among amateurs and possessors of villa gardens, included in their pages a few practical articles which we had the pleasure of publishing last winter from the pen of Mr. George Bunyard; some pithy observations on Strawberry and Apricot culture by Mr. Wildsmith, of Heckfield; and a series of useful little illustrations. As a rule we do not undertake to notice trade catalogues, but this seems to deserve something more than a mere acknowledgement.

Lychnis vespertina flore pleno.—Perhaps, the finest of all the double white-flowered herbaceous plants, comes to us in the form of a fine bunch of flowers from Mr. M. Cuthbertson, of the Public Park Nursery, Rothesay. It grows freely, is quite hardy, and blooms all the season; but Mr. Cuthbertson states that he experiences some difficulty in its propagation. Perhaps some of our readers can give him a useful hint on the subject.

Gloxinias.—These have been remarkably fine this season in Messrs. Veitch's Nursery at Chelsea, and from among the large number of seedlings raised here, some novelties have been obtained, which, for handsome shape and brilliant colouration, surpass anything the firm has raised before. At the present time, a flower called The Moor is most conspicuous for the depth and brilliancy of its black-purple blossoms; and another purple flower shaded with violet, and named Annette, is simply exquisite. The brilliant scarlet shades among the seedlings also claim our admiration, so bright are the tints as compared with older sorts.

Mesembryanthemum pomeridianum.—If anyone is in search of a good dry weather plant, with large bright yellow, starry blossoms, for a dry border or rockery, we know of nothing more likely to give them complete satisfaction than Mesembryanthemum pomeridianum, an old Cape species introduced over a hundred years ago, and which Mr. Moore has in fine condition just now at the Chelsea Botanic Garden.

Mr. Edward Pynaert will in October next complete the twenty-fifth year of his professorship in the State School of Horticulture at Ghent, and having during that period rendered good service both to the school, and to horticulture generally, by his sound teaching in the former, and his valuable contributions to the *Bulletin du Cercle d'arboriculture*, and the *Revue de l'Horticulture belge et étrangère*, of which he was one of the founders, his friends propose to celebrate the event in a manner worthy of the occasion. To carry out the object in view, an influential committee has been formed of which Mr. Kicks, director of the school, is president; Mr. G. Van Ecchaute, curator of the botanic garden, secretary; and Mr. Fred. Burvenich, of Gandbrugge, treasurer; and a subscription list has been opened for the purpose of presenting Mr. Pynaert with an album of portraits and an object of art. Mr. Pynaert is so well known, and so much respected in

this country, that we feel sure we have only to mention the matter in order to secure a hearty response. Mr. Burvenich, we know, will be pleased to hear from any of the old pupils.

Pink, Rose Perfection.—One of the very finest of bedding Pinks is a variety bearing this name, which Messrs. James Veitch & Sons sent out a year or two ago, and which is in fine bloom in their nursery now. It is one of the first to come into flower, and one of the last to leave off, giving a long season of bloom. The flowers are of good size, neat and compact in shape, and deep rose in colour.

Honours Awarded to Horticultural Builders.—At the exhibition held last week in the Hull Botanic Gardens, Messrs. Richardson & Co., Darlington, were awarded a Silver Medal for a fine display of garden structures, and a Certificate of Merit for their Ivanhoe boiler, an excellent one for heating small greenhouses. Messrs. Alfred Peel & Sons, Wood Green, London, were awarded a Bronze Medal, and a First Class Certificate for amateur's greenhouses; and the Horticultural and Agricultural Chemical Co., Tonbridge, received a Certificate for their new syringing tray, which has already been noticed in our columns.

LATITUDE VERSUS CLIMATE.

The more one considers the relation of latitude to climate, the more it becomes curious that sections of Great Britain four or five degrees north of other sections have a more genial climate than those farther south. I never was more struck by this circumstance than on the occasion of a recent visit I paid to that delightful health resort, Strathpeffer, near Dingwall in Rosshire. In my own immediate locality I left evergreens brown, and greatly injured by recent winters, Araucarias and other conifers in the same state, and I know that this state of matters extends, in some instances, to the midlands of England, while two hundred and fifty miles north from where I write, I found all such plants in the most perfect health, and greatest luxuriance, without a discoloured leaf.

It required no meteorological register to show that while I had come a long way north, I had reached a much more genial climate. This will be amply evident when I give the dimensions of some of the conifers at Castle Leod, close to Strathpeffer Spa, one of the seats of Her Grace the Duchess of Sutherland, in her own right as Countess of Cromarty. They were taken by Mr. McAnley, her grace's forester and general outdoor manager, for the Arboricultural Society of Scotland, and he kindly supplied me with a copy, which I send with these notes; and perhaps you will consider it worthy of publication, as showing the state of vegetation in a region which those who have never visited it may suppose to be hyperborean. The Spanish Chestnut is amongst the finest I have ever seen, and is in fine health, though recent storms have broken off some of its finest branches.

By reference to a work I edited for the Highland Society of Scotland, some years ago, on the great trees of Scotland, I find that the Chestnut tree in question is the largest of the kind in Scotland, and, with a few exceptions, the largest tree of any kind. The Elms, Ashes, and Limes are also very large. All seem to have been planted about the same date—some three hundred years ago. The conifers are in perfect health and vigour, in this respect contrasting favourably with the same class of plants hundreds of miles farther south.

At many of the residences of the nobility and gentry in the same district I saw evidences of the excellence of the climate that are puzzling, as at Brahan Castle, where, last September, I saw, probably the finest Apricot walls that ever came under my notice, the trees being heavily cropped and the fruit ripe all round, which I have not seen in Scotland for many years. The old Laburnum tree to which Mr. McAnlay refers is a very remarkable one, and probably one of the first planted in the country. I send you a photograph of it herewith.

The whole district has innumerable attractions for the lover of grand scenery. For botanists, artists, and for geologists it is full of interest. Knockfarrel, with its great vitrified fort, yields ample food for the speculative. How did pre-historic men build a fort of great size on the top of a hill, and then so act on it by fire as to fuse the stones and make them a solid mass? Had they blast furnaces? Did they make use of alkali, or did they make use of sea-weed? These questions have yet to be settled with something like certainty before such forts can be other than enigmas. To the great credit of the landed proprietary of the surrounding country, no restraint is placed on visitors. They can roam where they please as long as they conduct themselves properly, and at some of the waterfalls, as at the falls of Rogie, the river is spanned by a light bridge to give visitors the opportunity of getting a good view of the falls. When I visited this fall last September there were four artists sketching it.

This rambling notice of one of the most interesting places I ever visited would be incomplete without a notice of The Spa, or health resort proper. My first visit to it was in the September of last year, since which date I recently found that great additions had been made to the accommodation for visitors, both as to hotels and ordinary lodgings; my own experience only extends to "McGregor's Hotel," near the Spa, and nothing could be more satisfactory. I heard good reports of all the other hotels, both as to charges and accommodation. The pump-room has ample space, and any number of fine baths. There are four sorts of water, one stronger in sulphur than any well in Britain, famous for its cures of gout and rheumatics; others milder and more suitable for stomach and liver affections; a third, which is a chalybeate, much resorted to by those whose blood requires iron.

There is a fine pavilion where many forms of recreation can be indulged in, as also a reading room. A German band plays three times daily during the season. The whole locality is the property of the Duchess of Sutherland, and her resident agent is doing all he can to add to the salubrity and amenity of the place. A complete system of drainage has recently been carried out, and a new supply of water brought from a mountain side some seven miles off. There are three resident medical men, and Dr. Bruce of Dingwall, a man of wide reputation, can be consulted daily at The Spa.

I have seen men walking with two sticks on the Monday, playing bowls on the Saturday, such are the curative powers of the waters, especially for rheumatic affections. I have been led into these details in the hope that they may be useful to gardeners, for, as a class, they are much exposed to circumstances that have a tendency to develope rheumatic affections.—*Wm. Thomson, Clovenfords.*

The following is Mr. McAnley's statement, alluded to above:—The Spanish Chestnut is 70 ft. high; circumference of branches, 207 ft.; length of bole, 15 ft.; girth at 1 ft., 25 ft. 7 ins.; at 3 ft., 21 ft. 10 ins.; at 5 ft., 20 ft. 2 ins. It contains 1000 cubic ft. of timber. All hard-woods flourish round Castle Leod, and some have attained large dimensions—notably Ash, Elm, and Sycamore—as the old avenue can certify. The largest Elm stands in the park and is 80 ft. high; girth round swell of roots, 31 ft.; at 3 ft., 17 ft. 6 ins.; at 5 ft., 13 ft. 6 ins.; spread of branches, 195 ft. The tallest Ash is 90 ft. high, with a clear bole of 20 ft.; girth close to ground, 24 ft.; above swell of roots, 14 ft. 9 ins.; circumference of branches, 181 ft. The largest Sycamore in the old avenue is 65 ft. high, with a clear straight bole of 30 ft.; girth at 1 ft. from ground, 11 ft.; at 3 ft. up, 9 ft. 6 ins. A beautiful Lime stands on the lawn, whose branches sweep the ground in a circle of 150 ft.; girth of bole, 21 ft.

There are a few healthy specimens of Coniferæ, notably Wellingtonia gigantea, 60 ft. high; feathered to the ground with circumference of 63 ft.; girth at 1 ft. 10 ft.; at 3 ft. up, 8 ft. 4 in. Taxodium sempervirens, 40 ft. high; girth at 1 ft. 4 ft. 11 in. This tree as soon as it outgrows its shelter looses its top, about 6 ft. being blown off during a gale in 1884. The same may be said of Abies Douglasii, which grows so luxuriantly, sometimes making 4 ft. to 5 ft. in a season, that a very ordinary gale is sufficient to snap off the leader. A nice male plant of Araucaria imbricata stands near the castle, 28 ft. high, and whose branches sweep the ground; several healthy specimens of Cupressus Lawsoniana stud the lawn, and yield annually large quantities of seed; we have this year raised some thousands of seedlings from these. Amongst Coniferæ may also be mentioned young specimens of Pinus excelsa Jeffreyana, and macrocarpa, Abies excelsa, Orientalis Menzesii, and Smithiana, Picea nobilis, Webbiana, cephalonica, and Pinsapo.

I must not omit to mention a relic of the past, the old Laburnum on the lawn, mentioned by "Gregor." So fond was the late Mrs. Hay McKenzie, mother of the Duchess of Sutherland, of this tree that when it was blown over, and across the avenue, rather than have it removed, she altered the avenue to suit it, and carefully layered the top as it lay, with the result that now we have two healthy young plants on their own roots, though still attached to the present stem; the girth of which at the thickest part is 11 ft.

There is very little heavy timber on the estate, but the young plantations of Larch and Scotch Firs planted within the last thirty-one years cover nearly 1,000 acres, and promise a paying crop. Botanically speaking the district is rich in British flora and lichens. Primula scotica is found on Ben Wyvis, and the Moon-wort Fern on Knockfarrel. One of the most delightful and profitable walks for the visitor and botanist, is that to the Raven Rock, taking the Skye line for the outward going and returning by Knox Anlaly; to the geologist also, the Strath affords ample study for a summer holiday.

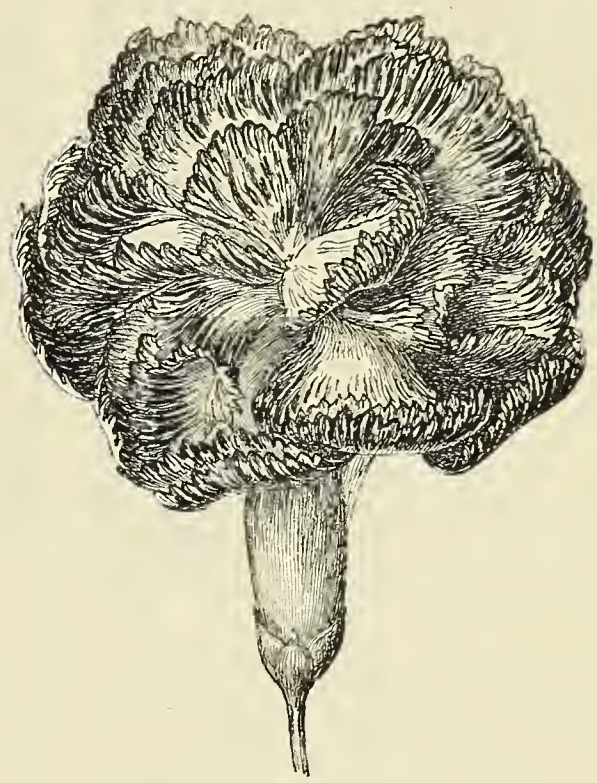
FLORAL ENTHUSIASM.

The Carnation and Picotee Bloom: opening of the Flowers. Writing to a prominent cultivator of this lovely tribe, "M. R.," Clapham, says, "I have everything out now in every class, both of the Carnation and Picotee. I am able to say that Ruby May is A. 1.; Mabel, Maud and Phyllis Annie very fair; and Murie Fanny, exquisite. Mrs. Hyde is an improved Bride, a perfect white flower; Mrs. William Walters is very lovely. Cleopatra is worthy of the name, a flower that would stand out among a thousand of its colour; other Selfs I have yet to see. Of George Melville, P. F., I have a bloom out, it is different to everything in the class. Everything that is not heavy comes so poor in this arid climate, that I cannot give a proper judgment, but with all the disadvantage, to what is probably a light refined flower, the bloom I have of George Melville is in the front rank. It is, this one bloom, different to what I saw it with you. The P. F.'s are very green. Nightingale is exactly the same in shape, in colour, in style of marking, in the ground year after year. The others all vary. This year James Douglas is much finer with me than last, while S. Payne is truly fine in every way.

Harrison Weir. Yesterday afternoon my boy, who has grown a keen florist, having looked around in the borders and on the stage, said if Master Fred was first, Harrison Weir was a close second. I went across to Brixton a few minutes after, and was greeted with the same information. For my own part, I saw it a fortnight ago; Harrison Weir gave fine promise, which it is fulfilling in finely, richly marked, and as usual, shapely flowers. Master Fred has conquered me, the shapely petals, the grand markings, are with me this season, as I have not before seen them; that is in the case of two blooms. The others have to me the unpardonable fault of the stained instead of the white ground. My favourite, Black Prince, has to come, buds promise well. Erskine Wemyss is an immense favourite with me. I can only say, as Reynolds Hole said of Madame Boutin (H. P.), if she is half as beautiful in the flesh as she is in the flower, she is a beauty indeed. Erskine Wemyss is the floral type of healthy womanly beauty. A. Medhurst, instead of a great showy giant, is coming a nice clean refined gentlemanly fellow, with every quality that one expects to find in so good a name. Mrs. A. Medhurst has yet to come, but she is *facile regina* among the carmines whenever she does, among the selfs altogether I think, if she continues like the one plant I had last year. Mrs. Dodwell, very grand with Brixton and myself this year, and is up to what has been said of it, beyond which there is no going. Last year the heat did not suit it, and it showed impatience and distress; one could not judge it. This year it is in every respect a very grand flower, in tint, in shape, and compactness. The latter an important point with the selfs.

Robert Lord, a disappointing flower with me hitherto, is this season promising to be fine; four pairs, three with no manure, the other with over a fourth, see no difference so far. Sarah Payne, heavily manured, Jacks!! shall cease to grow it. Mayor of Nottingham, out in the border all the winter, not a yellow or spotted leaf to be seen; blooms, in shape and brilliancy, such as I have not before had. Nellie, to come, hope my ladyship will be in time for South Kensington—some fine buds; if I could show her as she revealed herself early last year, it would be a surprise for them there. Minnie, beautiful grass, as stiff as wires; no fear I

should say as to the preservation of the sort, evidently likes a dry climate, that is all. Dr. Foster, an utterly worthless Jack, no quality of any sort whatever; Old Premier, out in the border all through the lovely autumn and winter, is a king to it; shows the effect of climate. Mrs. Anstiss, another first favourite of mine, is coming lovely. Mars, fine, but not the extraordinary flower of the season before last, when Simonite himself could hardly credit the white ground as belonging to Mars. George looks small so far—but George is the king—a grand flower that does not hurry himself like ordinary flowers; last year, when everything was so dreadfully early, George had to be kept in the blazing sun, which perhaps accounts for so good a judge as Robert Lord not knowing what to make of it.



Border Carnations and Picotees.

BORDER CARNATIONS AND PICOTEES.

The extensive annual display of Carnations and Picotees, made by Messrs. James Veitch & Sons, at their Chelsea establishment, is now at its best, and affords a rare opportunity for anyone desirous of obtaining information as to the sorts best adapted for border cultivation—and especially within the smoke radius—to do so. Many, however, who love these plants for their beauty and perfume, and appreciate the simplicity of their cultural requirements, will be unable to visit the fine Chelsea collection and make notes for themselves; therefore, we have been through the beds ourselves, and selected such sorts for naming as seemed to possess all the qualities essential in good border flowers—*i.e.*, a vigorous constitution, a free production of "grass," productiveness of blossoms, good form, and pleasing colours, and we trust the selection may prove useful.

Taking the self-coloured varieties of Carnations first, these being undoubtedly the most in demand for cutting, we will commence with Black Knight, dark crimson, with fine broad petals, a good grower and stands the winter well. Virgo, white, is about the best of the section, being fine in shape and very free. Royal Purple, bright rosy purple, bears fine large blooms, is a strong grower and a great bloomer. W. P. Milner, white, is a grand bedder, and has a very fine petal. Celia is one of the largest of the rose-coloured selfs, the blooms measuring over 3 ins. across, very bright, and strongly Clove scented. John Barnet is, perhaps, the darkest of the true rose colour, and a very fine full flower. Raby Castle, French rose, is a very compact flower, and beautifully fringed; a variety that always takes the fancy of the ladies. The Bride, as a white, seems hardly yet to be beaten, so beautiful are its blossoms in shape and purity, and it has another good quality in that the lateral blooms come as good as the crown ones. Brilliant is a very pretty dark cherry-red, and has a remarkably strong constitution. Susan Askey, white, is still held in good repute, notwithstanding the fact that it does not make much "grass" until the second season after planting. Beauty of Boston, bright rose, is a very strong grower, and is valuable as being an early bloomer. Beauty of Whitby is a good scarlet, and has a nice habit of growth. General Stewart, new, rich deep maroon, is a wonderously free bloomer, and a capital grower. Masterpiece is a deep crimson, very rich, and fine in quality. Florence, pure yellow, has a rare constitution; and King of the Yellows in the same way is still first-rate; as also is Belle Halliday. Miss Marianne North is a sweet and very pleasing flower. Auctioneer, purple, is a very fine bedder; so also is Exquisite, white, which is a very free bloomer. Fire Eater, deep salmon-red, and Mary Morris, rose pink, are very fine. Brigadier is a fine free-blooming scarlet; and in the same section Field Marshal is still one of the best.

Of fancy flowers, and by this we do not mean Bizarres or the flaked flowers of the florists, one of the leading favourites is Sir Beauchamp Seymour, buff ground splashed with scarlet. Charles I. is a similar style of flower, but deeper in colour, a very fine Carnation. Countess of Ellesmere, in fine form here, is an old variety not much known, but well deserving of being brought to the front again, the flowers being of a pale pink ground colour densely spotted with crimson.

Earl of Beaconsfield, scarlet, striped with crimson, is a grand flower, a strong grower, and later than most of the others. Walter Ware belongs to the yellow ground section, and is splashed with scarlet; it sports occasionally into a pure yellow form, and is pretty either way. Peacock, new, has a buff ground, striped and flaked with scarlet and purple; and Goldfinder is yellow, edged with dark rose.

Scarlet Bizarres: The best bedding varieties in this section, as seen here, are Guardsman, Duke of Grafton, Titiana, George, John Hine, and Prince Albert. Crimson Bizarres: Among these, we noted specially A. D. Southgate, Shirley Hibberd, H. K. Mayor, Winsome Winnie, one of Mr. Dodwell's fine seedlings, Alderman, and J. D. Hextall. Of pink and purple Bizarres: James Taylor, William Skirving, Sarah Payne, and Princess Beatrice take the lead; and in scarlet flakes; John Ball, Jupiter, Dan Godfrey, Scarlet Keat, Mrs. Allen, and Mrs. Tomes, are not to be easily beaten. The best purple flakes include Ada, Ajax, James Douglas, Florence Nightingale, Captain Jinks, Miss Mills, and Juno; and in rose flakes: John Keat, Jessica, Lord Chelmsford, Lovely Anne, Rose of Stapleford, James Merryweather, and Lady Florence, are indispensable in any collection.

The chastely beautiful Picotees are by many ladies preferred to the more showy carnations, and certainly the broad white petals and bright well-defined lacing render the flowers extremely captivating. In heavy crimson edged blooms, Dr. Epps, Picturata, Grostein, Hilda, Jewess, J. B. Bryant, Lord Valencia, and Lothair, deserve a place in every collection. Of those with light or "wire" crimson edges, the leading sorts are Mrs. Dodwell, Mrs. Keynes, Mrs. Bowers, Rev. F. D. Horner, and Thomas Williams, are all first-rate. The best of the heavy rose-edged flowers, are Mrs. Webb, Louisa, Miss Gibbs, Lady Boston, Mrs. Wood Ingram, Miss Polly, and Rev. H. Matthews; and of light rose edges, Dorothy, Field Marshal, and Lady Carrington, comprise the best. Heavy purple edges include Admiration, Mrs. Chancellor, Princess Dagmar, and Red Braes (a grand bedder); and in wire edges, Alice, Clara Penson, Beauty of Cheltenham, Baroness Burdett Coutts, Edith (new), Her Majesty, Mary, and Mrs. Henry Hooper, give a selection of rare quality.

WADDON HOUSE, CROYDON.

The visitor to Waddon House, the residence of Philip Crowley, Esq., comes immediately on his entrance to a very fine example of the gardener's art. In the centre of the garden fronting the Ivy-covered house is a huge bed of sub-tropical plants, forming with their massive foliage a beautiful object. The middle is made up with the large-leaved Ferdinandia eminens; then a broad belt of the green and red varieties of Ricinus, outside which are Cannas, and the whole edged with the silvery-leaved Stachys lanata, and forming, perhaps, the best example of the kind in the country. Passing round the house, we see from its verandah, along which are grouped some showy flowers in pots, a pretty prospect presented by the fine expanse of well-kept grass (the virtue of which many a tennis player can tell of) level in the foreground, and then declining precipitately beyond the well-arranged shrubberies and pretty little flower gardens for bedding plants, which are wisely enough allotted their corners where they may brighten the scene without encroaching on the main portion of the smooth turf.

On one side, among the cool shrubberies fragrant with the flowers of the Mock Oranges, stands the aviary of great weird-looking eagle-owls of Norway. In another portion is arranged a very fine Fern rockery, containing many superb and rare specimens, among which may be noted a great patch of Ophioglossum (Adder's-tongue) 1½ ft. across, Oak and Beech Ferns in 3 ft. patches, Onoclea sensibilis equally fine, and so forth. This extensive rockery forms a very quiet and pleasant retreat, where the wonderfully diverse foliages are as pleasing as the gay flowers of the herbaceous garden near at hand, which contains some rare things, such as the Edelweiss, as well as quantities of the showier plants more usually met with, such as Delphiniums, Gaillardias, Potentillas, Pyrethrums, and, of course, Roses, which are planted everywhere, as well as having a set garden to themselves, which they now make very gay with their rich and fragrant flowers. Among the best of hardy flowers, Agrostemma atrosanguinea is grown like a hedge of violet-crimson flowers, and the favourite Sweet Peas are exquisite in their rows, and very serviceable for cutting.

The Specimen Plants. Ferns.

The glasshouses are numerous, and the plants contained in them worth going a long distance to see, for plants are wanted at Waddon House not merely for the sake of having them, but in order to be qualified for the *entre*, they must be capable of being grown into specimens either for flower or foliage, and once they are admitted the rest follows, for Mr. Walter King, the gardener is a great plant grower and exhibitor. As examples of the plant wealth at Waddon, we noted among them a few which will serve to give an idea of the perfection to which plants are brought there. Among the Ferns, in whose house the back wall is rendered very lovely by the covering of Ficus repens, Maidenhair, and the metallic-lustred Selaginella cæsia arborea are Microlepia hirta cristata, 9 ft. across, with its lovely soft green fronds, tasselled in a very charming manner at the points; Davallia Mooreana, 7 ft.; Adiantum cardiochlæna, 6 ft.; Davallia Fijieuse, 6 ft.; Trichomanes radicans, 4 ft.; Hymenophyllum demissum, 3 ft.; and many fine plants of Adiantum Farleyense, and others well worthy to keep them company.

In the same house also is the best culture of Mosses we have seen, the plants being formed into uniform round heads by growing them in large pans, the soil being raised and shaped before planting in the manner it is intended the plants should arrange themselves. In this way a lovely collection is grown of which one, and all are beautiful to look upon, so even, neat, and densely packed are their slender growths. Selaginella Kraussiana aurea is an excellent yellow tinted variety; S. Mertensii variegata, white and green; S. serpens, green, changing to silver; S. caulescens, green, tinged with pink; and S. apoda, S. stolonifera, lovely shades of green; and S. Wildenovii, like a delicate fronded Fern; and S. cæsia, almost blue in tint; when grown as these are the mosses are very handsome.

Fine Foliaged Plants.

The foliage plants are equal to the Ferns, and comprise so many extraordinary specimens that only a few can be particularized, and the handsomest is a grand leafy plant, some 7 ft. across, of the massive foliaged white and green Alocasia macrorhiza variegata, a superbly grown piece. Equally good are the silver-veined Anthurium crystallinum, 6 ft. over, A. Warocqueanum, the same size; grandly coloured Crotons, 5 ft. to 6 ft. across; Phœnix sylvestris, 12 ft.; Thinax elegans, 10 ft.; a lovely feathery Asparagus plumosus, with compact head, some 5 ft. across; a still finer A. tenuissimus, over 6 ft., and perhaps the best in Europe; and many other wonderful things. Those who so often admire plants at flower shows, where the surroundings of canvas, &c., are unavoidably the reverse of effective, can easily understand how great a treat it is to see them at home as at Waddon House.

Flowering Plants.

The specimen flowering plants just now eclipse in beauty all the others. When looking at them in winter, when they are inactive, it is difficult to realize that in a few months such a flood of colour and beauty of form should come over them as they now present. There are Allamandas, with scores of large yellow blooms Lasiandra macrantha, with hundreds of violet salver-shaped flowers, Bougainvillea glabra, laden with their mauve inflorescense, Ixoras, which although only 3 ft. across, have thirty to forty large heads of orange-red flowers each; and Dipladenias, with over a hundred carmine flowers, each as large as ordinary saucers, and so on. Enough has been said to show that Mr. King grows his plants well, and it might be of use if we give his answer to our query as to how he managed it. His reply was, "I grow my plants well, and do not starve them while they are about it, and after they have done what I want in the way of growth, I let them keep quiet until I want them again." This seems fair and equitable, and decidedly preferable to the all-the-year-round attempt at growing which so commonly prevails in small places by always keeping the plants in the same houses, and the houses at a close moist temperature continually.

Among the other flowering plants cultivated here we noted some fine specimens of the scarlet Impatiens Sultani, the fine old blue Agapanthus, prettily bloomed little Oleanders, the pink Crinum Mooreanum, Boronia elatior covered with rosy blooms, Erica Cavendishiana, yellow, and a very fine collection of Gloxinias and Achimenes, the showiest of which among the latter appear to be Harry Williams, carmine; Dazzle, bright scarlet; Longiflora major, large blue; Longiflora alba, white; Edmond Boissier, white, with mauve dots. The Tuberoses in the same house are very good, and on the roof the climbing Lilies, Gloriosa Plantii and G. superba, have many of their orange-scarlet blooms. In other houses some rare climbers are to be found, notably the handsome large Hoya imperialis, with large bunches of flowers, and Aristolochia ornithocephala, with hundreds of curious flowers like great unfledged birds; Mr. Bull's lovely new A. elegans, which is one of the most wonderful pieces of colour in flowers, is also represented by a smaller plant.

The Orchids.

The Orchids are equally well grown with the rest of the plants, and especially the many specimens of Cœlogyne cristata, which bear from twenty to fifty spikes each in their seasons. In flower are some very good Cattleyas, Odontoglossum citrosmum, and others; Dendrobium Dearei, D. Devonianum, Epidendrum vitellinum majus, Saccolabium Blumei, Oncidium Lanceanum, Cypripediums, Masdevallias, and several very fine examples of Peristeria elata (Dove Plant) in small pots, but with two to three spikes of flower each. In one of the houses appears a most remarkable specimen. of our old friend Dendrobium moschatum, with stems about 8 ft. long, which are trained over the roof, and in their season produce about one hundred fine sprays of large buff and crimson flowers of sufficient beauty to be considered equal to anything as a flowering plant.

The Conservatory.

This is a pleasant structure well furnished with climbers on the roof, among which the Lapagerias alone are computed to have borne some 5,000 flowers, and the planted-out rockery is still more beautiful, its floor as well as sides being made to imitate natural rock, an arrangement which is much more effective than having it of tile, which has always an incongruous appearance in such a place. The Ferns are beautiful in their wild luxuriance, and especially the Nephrolepsis tuberosa, Adiantums, Pteris umbrosa, Lastrea Standishii, and Lomaria fluviatilis. The foliage Begonias are fine, and the great head of flowers on the Bougainvilleas very effective, as also those on the Begonia fuchsioides planted here and there.

The Orchard-house, Fig-house, Vineries, &c., are each providing their share, and the kitchen garden, round which runs some 800 specimens of Chrysanthemums in about 300 varieties, is all that could be desired for cleanliness and good cropping.

LORD IDDESLEIGH ON WINDOW GARDENING.

At the tenth annual exhibition in connection with the Aldenham Street, Somers Town, Sunday School, held in the St. Pancras Vestry Hall, recently, Lord Iddesleigh said that he rejoiced that there were persons trying to interest the masses of this city in the works of nature, and the cultivation of flowers. A great deal was to be learnt by the cultivation of flowers. It was a great loss to those who inhabited crowded cities that they were cut off from many of the opportunities which their brethren in the country enjoyed of coming into contact with the beauties of Nature. Much, however, had been done, and was now being done, to enable the dwellers in cities to acquaint themselves with the beauties of flowers. He remembered the time when it was thought hardly the right thing to introduce flowers into the West-end parks, instead of having them wild and waste, and covered with gorse and heather. It was said that the people would not appreciate flowers and would spoil them; but all experience had shown, not that the people had done any harm to the flowers, but that the flowers had done good to the people. It was a good thing to introduce the pleasures of flower producing into the severer education of the young, and such pleasures as were to be derived from gardening were open to almost everybody; much pleasure was to be derived from the cultivation of flowers, even though the cultivators of them might not be able to produce such beautiful specimens as many of those shown at this exhibition, and the home was rendered more attractive by having a living thing, if only a flower, depending on personal attention. It was a good thing to have any object which called out the spirit of love.

BEDDING VIOLAS.

THAT bedding Violas can be grown as well in the south as in the more cool and humid climate of the northern counties—statements frequently heard to the contrary notwithstanding—is a fact often proved by cultivators who make up their minds to grow them, and grow them well, by the aid of cultural skill and assiduous attention to their wants. According to ordinarily accepted teaching, we have had heat enough lately to settle all the Pansies and Violas in the southern counties, yet we have before us a delightful assortment of flowers from Messrs. Collins Brothers & Gabriel's nursery at Hampton, some fourteen miles from London. What particular treatment they have received, if any, we do not know, but the flowers are of great size, rich and lustrous in colour, and perfectly fresh.

The darkest variety is Cliveden Purple compacta, a very dark maroon-purple self; and next to this, not quite so dark, with a shade of violet in the centre, and smaller, comes Queen of Purples. Then, without any maroon, but pure bright regal purple in colour, comes Archie Grant, a fine round flower, on a stout wiry stalk, that in this respect beats all the others. A fine variety for bunching, this is. A lighter shade of purple, and a very fine flower, is Mrs. Charles Turner; and lighter still, in fact, more a blue than a purple, is True Blue, a perfect gem as a bedder. Queen of Lilacs is very pretty, has a vigorous constitution, and is a remarkably free bloomer; and elegans is a very pale blue, with a shade of mauve in it.

The white varieties are Countess of Hopetoun, Lady Polworth, Jeffrayanum and Mrs. Gray, which is very pure, and distinctly primrose-scented. The only yellow is Ardwell Gem, a bright canary yellow of good shape, and a very free bloomer. Countess of Kintore needs no recommendation, its purple, steel-blue and white "Magpie" flowers being admired by all.

OAK DENE, HOLMWOOD.

THE owner of Oak Dene, W. Cattley, Esq., has been happy in the selection of a site for his residence, the pretty district round Holmwood being just populous enough not to be lonely, and not busy enough to disturb the tranquility desired in a country house. The natural formation of its grounds, too, harmonises well with the scenery around, and embellished as it is with all that the gardener's art could suggest, and handsome and rare trees and bright flowers supply it, occupies the highest point of excellence in the many pretty scenes over which, by its elevated position, it commands a view. The carriage drive planted with neat beds of flowers, backed by tall shrubs and conifers, leads to the substantial dwelling house, which is partly covered with Ivy and sheltered by handsome shrubs on either hand, while the opposite side of the broad gravel sweep is occupied by a massive clump of Rhododendrons and some very fine Conifers. Of these, including the finer kinds of Abies, Pines, Cupressus, Wellingtonia gigantea, &c., it may be said that it would be impossible for these to do better or grow more sturdily—the situation suits them evidently.

On the other side of the house a very pretty effect is made by arranging strong iron arches at a short distance from the house, and trailing over them climbing Roses and other plants, which growing and flowering luxuriantly, are very handsome objects in the garden. The ground on this side slopes rapidly and a level green terrace has been formed, beyond which in a little valley the bedding plant arrangement is situated, and about the whole garden much provision is made for Roses of all kinds, their beauty and fragrance at this season being delightful. Passing from the lower ground, on the garden side is a very pleasant and shady zig-zag walk beneath the fine Oak trees for which the place is noted.

The herbaceous perennials receive much attention at Oak Dene, a long border on one side of the garden being devoted to them; but the interest in them culminates in the two little herbaceous plant gardens, the one tended by Mrs. Cattley and the other by Mr. Cattley. Under any circumstances, we should strain a point to give the greatest meed of praise to that belonging to the lady of the house; but in this case conscience is saved, for it certainly is the best and most enjoyable bit of old-fashioned gardening about the whole establishment. Many interesting things are in bloom in it in fine masses, such as Spiræa filipendula fl. pl., Dietamnus fraxinella, red and white varieties, many colours of Iris hispanica and I. anglica, Pentstemons, Antirrhinums, Potentillas, Pyrethrums, Pinks, Pæonies, Foxgloves, Poppies, species of Roses, with here and there the tall spikes of the old white Lily, the whole being enclosed by shrubberies. The freshness and vigour of everything about the garden seems to point to the fact that although, from the nature of its soil and its situation, it must be dry, it gets the advantage of the cooling breezes, especially at night, which is a great refresher of vegetation.

The indoor plant department is provided for by several ranges of glasshouses adapted for the different sections of the plants grown, and also of Vineries in good crop. In one of the houses Mr. King, the gardener, has a very sturdy lot of young pyramid Fuchsias, which have made marvellous growth in a short time, simply by being well cared for, and shifted on into some good stuff instead of letting them starve in small pots as some do. The secret of growing good specimen Fuchsias is to shift on the young plants in spring and early summer until they are in the biggest pots they are to have, giving them a big shift, using turfy soil, and keeping them pinched back all over until the plant for flowering is formed. In another house are a fine lot of Carnations which have long supplied cut flowers, and which have yet a good crop of them. The best are Pride of Penshurst and Andulasia, both clear yellow selfs; Mary Morris, a charming rose-pink, which does either as a pot or garden plant; Mrs. Wallington, a pretty rose and crimson; Elsie, fawn, yellow and crimson striped; and Mrs. McLaren, white, pink and crimson flake. Some of these are trained over the roof for several feet like regular climbers, and they seem to bloom all the freer for it.

In the greenhouses are a good display of Pelargoniums, zonal and show, some excellent single and double tuberous Begonias, some pretty plants of both the double yellow and double scarlet Tropæolums, Lilies in pots, and some very fine specimen Azaleas, Coleus, and greenhouse Rhododendrons. In the warm houses, one division is filled with Gardenias, Adiantums, Crotons, and the pretty pink-veined Amaryllis reticulata, in bloom; the next with Orchids, Gloxinias, and Ferns. The largest stove has in bloom fine specimens of Bougainvillea glabra, Stephanotis floribunda, Clerodendrons, Hibiscus, Anthuriums, Acbimenes, Meyenia erecta, Tuberoses, Odontoglossum vexillarium, a curiously spotted variety; Oncidium sphacellatum, which bore 116 flowers on a spike; Dendrobium suavissimum, with four spikes; Cattleya Mendelii, C. Mossiæ, and C. gigas. The frames contain a fine stock of Cinerarias, Cyclamens, Primulas, &c., which will ensure a good show in the dull season. Situated well away from the house, and properly walled in, lies the kitchen garden, which is well cropped, and kept neat and orderly like the rest of the garden. It will be remembered that through the kindness of Mr. Cattley, the recent Rose show was held in the grounds of Oak Dene, on which occasion hospitality was extended to a large number, not only of friends of the family, but strangers too, and for the general amusement, a number of refined entertainments were provided, which were much appreciated by all.

SCOTTISH GARDENING.

The Vegetable Garden.—A system of close cropping should be followed. It is untenable to suppose, too, that fine crops are to be had by allowing portions of the land to remain idle a goodly portion of the season. Market men would never succeed did they give heed to such vague theories; clearing off and recropping the ground the same day is much in favour with them. We believe in no vacant space, no weeds, no waste, and no want. In limited space all short-lived crops, such as early Turnips, Radishes, Spinach, &c., may be had from between the Brassica crops and Potatos. We have always practised this system, even where ground has been very abundant, and do so now; but cramming Brussels Sprouts, curled Kale, Savoys, Cabbage, &c., among Potatos, doing neither justice, is not advisable. Celery ridges may be cropped with Spinach, Lettuce, or Turnips. Crops of these for autumn and early winter supplies should now be sown in quantity; also sow Carrots for drawing young and giving a supply through winter. Use fine ashes and soot over the whole surface where the seed is sown. The main crop of early summer Cabbage may now be sown. Two or three kinds may be grown; Early York, Allan's Incomparable, Enfield Market, and Barnes' Dwarf are still great favourites. A selection we made from a mixed lot two years ago are the best at the present time we ever had. There is some advantage in making a selection and retaining it of any class of vegetables. We have Parsley, Kale, Lettuce, and others saved in this way and of great value.

Tomatos.—On walls, wooden fences, slopes covered with slates, old buildings, &c., Tomatos are grown in some districts where one does not expect to see them attain to any degree of excellence; but when such have been well prepared in early spring under glass, well hardened—not punished by cold draughts, &c.—and kept growing steadily, really fair success may be expected, even in such late seasons as the present. An evil we too often meet with in the cultivation of Tomatos is allowing the plants to exhaust themselves by growing great quantities of laterals, and suddenly clearing off these; this prevents free setting and swelling of the fruit. It might seem absurd did we say that in northern districts like this one can gather good Tomatos from open walls during June. Such is really the case, but under conditions which had close cultural attention under glass months before the fruit was gathered. A number of large plants left in a pit from the stock planted under glass, with extra-sized fruit, green and swelling, were turned out about the end of May, carefully preserving the roots, and protecting the plants at night for some time. Before the end of June these fruits ripened well, were of fine size, and others have set and are swelling. Of course, there is nothing in this; but with proper attention to removal of laterals as soon as they appear, so that the vigour of the plant is not checked, the roots watered carefully, fruit thinned as soon as set (when flowers are abundant all should not be allowed to set), and the stem kept well in its position to prevent breakage by wind, Tomato-growing in the north would not always be labour thrown away where glass could not be spared to do the work better.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

Some difficulty is experienced in the management of the plants in this house now, for they are very liable to suffer from the heat and want of adequate moisture. It is necessary to open the ventilators freely all day, and when the sun is unusually hot, the wind at the same time being high as has been the case on several occasions lately, it is almost impossible to prevent the plants suffering to a certain extent, as the moisture is evaporated or absorbed by the dry air more quickly from the foliage than the roots can supply it. Moveable shading is always preferable, but a permanent shade material can be safely employed at this time of year, and in some instances is to be recommended, especially where the duty of attending to the house has to be left to young or inexperienced persons. A suitable wash can be purchased ready prepared, or one can be mixed as described in a previous calendar. Supply the plants with water freely, syringing the foliage and damping the shelves, paths, and floor of the house several times a day. It is at this time of the year that the advantages of earth floors and paths of similar material are fully experienced, for nothing retains a healthy moisture so long as this substance, and the steady evaporation greatly benefits the plants; keeping the atmosphere cool.

Little rockeries under the stages or shelves, planted with Panicum, Selaginellas, and often similar plants, are very useful in this respect, as a constant supply of water being needed to keep them healthy, provides abundant moisture for evaporation. Celosias, Fuchsias, Pelargoniums, Dwarf Scabious, Gloxinias, Musk, Mignonette, and Annuals in pots are what we now rely upon mainly for the greater part of the display, but many other plants are included, for most stove occupants thrive very well in a greenhouse at this season, if not placed in too draughty a position.

We have a good supply of Stocks, both ten-week and intermediate, and when these are obtained of a well proved strain, they are most valuable for pot culture during a good portion of the summer, flowering freely, bright in colour and possessing a delightful fragrance. One variety in particular, named Mauve Beauty, is a capital form, and we hope another season to have a larger supply of plants. Balsams are progressing well, and several specimens that have just been arranged in the house have greatly improved its appearance, some smaller plants are to be re-potted this week into a

rich compost of loam, leaf-mould, old manure and sand, 32 size pots being those employed for the largest plants. Abundance of water and liquid manure is required by Balsams, and large specimens that are flowering profusely are improved by a mulching of manure and turfy loam placed over their roots in the pots. To facilitate this being done when it is intended to grow large plants, the final shift should be into 24 size pots, leaving a good space from the rim to the soil, say 1½ in. or 2 in., and in any case sufficient space must be left to permit a good quantity of water being applied to thoroughly moisten the soil. If Balsams are allowed to become dry they are soon rendered useless, their lower leaves fall, they are quickly infested with red-spider, and instead of ranking amongst the most beautiful, they are absolute disfigurements. Syringe freely until the flowers are fully open, and even then a light syringing will be needed.—*Scolytus.*

LONDON GARDENING.—II.

ITS DIFFICULTIES.

"For every evil under the sun
There is a remedy, or there's none!
If there is one, try to find it!
If there isn't, never mind it!"

There are two evils for which our London gardener may be sure that no remedy is to be found. These it is accordingly her duty not to "mind," or at all events to "mind" as little as her temperament may permit. They are impure air and lack of light. The first makes its baleful presence felt all the year round, though with redoubled malignity between October and April, the period to which the tyranny of the second is practically confined. Now impure air is impure in two distinct yet kindred senses; in the sense of being "exhausted," and in the sense of being charged with deleterious matter. The first or negative form of it is of course unavoidable wherever an immense population exists in a relatively limited area; and where no room has been left for "lungs" in the shape of open spaces, judiciously planted and clear of houses, nothing can be done to modify the evil. For the second or positive form also, indeed, there is no hope of a remedy until the reign of smoke abatement committees shall have become organized and supreme. Soot is no doubt a valuable stimulant, when administered with a due regard to proportions, to garden borders, and invited to operate beneath the surface, to the confusion of slugs not on active service and the enrichment of the soil. But feeding is one thing, and inhaling is quite another. A deposit of soot, blocking up the pores of a plant and lying heavy on its heart, is an application very far from vivifying. And it is precisely of this that our invincible foe, impure air, is the indefatigable purveyor.

No one who has not grown and cared for hardy plants in London can form any conception of the formidable opposition offered by "blacks," or of the amount of evil work that a single fog can do. For hardy plants must have air from above, and however admirably contrived frames may be to protect from rain when rain falls, and from sun when sunshine scorches, they could not meet the difficulty even if the contents of a whole border could be committed to their costly care; for though the air might play around, below, and through them, the grower could not always dispense with a direct supply of it from above, and with it must descend the fatal "blacks." Before me at this moment is a little company of seedling Auriculas, healthy and erect, each bidding fair to fill its thumb-pot with energetic root-fibres before I am likely to have time to find it a bigger house. If they were the happy inhabitants of a country garden, say thirty miles from London, how spotless would be the dainty green of their young leaves! Small need *there* of a camel's-hair brush to help them to breathe and to keep them clean! But here, though their "environment" is favourable enough, for the season is high July and the weather is brilliant, the poor little delicate leaflets are sprinkled as if somebody had been dusting them with black pepper—verily we have an invincible foe!

Yes. But yet this invincible might be dislodged from many a position customarily ceded to it,—nay one might think, specially prepared for its reception! For what is the staple commodity of the ordinary London garden? What are those which, whatever else may be conspicuous by its absence, are sure to be found there? What but EVERGREENS?

Have your little garden "laid out" by contract,—or commission your nearest friend to get it stocked before you take possession,—or copy your neighbours' gardens as they lie suggestively right and left of your own. The result in all these cases will be the same:—Evergreens! Laurels mainly; Laurels plain and Laurels speckled, Laurels narrow-leaved, broad-leaved, willow-leaved; Laurels of Portugal, of the Caucasus, of California!! But also, among others, the Euonymus japonicus, the Box, the Holly, the Bay, the Privet, and the Aucubas. If you have a grass plot, four varieties of Thuja will probably keep solemn guard at its four corners, and you will be fortunate if the exact middle of it is not announced by a bed encircling a fifth specimen of "greenery all the year round." "So cheerful in winter!" say the neighbours on the right and left, "and so little trouble! You just put them in, and have done with it!" Ah, that is true. You have indeed "done with" more than your excellent neighbours mean, when these "cheerful" subjects have established themselves in your poor little garden: you have done, for instance, with the hope of successful flower-growing, and with the chance of a variety there, keeping step with the varying seasons; you have invited Gog and Magog to settle in Lilliput, and by and by Lilliput will be eaten out of house and home. Moreover—not to lose sight of our Invincible—you have provided most hospitable accommodation for "blacks"; the Laurel-leaves particularly offer them undisturbed repose on the large scale of layers, which after a gentle rain become gritty paste, but succumb to a drying wind so far as to break up into flakes of solid soot, nicely calculated to extinguish the modest aspirations of the poor primrose, or violet, or hepatica on which they presently fall.

A good-sized London Laurel-bush is an agency almost as mischievous as Vesuvius; it has its dormant periods—though these are not so harmless as they seem—but let a boisterous wind arise, or heavy rain come on, and many are the poor little Pompeii's that are smothered alive. The quantity of soot harboured, as on shelves and ledges, by a dozen such bushes would amaze any person untaught by experience; who would take the trouble to collect it and to measure the spoil. My own little garden is about 60 ft. long by 25 ft. wide, and when I took possession of it I found, besides the four watchers at the four corners of the grass-plat and a funereal Yew a sa centre piece, ten gigantic Laurels, four Hollies, and several Bays and Box-trees, while the walls were thickly covered with ancient Ivy and a tapestry of matted Virginian Creeper, I was assured that no flowers would grow here, so perverse were flowers! By degrees, for it was an enterprise almost worthy of comparison with the removal of Cleopatra's Needle, the shrubs were all translated to a neighbouring churchyard, just then a mendicant for indiscriminate greenery, the walls were stripped of their drapery, and the spectral Yew opportunely died a natural death. I should now be ungrateful indeed if I complained of the perversity of flowers.

Impure air, then, we have seen to be a serious and an insurmountable difficulty in the path of the London gardener; but it is at least open to us to deny to its deposits the vantage-ground furnished by the conventional evergreens. Careful housewives wisely inveigh against superfluities that constitute "dust-traps;" let us town gardeners beware in like manner of soot-traps! let us grow deciduous trees and shrubs, which offer but slight foot-hold to the enemy at the time when he can do most harm, and learn to prefer their healthy bareness to the "green in winter" which after all is green only by courtesy. In the country it is a widely different matter; there, where space abounds and the atmosphere is pure, evergreens are not only innocent but highly ornamental; they are in fact worthy of a higher destiny than the vocation of soot-collectors and floricides.

In the presence of "deficient light," the other great difficulty which can neither be treated with nor vanquished, we are quite helpless. We can only acknowledge its gravity by the judicious avoidance of plants blooming late in the autumn. From mid-October onwards to the year's end not much bloom can be looked for in the ordinary, walled London garden; sometimes the sunshine fails early in October, as last year, and then the most promising Chrysanthemum and other buds do not come to fruition. Short of actual fog, there are many degrees of haze in a London autumn which chill floral ambition. But of all this more hereafter, when, having tried to eliminate the things that may *not* be done, we come to consider and to enumerate those that may.—*C. A. G.*

MR. JAMES THURSTON.

THE accompanying sketch is from a photograph taken by Mr. W. Morton, in Mr. James Thurston's garden at The Cedars, Merriedale, Wolverhampton, and represents the Tulip bed of that successful amateur florist, together with a portrait of Mr. Thurston. It gives the readers of THE GARDENING WORLD some idea of a Tulip bed, how the flowers are grown, how protected and shaded at a time when in bloom and required for exhibition purposes. The frame work is strong, durable, easily fitted together, and as easily removed; it admirably serves the purpose for which it was designed, and when no longer required for Tulips, it can be utilised for Pinks, Ranunculus, &c., and later on for Gladiolus. It is one of those mechanical contrivances indispensable to the garden of an amateur florist who grows such floral pets as Mr. Thurston cultivates so well; and it has the advantage of being readily turned to account for the adequate protection of various subjects. Some account of the construction and putting together of the frame shall be given in a week or two.

Merriedale is a very pleasant district of Wolverhampton, lying on the best side of this great business centre, and on somewhat high ground, away from the smoke of the town. The garden attached to The Cedars is by no means large, but in it Mr. Thurston cultivates a great variety of subjects, such as Tulips, Pinks, a few Auriculas and Polyanthuses, Roses, Gladioli Delphiniums, Phloxes, &c., while there is a good selection of the choicer hardy plants. A portion of it is devoted to the growth of vegetables; the largest part to flowers.

Auriculas and Polyanthuses, including some fine and promising seedlings of each, are either in pots in a cold frame, which is the summer quarters of the choicer sorts, or in beds. Mr. Thurston has a select collection of named show and alpine Auriculas, and many seedlings, especially of the latter, raised from the finest sorts, and from which he reasonably hopes to obtain some good things. Of gold-laced Polyanthuses he has a collection of the best named varieties, including George IV., Lancer, Prince Regent, Cheshire Favourite, Lord Beaconsfield, &c., planted out under a wall, facing east, where they are doing well. This wall is on one side of the garden, and at the foot there is a slightly raised border, in which the named and seedling Polyanthuses are planted out. This bed was made by taking out the soil, placing a layer of good dung, and filling up with a light sandy loam enriched with leaf mould. This affords a cool bottom, a valuable fertiliser, and the very spot for the summer quarters of these interesting plants. There are about 1,000 seedling Polyanthuses all from seed, obtained from crosses between Geo. IV., Lancer, Cheshire Favourite, and Prince Regent. Then choice collections of show and fancy Pansies find a place, and come in useful for exhibition purposes during the months of July and August. Roses abound in the garden in all cases as dwarfs, some of which have grown into quite large sized trees. The collection includes also about fifty of the finest named varieties of Phloxes; Mr. Thurston has a select collection of named varieties which he has picked out from those he has tried. They are just coming into bloom. He gives the names of the following varieties as making a very suitable amateur collection, viz.—Roi des Roses, J. K. Lord, Gloire de Neuilly, John Forbes, Flora McNab, Star of Bath, Earl of Rosslyn, George Grieve, Madame Marie Saisson, A. F. Barron, Souveuir de Berreyer, Duke of Sutherland, Madame Bonneau, Mrs. Turner, Perfection, Philippa Penglase, William Bull, and Marchioness of Lorne. In addition, Mr. Thurston has a batch of very promising seedlings, and he adopts the practice of sowing the seed in spring, drawing a ridge in the open ground about three quarters of an inch deep, the seed germinates in about two months, the seedlings are planted out to flower as soon as large enough, and they bloom freely the second year. Then there is a collection of very fine seedling Delphiniums, the seeds of which are served in the same way. In not a few neighbouring gardens in Merriedale, Delphiniums of rich and varied hues of blue are to be seen, representing the overflow from the garden at The Cedars. There is a small collection of English Iris, and a few other choice subjects too numerous to mention.

The Tulips, which were in the bed at the time the photograph was taken, have been lifted, and placed away carefully until planting time comes round in November next; the bulbs in a supplementary and later bed are

now being lifted. The best time to do this is when the foliage is half decayed; if deferred until the foliage has quite died away, it is held that much harm is done to the roots.

Mr. Thurston grows a choice collection of Pinks, and these are now in full bloom; the varieties he cultivates are almost entirely seedlings raised by himself. He began to raise as far back as 1868, or thereabouts, and every year almost sees additions made to his stock. One of his earliest flowers was Mr. Thurston, raised in 1870, followed two years later by George Hodgkinson. In addition he has Dr. Hardy, Mrs. Morton, Mars, Mrs. Houlgrave, William Bolton, James Thurston, Samuel Barlow, Lord Beaconsfield, John Dorrington, Helen Maud, Amy, Clara, Mrs. Haynes, Rose Elizabeth, F. D. Horner, Florence Isabel, and Nellie. The foregoing can now be seen in flower in his bed, and blooms of some of them were sent up to the meeting of the Royal Horticultural Society, on the 13th inst.; but the blooms were not seen to the best advantage, the recent hot weather had told against them. The thrip had damaged the flowers also, and they were not seen in the best condition, being only poorly laced. But we saw these in Mr. Thurston's garden on the 16th inst., and were struck with the size and fullness of bloom, their rich markings, smoothness of petal, and refinement of marking. Later on we will give full descriptions of these flowers, it must suffice now to simply mention their names. We may add that at no season of the year can a visit be paid to Mr. Thurston's garden without seeing something of interest, and no one can have a pleasant chat with this worthy florist without being made aware how well he is informed in regard to all matters relating to florists' flowers.

Mr. Thurston is much better known among florists in the midland and northern districts than in the south, and therefore we feel justified in giving a sketch of his floricultural career. It was about 1850 that he commenced to grow florists' flowers, starting with one that has remained a leading favourite to this day—the Pink. He attributes his fondness for florists' flowers to a Mr. Allum, who was a great grower of Carnations and Picotees, and who inspired him with a desire to take up the cultivation of florists' flowers. So well did he progress that in 1853 he was awarded a first prize for twelve Pinks at a show held in the Botanical Gardens, Birmingham, he residing at that time at Balsall Heath, and he took honours with Pinks at the same place in successive years. His next venture was with the Ranunculus, and these he grew very successfully indeed, and in 1864 he exhibited at Prescott, near Liverpool, and was awarded an extra prize for them and also for Pinks. He first appeared as an exhibitor of Tulips at the National Tulip Society's exhibition at Stockport, in 1867, although he had grown them many years previously. Meanwhile, he had also removed from Birmingham to Warrington, which circumstance has somewhat interrupted the continuity of his exhibiting. While at Warrington he made the acquaintance of the late Dr. Hardy, the late Michael Potter, and Mr. Samuel Barlow, and from the intercourse thus afforded he came to take an interest in and grow Tulips, and has done so ever since, and has proved, on the whole, a successful exhibitor at the National Tulip Society's exhibitions. Twelve years ago Mr. Thurston left Warrington and came to reside at Wolverhampton, and this change of residence placed him at some disadvantage in the matter of exhibiting Tulips in consequence of the climate causing the flowers to expand fully ten days earlier than in the neighbourhoods of Manchester and Stockport. Notwithstanding, he has invariably carried off a number of prizes at the Manchester show. On the last occasion he was placed second in the class for twelve blooms, competing for the champion cup, which was awarded to the Rev. F. D. Horner. Mr. Thurston occupied a similar position in 1884.

He began raising seedling Pinks as far back as 1854, he gathered some seed in 1853, and again in 1854, and his first seedlings produced flowers good enough to be awarded an extra prize in the latter year; and he has continued to raise seedlings off and on ever since. But there appears to be a good deal of chance attending the process, for the raiser may cross with great care, and yet meet with keen disappointment. In July, 1863, the West Riding Society of Florists held its annual show at Leeds, and on that occasion Mr. Thurston was awarded three First Class Certificates of Merit for the following Pinks:—Annie Lenton, Charlotte Lenton, and Miss Lenton, and they were described at the time in *Gossip of the Garden* as three first class flowers. A contemporary flower named Helen Rainball was also thought highly of. A few years later appeared James Thurston and George Hodgkinson, both very fine flowers, and it is not too much to say that they have never been surpassed for purity of ground and refinement of marking. Then followed those already named.

Mr. Thurston's desire to raise Tulips originated in this way. He and Mr. S. Barlow were once in the company of the late Dr. Hardy, who remarked that they were young men while he was advancing in years, and he advised them to cross Tulips with the view of obtaining improved varieties. Dr. Hardy had offered both seed of varieties he had crossed, and Mr. Thurston raised a number of seedlings, and from the most promising of these he obtained others, and at the present time he has some two hundred seedling bulbs yet to bloom. Out of those already bloomed he has obtained Mrs. Thurston, a beautiful feathered rose, which was awarded a First Class Certificate of Merit by the National Tulip Society in 1884. He has also a large number of very superior varieties in the breeder state, four of which were in his stand of six at the National Tulip Society's Show in 1885, and for which he was awarded a first prize. The crosses from which the seedlings have been mainly obtained were between Sir Joseph Paxton and Dr. Hardy, flamed bizarres; Masterpiece and Dr. Hardy, the former feathered bizarre; Dr. Hardy and Sulphur, bizarres; Talisman and Adonis, both ways, Byblœmens; and though the

A Florist at Home: Mr. Thurston and his Tulip Bed.

crosses have been kept strictly to two parents, great diversities of character have appeared in the progeny. Of rose Tulips the following were made seed parents:—Kate Connor and Sarah Headley, Mrs. Lomax (or Merit) and Kate Connor, Mrs. Lomax and Sarah Headly; the result being that there have been obtained substance of petal and fine shape from Sarah Headley; purity, colour, and marking, from Kate Connor and Mrs. Lomax. It is not to be wondered at that such a fine variety as Mrs. Thurston came from such a parentage.

Here we leave Mr. Thurstou for the present, with the intention of giving further details of his excellent floricultural work.

DOUBLE HARDY WHITE FLOWERS.

From the frequent inquiries made in reference to white flowers, and from their adaptability for purposes that other colours are not so suited for, I believe I am justified in assuming they are not only the most popular, but the most useful. Their popularity and usefulness become emphasised when they are hardy, and still more so, when they are double. This is easily understood without entering into a comparison from an æsthetic point of view, as generally double flowers of the same species hold more than twice as long cut than do singles. Without further preface, from practical experience, I subjoin a few notes of a dozen or so, that any reader, even with a dozen square yards of a town garden may grow—

Spiræa filipendula flore pleno (Double Dropwort).—This is so easily grown, that once obtained, it is never likely to get lost. The foliage is beautifully pinnate, Fern-like, and prostrate, so much so that I know cases where it is grown for that alone, especially as an edging; the flowers are a beautiful creamy white, and formed into compact corymbs. It will bear removal or division at any season of the year, and with me even when left uncared for years, has regularly bloomed. S. palmata likes a moist soil and shade; this will thrive in any position. I presume it would force and bear greenhouse treatment, but I have not tried.

Achillea ptarmica flore plena (Double Sneezewort).—This has many traits in common with the foregoing, and where white flowers are needed for cutting should never be absent. It has been in the same corner of a border with me for years, and although I forget all about it for months together, its handsome white terminal corymbs in summer prove a welcome reminder. When a new bed or border is manured and remade, it deserves a place.

Double White Pyrethrums and P. Achillæfolium flore plena.—First a word as to the last. It is very old, yet I doubt if it is to be found in one garden out of every five hundred; the blooms are pure white, and somewhat resemble the foregoing. I have another variety, shaded yellow, and a chance seedling with a set of guard petals crimped; they give any amount of cutting, but are only a fraction of the size of the grand double white Pyrethrums. Of many varieties of those obtained from Messrs. Cannell of Swanley, Kelway, Langport, and Carter's, Forest Hill, and tried for many years past, Mont Blanc is the freest bloomer and purest white, and then Nione plenum. To these might be added Virginal, Vio Lactee, and there are, at least, half-a-dozen whites, shaded rose, carmine, or orange, all worth growing. When first planted there is immense difficulty in saving them from slugs; perhaps a small inverted flower pot is safest

Double White Linums—Flowering Chrysanthemums.—Looking a little into the future, there can be little doubt where double white flowers, especially Composites, are desired or prized, these will be found filling beds, and getting back positions in the borders. I should like to know what would be more showy than a few beds of varieties with established reputations, and blooming during August and September, such as Madame C. Desgrange, Sœur Melaine, or Le Petite Marie, the heights varying according to the richness of the soil, from 3 ft. for the former to 6 in. to the latter. The varieties to choose from, as well as the colours, are numerous; I hope to try this next year.

Matricaria inodora flore pleno.—This is allied to and frequently called a chrysanthemum. Unlike some other desirable border perennials, I prefer rooting cuttings or taking off-sets *every* year. In very dry soils or plants several years old, the blooms are spare and semi-double. In rich moist soils the blooms are produced in immense quantities, very double and large, and continued for three or four months; no border should be without this, if only for the foliage.

Campanula persicifolia alba flore pleno.—I never lose an opportunity of saying a good word for this, and still I am aware it is not grown everywhere, as it ought and might. Unlike other things it require no pettiug, but naturally the blooms are finer when regularly once a year divided and replanted. My variety—I am aware there are inferior strains—is as double as a white Camellia and regularly imbricated to the centre. The blue, not so much so like those already named, is in bloom at present, and can be planted at any time.

Hesperis matronalis alba plena (Double White Rocket).—The recent revival in hardy flowers has rescued this grand old favourite from unmerited oblivion in old country gardens. There is a flesh-coloured strain, seemingly of more robust constitution as it is more frequently met with, but cannot compare with this in purity of colour or fragrance. I find it difficult to retain. One of the reasons is, that propagation cannot be had except by suckers, and these are not produced freely, except soil is lifted up around the stem.

Ranunculus aconitifolius flore pleno "(Fair Maids of France)."—This is more a spring than a summer flower, but when well treated, the side shoots bloom on for several months and give lovely little white blooms for cutting. The foliage is now dying down, and except the little clawy tubers are lifted, replanted, and labelled, may get readily lost.

Double White Carnations and Pinks.—Any notes under this heading would be radically incomplete that did not include those deliciously fragrant and handsome flowers. I cannot be persuaded the Carnation or Pink were ever meant to be grown indoors. Compare the delicate growth and few blooms on "The Bride" or "Glorie de Nancy," or the still more robust "The Governor" (Cross) Clove Carnations, as from indoors and out. I have seedlings—no doubt the edges of the petals are serrated—pure white, with blooms produced on single stools by the hundred. Then look at the old double white pink, with fragrant flowers by the thousand, or the still better "Mrs. Sinkins," quite at home in beds or borders. I must add one other old favourite that may be planted now, very useful for cutting in spring, Saxifraga granulata flore pleno.—*W. J. Murphy, Clonmel.*

NOTES ON CHERRIES.

Last week while Waterloo and White Hart Cherries were being sent into the neighbouring markets by tons, and sold at a price which enabled every Londoner in the possession of a few coppers to enjoy a feed of the luscious fruits, we received from Mr. T. Francis Rivers of Sawbridgeworth, some samples of his choicest varieties, half-a-dozen sorts in all, and which may roughly be said to be three blacks and three whites. They were

Early Rivers, raised by the late Mr. Thomas Rivers, from the Early Purple Gean, and which first bore fruit at Sawbridgeworth in 1869. The fruits are large, black in colour, and exceedingly sweet and pleasant in flavour. The tree is said to be a great bearer, the fruits being produced in clusters of ten or twelve.

Turkey Black Heart.—A Bigarreau in shape, resembling the last in colour, but not quite so large. The flesh is also firmer, but though of sweet flavour, not so refreshing to the palate as the Early Rivers.

Black Hawk.—An American variety, skin and flesh dark purple, nearly black in colour, the flesh firm in texture and rich in flavour.

Bigarreau Monstreuse de Mezel.—This is a very handsome Cherry, very large, and dark red on the sunny side, paler on the reverse, with plenty of firm flesh adhering to the skin, and very rich in flavour; a very fine variety.

Ludwig's Bigarreau.—This is also an early variety which we believe was raised at Sawbridgeworth, of good size, and a darker red in colour than the last named, with pale yellow, melting flesh, and deliciously flavoured.

White Bigarreau.—Fruit large, heart-shaped, pale yellow in colour, and the flesh moderately firm, juicy and sweet.

THE GLEN, LEWISHAM.

Dr. Duke's garden at the above address, although small, is full of interest; indeed, there is more to delight an enthusiastic horticulturist in this small space than in many gardens much more extensive. Good old alpine and herbaceous plants find a home on borders and rockeries round the lawn; hardy Ferns and shrubs are also well looked after, but the chief feature of the place is the splendid collection of Orchids, so well described in The Gardening World on May 1st.

I think no grower of Orchids could wish to cultivate Barkerias in better style than they are done at The Glen. They occupy a small house only 12 ft. long; the plants are suspended close to the glass, and the thick healthy roots hang about in all directions. Water is freely used until growth is completed, and an abundance of air given, the door being allowed to stand open all day at this time of year. Certainly their treatment is well understood here, and both Dr. Duke and his gardener ought to feel proud of their success. They might certainly oblige many less fortunate by publishing their secret in this paper concerning the mode of treatment.

In the new span-roofed Cattleya-house the plants are at home and perfectly healthy, although they stand so thickly together (as, indeed, they do in all the houses, not an inch of space being wasted). The Cattleyas are well syringed early in the afternoon, and the house closed for about two hours, after when the ventilators are again opened for a time to dry the atmosphere. A nice variety of C. bicolor is bearing a seed vessel crossed with pollen from C. Lawrenciana. Should the possessor be fortunate enough to raise seedlings, I trust he will fare better if he exhibits them before the Floral Committee than he did with the first flowering specimen of the male parent in February last.

The old Cattleya-house is turned to good account for the reception of imported plants, and with the earth floors and moist air, proves to be just the place for them, as their numerous roots and sturdy growth testify. In one house are a quantity of Oncidium Jonesianum, growing and rooting freely on bare pieces of Pear-wood along with Odontoglossum grande, &c.

The Phalænopsis are grown in a house, above stove plants. I have always noticed that where this system is adopted the Phalænopsis are growing the most satisfactorily. There are several choice species grown, and P. amabilis, P. Luddemanniana and P. Sanderiana are in bloom. The cool-house is filled with many plants, chiefly of the Odontoglossum crispum type, and some exceptionally fine varieties are amongst them. Aërides japonicum is thriving well close to the glass. Angræcum Leonis occupies a position in the flowering house; there are several plants, one being a large healthy specimen.

Among other subjects in bloom I made a note of the pretty Angræcum falcatum, with sweet-scented white flowers; Acineta Barkerii, Anguloa Clowesii, the curious Acanthophippium bicolor, a very fine Cattleya Dowiana, C. bicolor, C. Gaskelliana, dark and light varieties of C. Leopoldi, C. Mendelii, and a few late-flowering C. Mossiæ; also a good form of C. Sanderianum, Cymbidium Lowii, which has been in bloom for sixteen weeks; Cypripedium concolor, C. c. Regnieri, C. Spicerianum, a very fine plant of the beautiful Cœlogyne Massangeana, Dendrobium Bensoniæ, D. infundibulum, D. Jamesianum, D. Freemanii, D. Parishii, and D. superbiens; Epidendrum falcatum, E. nemorale majus, E. tovarensis, with pretty white flowers; and E. vitellinum, a distinct crimson variety, I never saw one before so rich in colour; Galeandra Devoniana and G. nivalis; Lycaste Deppei, Lælia purpurata, Odontoglossum cordatum, O. crispum, O. maculatum, O. sceptrum præuitens, Oncidium curtum, O. crispum grandiflorum, very fine, two spikes bearing seventy-five large blooms; O. longipes and O. metallicum. Oncidium Harrisonianum is coming into bloom, showing 200 flowers on the spikes, and will be very effective soon. Some of Dr. Duke's best varieties are sketched in colours on plates and other china. Had they been at the great Liverpool show they would have been admired by all lovers of this artistic work. It is worthy of note that anthracite coal has been used for some time at The Glen, and has proved to be the best and by far the most economical of any fuel yet tried.—*G. W. Cummins, The Grange, Wallington.*

FRUITS, FLOWERS & VEGETABLES.

White Viola.—Your correspondent, "B. L." (p. 715), wishes to find a good white Viola with the old Perfection habit. Allow me to recommend one which has given me great satisfaction, and if "B. L." is not already acquainted with it, I may describe it as of a very dwarf upright growth, but the flower partakes more I think of the Pansy than the Viola proper. It was sent out by Messrs. Dicksons & Co., of Edinburgh, some years ago under the name of Snowdrop, since which time it has been much used here, and is now the only white one I grow. I find its chief merit to be that it is much more effective when the plants are two or three years old than when young plants are used yearly, as it gains a much more stocky habit when old, and also flowers more freely. Some plants, which have not been disturbed since I had them, shortly after being sent out, until this season—a proceeding I now very much regret, the drought in this locality having caused plants to do so badly—have hitherto, year after year, been a mass of bloom, the foliage being almost hidden by it. They were originally planted in a mixed border, and the flowering growths cut back yearly.—*R. Stevens, Paston.*

Earwigs and Chrysanthemums.—I do not think that Chrysanthemum growers generally can endorse Mr. George Kidson's remarks respecting earwigs (see p. 724). Having been a grower for many years, I agree fully with what Mr. W. E. Boyce states in his *Guide*—viz., that they do great injury to the plants. It is a well-known fact that serious injury is often done to the shoots and buds by the ravages of these garden pests.—*A. R.*

Apricot-coloured Roses.—When looking over the fine collection of Roses staged by Messrs. William Paul & Son, of Waltham Cross, at South Kensington, on the 13th inst., I made a note of four varieties that I thought came under the denomination of Apricot-coloured Roses. They were Ma Capucine, bronzy or dark apricot, beautiful in the bud (Mr. Geo. Prince grows this Tea-scented Rose grandly at his nursery at Longworth, and gets on to it an edging of silvery rose); William Allen Richardson, Noisette, deep orange-yellow, the edges of the petals paler; Shirley Hibberd, Tea-scented, deep nankeen-yellow, something of a novel colour, very pretty in the bud-state; and Madame François Jamin, deep orange-yellow, the centre occasionally tinted with coppery apricot. I think these are all well worth growing for cutting from. Little pruning is necessary in the case of these Roses, and spiral training is recommended for all of them. Shirley Hibberd and Madame François Jamin may, perhaps, require a little closer pruning and a fairly rich soil. I find that at a Rose show, when Roses of the type of William Allen Richardson are shown, the adies especially linger over them, as if they were of a peculiarly attractive character.—*R. D.*

The Fruit Crops in Northumberland.—The drought this summer has been unusually severe in this neighbourhood, no rain of any consequence having fallen from the last day of May until the 12th of the present month, since which time we have had a few good showers, which have already told wonderfully upon all crops. The fruit crops are, therefore, very much under the average, and likely also to be small in size. Apples and Pears are a thin crop in the open; here, and in one or two places which I have visited, they have been dropping from the trees, and there was no help for it, through lack of water supplies. On walls both these fruits are somewhat better, though under a medium crop. Apricots are nearly a failure; but in our own case the fault is partly my own I believe, as this year they were so late in coming into bloom, and the weather being exceptionally fine, I did not apply so much protection as usual, and the consequence was they got caught. Plums on walls are good, especially Victoria; but most of the Gages are useless to depend upon about here. Peaches have been given up outdoors, except in some cases where heated walls are built. Of small fruits, Currants are fairly good, black a trifle thinner than usual, but still a good crop. Gooseberries also are good where the birds have left them alone; sparrows are the worst enemies to these here, and this year most of the damage was done during winter, when we had such a long-continued snowstorm that they were driven to the buds, as no other food was to be had, unless near farm-buildings. Strawberries are a capital crop, and ripening fast now; these and Cherries are the only fruits I can reckon as exceeding the average.—*R. Stevens, Paston, Northumberland.* [We should be glad to hear from our readers, on this subject, in other parts of the country.—Ed.]

Gumming in Peach Trees.—Would you kindly inform me what is a reliable cure for gumming in Peach trees. I have some young trees affected.—*W. W.* [We do not know of any reliable cure for gumming, and should get rid of any trees badly affected. Yours being young trees, it is possible that they have been planted in too heavily manured borders, in which case you must let them grow freely and prune as little as possible, so as not to check the flow of the sap. Remove the exudations carefully, and wash the bark frequently with water.—Ed.]

FLORICULTURE.

Carnations and Picotees at Home.—The home to which I allude is at Slough, where Carnations and Picotees have been grown for many years past. I think I never before saw a better and healthier stock. It is computed that there are 2,600 eight-inch pots, and as each pot, in most instances, contains three plants of one variety, your readers can give some idea of the enormous quantity of plants now in flower, or rapidly coming into bloom. For the convenience of housing and layering, Carnations and Picotees are grown in pots, and now one can see them at Slough housed under glass—three houses at least being full of them; and there is as fine a head of bloom as one can well desire to witness. Evidently the season is favouring a good head of bloom, and I think that Mr. Douglas, as well as Mr. Turner, will show in splendid form on Tuesday next, on the occasion of the National Carnation and Picotee Society's Annual Exhibition.

I saw the Slough collection on Saturday last, and though the flowers were young there were ten days for them to perfect themselves into fine development, and I left the place with the conviction they will do so.

What a rich class the scarlet bizarres are!—so striking in colour when the flakes and dashes of scarlet are vivid. I made a note of the following as the best among them then in bloom:—Robert Lord, James McIntosh, Master Stanley, Lord Napier, Charles Turner, and Arthur Medhurst. Crimson bizarres rank next in value, of these there were Rifleman, Harrison Weir, Crimson Banner, E. S. Dodwell, and Mrs. Maclaren, the last named a tree carnation that is now blooming in fine condition, at the same time it sports freely into many fancy forms. The Pinks and Purple Bizarres are represented by Turford Perfection, Sir Garnet Wolseley, H. K. Mayor, Sarah Payne, Squire Llewellyn, Falconbridge, Princess Beatrice, and Joe Bagstock. In looking over the raiser's names of the foregoing one is able to see how many of them Mr. E. S. Dodwell has raised and put into cultivation.

The Picotees are all so very pretty that one can only heartily admire them without distinction of variety. They are divided into red, purple, and Rose, and scarlet edges, and while the petals of some are healthy, those of others are only delicately loud with colour, hence they are subdivided into heavy and light edges. A few good Picotees will be found among the following:—Red edges: Blanche, Dr. Epps, J. B. Bryant, Princess of Wales, and William Summers. Purple edged: Clara Penson, Her Majesty, Mrs. A. Chancellor, Norfolk Beauty, and Princess Dagmar. Rose edged: Constance Heron, Evelyn, Favourite (Liddington), Miss Homer, and Mrs. Payne.

In reference to the management of the Carnation and Picotee this month, Mr. E. S. Dodwell writes in his book as follows: "Trap earwigs incessantly, and watch for and destroy every class of destructive slugs, greenfly, &c.; disbud constantly as the laterals rise, in all buds requiring this attention, and open the points of the calyx so as to permit the expansion of the petals equally, and thus avoid a split pod, which is always, where incurred, a slur upon the grower." Water must be given as required, and, as a matter of course, not a single weed, or anything in the shape of green, should be allowed to grow upon the surface.

We may, therefore, confidently expect a fine show, and a good head of bloom on the 27th inst. I, for one, hope to be there to see it.—*R. D.*

ROSE SHOW AT BIRMINGHAM.

The provincial exhibition of the National Rose Society was held in the Botanical Gardens, Birmingham, on July 15th, and was, so far as the exhibits were concerned, a most successful exhibition. Competition ran very close indeed in many of the classes, and quality prevailed throughout. The weather was fortunately cool and cloudy, and the new exhibition building was crowded with exhibits. The arrangements were ably carried out by Mr. Latham, and great praise is due to him. In the class for seventy-two blooms there were five exhibits, The Cranston Nursery Company, Limited, being first, with a very fine lot; second, Mr. B. R. Cant, Colchester, with smaller but good blooms; third, Mr. Frank Cant; fourth, Messrs. G. Paul & Son.

For thirty-six trebles there were five exhibitors, first, Mr. B. R. Cant, Colchester; second, Mr. Frank Cant, Colchester; third, Messrs. G. Paul & Son; fourth, Mr. C. Turner. For eighteen Teas or Noisettes, open class: First, Mr. Frank Cant, with a fine lot; second, Mr. George Prince, Oxford; third, Mr. B. R. Cant, and two other lots were staged. For thirty-six blooms, nurserymen: First, Messrs. Harkness & Son, Bedale, Yorkshire; second, Messrs. J. Burrall & Co., Cambridge; third, Messrs. John Jefferies & Son, Cirencester; and fourth, Mr. T. Mattock, Headingham, Oxford, with three other exhibitors in this class. For eighteen trebles, nurserymen, there were six exhibitors, first, Messrs. John Jefferies & Son, Cirencester, with a very fine stand of blooms; second, Messrs. G. Cooling & Son, Bath, with smaller but good blooms; third, Messrs. Harkness & Son. In the nurserymen class for twelve Teas or Noisettes there were five exhibits staged, first, Mr. J. Mattock; second, Messrs. Harkness & Son; third, Messrs. G. Cooling & Son.

The following classes were for amateurs:—Thirty-six singles, four exhibits: First, Rev. J. H. Pemberton, Havering, Romford, with a very fine lot; second Mr. T. B. Hall, Rockferry, Birkenhead; third, T. W Girdlestone, Esq., Sunningdale; fourth, Mr. W. J. Grant, Hope End Farm, Ledbury, with one other exhibit. In this class throughout, the quality of the blooms was excellent. For twelve trebles there were four exhibits, first, Mr. W. J. Grant, Ledbury, with a very fine stand of blooms; second, Mr. T. B. Hall, also a fine lot; third, the Rev. J. H. Pemberton. For twelve Teas or Noisette: First, Mr. T. B. Hall, with a grand lot, Hon. Edith Giffard and Comtesse de Nadillac being very fine; second, the Rev. E. G. King, D.D., Madingby Vicarage, Cambridge; third, Rev. J. H. Pemberton, with two other exhibits in this class. For twenty-four Roses: First, Mr. C. Williams, Lower Eaton, Henford; second, the Rev. L. Garnett, Chester, with an even good lot; third, the Rev. E. N. Pochin, Barkby Vicarage, Leicester; fourth, the Rev. H. W. Watson, Birkswell, with one other exhibitor. For eighteen distinct Roses, five exhibits: First, Mr. W. Marroway, Headington Quarry, Oxon, for a fine lot; second, Mr. G. Taylor, Old Heddington, Oxon, a clean, even good lot; third, Mr. W. Boys, Milford, Derby; fourth, Mr. R. Ramsden, Chadwick Manor, Knowle. For nine Teas or Noisettes there were five lots staged. First, Mr. W. Marroway; second, the Rev. L. Garnett; third, Rev. H. W. Watson. For six Roses: First, the Rev. F. R. Barnside, Chipping Camden; second, Rev. F. S. Taylor, Evesham; third, Mr. E. Mawley, Berkhampstead. For six Teas or Noisettes, six exhibits: First, the Rev. F. R. Barnside, Chipping Camden; second, Mr. J. Stadden; third, Lieut.-Col. Standish Hore. For six new Roses: First, T. W. Girdlestone, Esq., with Princesse de Bearne, Grace Darling, Alphonse Soupert,, Etendard de Jeanne d'Arc, Madame de Watteville, and Madame Marsicault; second, Mr. Wm. Boys, Melford, Derby, with a very fine Etendard de Jeanne d'Arc, Mrs. C. Swailes, and Alphonse Soupert, also very fine, and others. For twelve new Roses: First, Messrs. G. Paul & Son, with a beautiful stand, Benoit Comte, Madame Marsicault, Marshal P. Wilder, Pride of Reigate, Ella Gordon, and Etendard de Jeanne d'Arc, all first-rate as shown. In the open classes for twelve Teas and Noisettes, Mr. B. R. Cant was first with a superb lot; Mr. G. Prince, Oxford, second; Messrs. G. Paul & Son, third. For twelve yellows, there were five lots staged. First, Mr. B. R. Cant; second, Mr. Frank Cant; third, Messrs. J. Burrell & Co., all Marshal Niels. In the open class for twelve white Roses, Merveille de Lyons swept the board, all in fine condition. For twelve crimsons, open: First, Mr. B. R. Cant, with A. K. Williams; second, Mr. F. Cant, ditto; third, Mr. G. Prince, with Alfred Colomb. For twelve dark velvety crimsons, open class, Mr. B. R. Cant was first with a fine lot of Reynolds Hole; second, Messrs. Cranston & Co., with Prince Camille de Rohan; third, Messrs. G. Cooling & Son, with Xavier Olibo. For twelve blooms of any Rose, open class: First, Mr. B. R. Cant, with Marshal Niel; second, Mr. W. G. Grant, with Baroness Rothschild; third, the Cranston Nursery Company, with Prince Arthur. The few other remaining classes were well filled. The premier Tea Rose bloom was in Mr. Girdlestone's 36 stand, a Marshal Niel; and the premier H. P. in the Rev. J. H. Pemberton's 36, a fine A. K. Williams.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The conservatory or show house will now need a thorough turn out, cleaniug, and re-arranging; if the roof and pillars should be covered with creepers before staging is done, let these be neatly tied in, not bunching them up like faggots, but allowing them to retain a graceful appearance, pruning out the strongest of the wood. Habrothamnus may be severely dealt with, and will, if in a healthy state, make a good growth and flower freely in the autumn; the last named frequently becomes infested with green-fly, and in such a case, fumigation, if possible, should be resorted to, giving a good washing with the syringe on the following morning. In the pruning of Tea Roses, only the weakest portious should be cut away, in fact avoid using the knife to these as much as possible, except to keep them in bounds. Take care that the borders in which they are growing are not neglected in the way of watering; a good dose of liquid manure may be applied with advantage, and help to keep them in a thoroughly healthy condition. Where the old Cloth of Gold rose is grown, it will be found much the best plan (whether in or out of doors), to cut it well back, laying in the young growths, and from these good blooms will appear; whereas, if left in the ordinary way, one seldom sees a flower; when well done it is indeed a beautiful variety, the growths on ours on a south wall are now from 8 ft. to 10 ft. long and proportionately strong.

The first batch of Celosias will now be ready for staging, and if carefully looked to will last a long time. C. Huttoui is valuable for its foliage, and the habit too is good. The later batch now require a shift into 6-in. pots, as they are making a good growth, and will be most useful to succeed the early lot. Keep them in the pits, and as near the glass as possible, for if they become drawn they are quite useless. The Gomphrenas, when well grown, are very pretty for staging, and always admired. The Fuchsias should now be blooming freely, and will be greatly benefitted by liquid manure; if this cannot be applied, give a sprinkling of Clay's Fertilizer occasionally. In the case of young plants this is not necessary; a light dewiug overhead with the syringe in the evening will greatly help to preserve all flowers while the weather is so hot and parching.

The spring bedding stuff has been removed to a fully exposed position, and will in a few days be pricked out on a prepared border. Now will be a good time to put in a good batch of all the scented Geraniums; they will make nice stuff in 5-in. pots by autumn if grown on, and the old lot (which, if kept too long, become very straggling) thrown away. The variety, Lady Mary Fox, is extremely useful in a small state, and its bright scarlet flowers are produced in great abundance. A packet of herbaceous Calceolaria should now be sown if the plants are required to flower early in the spring. This must not, however, interfere with the general sowing, which may be made about the middle of next month. Keep a sharp look-out for all insect pests in the stoves, and devote as much time as possible, that they may be kept clean.

THE FRUIT HOUSES.

The crop in the Lady Downe's house is now generally colouring, and as the weather has been rather changeable, we have warmed the pipes morning and evening, allowing a free circulation of air throughout the whole of the day in the hope of warding off spider, which, however, has made its appearance slightly, and sulphuring the pipes must be resorted to without delay. The second Vinery is nearly ripe, and to prevent a too rapid evaporatiou, the border outside has been given an extra mulching; and also the early Vinery. With these heavy mulchings, and an abundance of air admitted always, no damping of the houses will be necessary, and the Vines can be kept perfectly clean, added to which the damage to the crop by rubbing is avoided. After once the crop is removed, a thorough good soaking of water must be given, or next year's crop will in all probability suffer.

Remember, also, the pruning of the Peach trees so soon as the crop is removed, and if, as with us, by a too gentle syriuging spider should make its appearance, mix paraffin oil at the rate of a wine-glassful to a gallon and a half of water for syringing with at night, repeating the dose again if not eradicated in a few days. Where the fruit in succession-houses is approaching ripening, syringing must be discontinued, or cracking of the fruit is apt to follow, more particularly of Nectarines, the variety Lord Napier is particularly liable. Damp-down the house heavily and frequently, and by admitting an abuudance of air, the trees are kept in a healthy condition. The fruit is also of much higher flavour; in fact, good fruits cannot be grown without such treatment is followed.

THE KITCHEN GARDEN.

We have to day experienced a most refreshing rain, and the crops will be greatly benefitted thereby, more particularly the late Potatos, which had begun to hold out signals of distress; but with the haulm thoroughly covering the ground, we may now reasonaby hope for a full yield should the dreaded disease not make its appearance; a short time longer and, as far as our experience goes, danger will be past with the advent of the month of August. The rain will also be of the greatest benefit to the newly sown seeds (and this reminds me I ought to have added a sowing of Parsley in my last week's notes, as made on a very sheltered border or at the foot of the Peach and Apricot walls alternately), aud the winter greens of kinds.

A good sowing of Endive should now without further delay be made, if sown in drills, a mode we always adopt for all kinds of seeds, a plant may be left where the seed was sown, which will come in earlier than those transplanted, nevertheless, transplanting of both Endive and Lettuce is absolutely necessary when good produce is required. Shallots are now ready for lifting, and before storing, should be laid out thinly on a hard surface and fully exposed to the sun for a week or ten days, they will be found to keep much better than if stored when lifted. We are now going through our beds of Carrots, Onions, &c., removing by hand all weeds, after which the Dutch hoes will be carefully run between the rows, and we do not anticipate any further trouble with them until they are safely stored.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Manures for Orchids.—The question of the advisability of using Manures for Orchids is not a new one. In practice the matter has received some attention in most of the collections from the earliest days of Orchid growing; writers on Orchids, however, have been very reticent on the subject. It seems to be generally conceded that Calanthes especially and many other terrestrial Orchids are better and flower stronger when some kind of manure is used on them, and of late years it has been proved by practice that even some epiphytal Orchids may be induced to make very strong growths by similar treatment. For my own part, as the result of experiments made over several years, I have come to the couclusiou that all Orchids, when properly managed, may be grown to perfection without auy stimulant; that manuring them, unless systematically carried out, the times, proportions, and nature of the stimulant being arranged by one and the same person in each case, is positively injurious; but that when properly carried out, all terrestrial Orchids are benefitted, and some epiphytal ones seem to be improved by the careful use of some trustworthy manure, either liquid or otherwise, and I am convinced that the practice of giving such help is much more extensive than it is geuerally supposed to be. How far the practitioners who seem to benefit by it in the present may have to pay for it in the future remains to be seen. It is, however, the great duty of the public press to gather information from successful innovators for the benefit of the public, and as there must be much on this subject to tell, let us hope that some of your correspondents will give us the benefit of their practical experiencc, and confine themselves to that, as everyone can supply his own theory.

In my cxperience manures may be used on Orchids, especially terrestrial oues, subject to the following conditions:—That whatever manure is used should be of uniform strength, and on account of the impossibility of determining this I am much against the drainings from stables or mauure heaps being used, as often when there are rains it is weak and cold, and at other times it is acrid and burning. Cow-manure is, in my experience, the safest of all for making liquid manure, and a good tub of this, with a peck of soot in a bag sunk in it, is a capital thing to have for mixing a little with the rain-water used for Calanthes or any other plants which anyone in his wisdom and discretion may deem it advisible to give a little to. I have had good results with Dendrobes by occasionally giving them a little whilc growing.

The next condition is that liquid manure be given to the plauts only when they are growing and rooting well, and at no other time, the supply being discontinued as soon as the growths are fully made up, as on this everything depends. With Orchids treated with manures I have found that the smaller the pots or baskets in which they are, and the less quantity of stuff there is about them in reason the better, and that Cattleyas and Lælias on which manures are used may, and I think should be, grown in crocks, charcoal, or ballast, with only the thinnest surface of peat, or none at all, a great quantity of water being given them while growing.

There are now also several manures of proved excellence for mixing with the potting material for terrestrial Orchids, and (it is said) for sprinkling over the surface of the pots of the epiphytes. These are of uniform strength, and are not open to the objection urged against liquid mauures, and also against that horrible compound called rotten dung, which should in no case be used, or the houses will stand a chance of teeming with everything that is vile in the way of weeds and insects. Opinions differ among gardeners on the point of manures, some likiug one and some another; there is, however, more in the man knowing the nature of the things he uses, aud the proper method of applying them than in anything else.

As Mr. Alfred Borwick said, in his paper on the subject at the Orchid Conference, the notion of applying manure to Orchids seems to be repugnant; but we live to learn. What we want to know is the rights of the case as proved by practice, and as Mr. Borwick has practised on his Orchids in this way for some time, a note from him on the subject would be of service to your readers. I must say that the Cymbidium Lowianum which I saw, and which he treated with manure, was a marvel of vigorous growth and bloom.

In pursuing this subject, however, let me advise all beginners to proceed very warily, and not to overdo their experiments because a new idea comes to them.—*James O'Brien.*

Disa grandiflora.—A grand spike of this, bearing eight fine scarlet flowers, each 4 ins. across, and all open together, comes to us from the Royal Botanic Gardens, Glasnevin, where the plant grows luxuriantly and in quantity. Of it Mr. F. W. Moore says:—"It is, with one exception, the best I have seeu, as you can see the foliage was quite perfect to the pot." It is, indeed, a glowing specimen, and many would like to be able to get their plants to do likewise. At Glasnevin they are grown iu quite a cold house, where they are kept moist and airy.

Galeandra nivalis, a very pretty and rare Orchid, with a showy tubular white and yellow lip, with violet spot, accompanies the Dublin Disa.

Disa sagittata.—I do not think, in my previous notes to you, I mentioned this charming plant. I saw some good specimens in bloom in November, and the more I see of it the better I like it, as there is something very superior about it. It produces white flowers, often with a faint streak of lilac, on dense spikes about 10 ins. in height, and is so free-flowering here that every little bulb produces a spray. The leaves are very like those of D. grandiflora, but the plaut is distinctly different in choice of situation. D. sagittata is found at a considerable elevation on rocks where 3 ins. or 4 ins. of soil of a peaty nature finds a lodgement, always on the shady side, and also more or less shaded by bush or overhanging rock. In this position it gets the benefit of the rains from the west and south-east. I find its charmiug flowers very good for lasting when cut, either in or out of water, and are capital for evening wear.—*James Hall, Port Elizabeth.*

Cattleya Gaskelliana.—A very fine specimen of this showy Cattleya—said, indeed, to be the finest piece in the country—and well flowered, was put up for sale in Protheroe & Morris's Rooms on the 16th inst., and knocked down to a bid for 100 guineas. The plant goes into a well-kuown nobleman's collection.

HORTICULTURAL SOCIETIES.

Newcastle-upon-Tyne Horticultural.—The summer show of this society was held in the Leazes Park on Wednesday, July 21st, and proved to be one of the best ever held in Newcastle, the flowering and foliage plants being alike remarkable for the quality and quantity of the exhibits. The miscellaneous plants arranged for effect in a space of 20 ft. by 10 ft. were also well done by the several exhibitors. The fruit and cut flowers, as usual here, were exhibited in large numbers in the several classes. To the able and courteous secretary, Mr. J. J. Gillespie, and the committee of management, the great success of the society is mainly due. The principal prize in the open class for eight plants in bloom, dissimilar, was awarded to Mr. E. H. Letts, gardener to the Earl of Zetland, Aske Hall, Richmond, Yorks, who had fine examples of Ericas, Parmenteria rosea and obbata, Anthurium Scherzerianum, Pimelia decussata, a mass of flower, and as fresh as it is usually seen in May; a fine Phœnocoma prolifera Barnesii, Azalea Brilliant, 6 ft. in diameter, &c. The second prize went to Mr. Johnson, gardener to J. B. Hodgkis, Esq., Elm Ridge, Darlington, whose group included a fine Ixora Williamsi, Ericas, tricolor Wilsoni, and Jasminiflora alba, a good Statice profusa; Mr. James Noble, gardener to Theodore Fry, Esq., M.P., Darlington, was third; Erica retorta major in this collection being very fine; 4th, Mr. E. Adams, Swalwell.

For eight foliage plants, Mr. E. H. Letts again took the lead with fine examples of Encephalartos Altensteinii, Stevensonia grandifolia, Dasylirion acrotrichum, Kentia Fosteriana, Cycas revoluta, Croton Johannis, &c.; Mr. Hammond, gardener to Sir Wilfrid Lawson, Bart., M.P., Brayton Hall, Carlisle, was a close second; his Croton Queen Victoria was the finest Croton in the show, and the specimens of Phœnix rupicola, Macrozamia Frazerii, and Dasylirion glaucum were fine examples of cultivation; Mr. Jas. Noble was third. For the miscellaneous group arranged for effect, Mr. McIntyre, gardener to Mrs. Gurney Pease, Woodside, Darlington, easily won premier honours with a bright arrangement of Crotons, Anthuriums, &c., nicely balanced by the free use of Palms, Adiantums, &c.; Mr. Hammond came in second; and Messrs. Clark Bros. & Co., nurserymen, Carlisle, third. For six Ferns, Mr. Johnson was first; Mr. J. Noble, second; and Mr. J. McIntyre, third. Three Crotons: First, Mr. J. Hammond; second, Mr. E. H. Letts; third, Mr. J. McIntyre. For six stove or greenhouse plants in flower, amateurs only, Mr. E. H. Letts was again awarded premier honours with even and well-matched plants; second, Mr. E. Adams, Swalwell.

Forty-eight cut Roses, open class: First, Messrs. Harkness & Son, the Nurseries, Bedale; second, Messrs. R. Mack & Son, Nurserymen, Catterick Bridge; third, Mr. Henry May, The Hope Nurseries, Bedale. Thirty-six cut Roses, open class: First, Messrs. Harkness & Sons; second, Mr. Henry May. Twelve Teas: First, Messrs. Harkness & Son; second, Messrs. R. Mack & Sons; third, Mr. Henry May. Twelve yellow Roses, open class: First, Mr. John Shorte, for twelve very fine Gloire de Dijon; second, Messrs. R. Mack & Sons; third, Messrs. Harkness & Sons. Twelve dark Roses, open: First, Messrs. R. Mack & Sons; second, Messrs. Harkness & Son; third, Mr. W. Handysides. Twenty-four Roses, amateurs only: First, Mr. Geo. Finlay, gardener to Mrs. Maynard Prout, East Layton Hall; second, Mr. T. Laws, Pontelaud; third, Mr. Cuthbert Laws.

Eight dishes of fruit: First, Mr. J. McIndoe, gardener to Sir. J. W. Pease, Bart., M.P., Hutton Hall; second, Mr. J. Edmonds, gardener to the Duke of St. Albans, Arnold, Notts. Four dishes of fruit: First, Mr. J. McIndoe; second, Mr. J. Edmonds; third, Mr. Wm. Jenkins, gardener to Brodie Cochrane, Esq., Durham. Four bunches of Grapes: First, Mr. J. McIndoe; second, Mr. E. Douglas, gardener to Mrs. J. Harris, Derwent Lodge, Cockermouth; third, Mr. Wm. Jenkins. One Pine Apple: First, Mr. J. McIndoe; second, Mr. J. Edmonds; third, Mr. R. Dawes. Two bunches of Grapes: First, Mr. J. Potter, gardener to Mrs. Geo. Moore, Carlisle; second, Mr. Wm. Jenkins; third, Mr. J. McIndoe. Two bunches of Muscats: First, Mr. T. Elworthy, gardener, Broad Green, Liverpool; second, Mr. J. McIndoe; third, Mr. E. Douglas. Single dish of Peaches: First, Mr. J. Edmonds; second, Mr. T. Elsworthy; third, Mr. J. Lawson. Single dish of Nectarines: First, Mr. Wm. Dodds, gardener to R. C. Clephan, Esq., Bertley; second, Mr. T. Elsworthy; third, Mr. J. Edmonds. The best green-flesh Melon came from Mr. J. McIntyre; scarlet-flesh ditto, Mr. Wm. Jenkins.

Open class, for best vase or epergne of cut flowers, first, Mr. W. R. Armstrong, High Cross Nursery, Benwell; second, Mr. O. Lamb, gardener to Lindsay Wood, Esq., Chester-le-Street. Vase or epergne, amateurs only: First, Mr. John Battensby, Swalwell; second, Mr. Wm. Whiting, gardener, Shotley House, Shotley Bridge. Bridal bouquet, open class: First, Mr. J. R. Chard, Clapham Common; second, Mr. W. R. Armstrong; third, Mr. W. Whiting. Six table plants, open: First, Mr. John McIntyre; second, Mr. H. Johnson; third, Mr. James Noble. Eighteen spikes of cut herbaceous flowers, first, Mr. T. Battensby, Hagg Hill, Blaydon; a close second, Mr. John Short; these were very fine and deservedly attracted much attention from the visitors.

The miscellaneous class included, from Messrs. S. Nairns & Sons, Benshaw Nurseries, Newcastle, forty-eight fine bunches of cut Pelargoniums; from Messrs. Kent & Brydon, Nurserymen, Darlington, 100 varieties of cut herbaceous flowers; from Mr. John Wardle, City Nursery, Moor Edge, Newcastle, a miscellaneous group of stove and greenhouse plants, arranged for effect; and to Messrs. Wm. Fell & Co., Wentworth Nursery, Hexham, was awarded a special medal for a collection of hardy trees and shrubs in great variety, arranged for effect; a similar award was also made to Messrs. J. Robson & Sons, Rose Nurseries, Hexham, for hardy trees and shrubs, in pots, and six boxes of fine cut Rose blooms.

Hampton Hill and Hampton Horticultural and Cottage Garden.—The fifteenth annual exhibition of the above society took place, on the 14th inst., in the grounds of the Hon. and Rev. H. Bligh, who had kindly placed them at the disposal of the Committee. Fine weather and a somewhat comprehensive schedule brought together, in the first place, a large and fashionable attendance, and in the latter a very pleasing and effective display of fruit, plants, and flowers. The latter were highly creditable, many being of first-class quality, the skill acquired in disposing them being displayed to great advantage. For the best arrangement for table decoration of cut flowers in an epergne or vase, Miss Lambert was awarded first with a neatly-arranged epergne, who, for the most part, employed choice hardy flowers and native grasses, the former including varieties of Papaver nudicaule, white, orange, and yellow, Aquilegia chrysantha, Campanula pumila alba, and Coruflowers, Nymphæa alba occupying the base of the arrangement; these, with grasses, made up a pleasing and natural arrangement. For the best centre device, consisting of fruit, foliage, and flowers, the Hon. Mrs. Bligh was awarded the first prize. Next in the order of the schedule, for the best arrangement of Roses, foliage, &c., in a dish, the prize went to Miss M. Makepiece, New Hamptou.

The two next classes were the great features of the show, and attracted considerable attention, the competition also being considerable. For the best floral wreath, Mrs. Thos. Bowling was a good first with a large and handsome wreath of choice white flowers and Maidenhair Fern; taste and skill were noticeable in the arrangement throughout, the flowers being well disposed and of easy, natural bearing. For the best floral cross, the first prize was awarded to Mrs. Wade, but here the judges were much beside the mark, and their decision far from just. That awarded the premier place was, in reality, not of true cross-like outline, being tapered at the points and having a bulky centre. The cross section also was not of sufficient size to balance the upright. It was composed of Lilium candidum, white Sweet Peas, one or two small Gardenias, some Tuberoses, Gladioli The Bride, Tea Roses, and Maidenhair Fern. By far the handsomest floral cross in the exhibition was contributed by Mrs. Gullick, L'Hyvrense, Broad Lane, Hamptou, whose arrangement it would be difficult to surpass. The points in its favour were a well-defined cross, to which may be added choicer flowers and highly finished touch. It consisted of seven fine Amazon Lilies, amidst which Tuberoses, with Gladioli The Bride, were interspersed, while the base was beautifully feathered with Bouvardia jasminoides. This, with Maidenhair Fern, made up a beautiful whole, the arrangement throughout being what all such arrangements should be—*i.e.*, the essence of lightness and elegance. The next class was devoted to ladies' sprays, and brought a good competition, the first prize for three going to Mrs. Wade, North Edge, who had prettily-arranged sprays of Roses, Miss Jolliffe Carnations, and yellow Marguerites, mingled with small laterals of Asparagus plumosus. This same lady was also first with six button-holes; the above classes were devoted to the ladies.

For the best group arranged for effect, Mr. James Harkett, gardener to H. O. O'Hagan, Esq., Rose Bank, Hampton Court, was first, his group consisting of small suitable-sized plants of Dracænas, Dieffenbachias, Crotons, Cocos Weddelliana, Abutilons, Gloxinias, Maidenhair Fern, and Liliums, the latter consisting of L. auratum, L. candidum and L. speciosum rubrum var. cruentum. The collections of fruits, such as Currants (black and white), Gooseberries, Strawberries, and Raspberries, were numerous and good throughout, the first and second prizes for six dishes going respectively to Mr. H. Coleman, gardener to J. Evans, Esq., with a good all-round lot, and Mr. R. Springle, gardener to J. W. Gullick, Esq., the latter collection containing some remarkable fine fruits of red and yellow Raspberries, which were much admired. The classes devoted to zonal Pelargoniums, stove and greenhouse-flowering plants, Coleus, &c., were below the average, and the vegetable tent was well stocked, and Peas, Broad Beans, Potatos, &c., were well and numerously represented, and reflect great credit upon the cottagers of the neighbourhood. The same remark also applies to the juvenile members of the exhibitors, whose collections of wild flowers and grasses were very interesting.

Among the miscellaneous exhibits not for competition were a collection of cut Roses from Mr. Will Tayler, nurseryman, Hampton. The Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E., sent a large and highly interesting collection of hardy perennials and bedding Violas from their Hampton Nurseries, conspicuous among which were Liliums candidum, testaceum, Davaricum Incomparable, Thunbergianum var. olutaceum, and the pauther-spotted Lily, L. pardalinum; other noticeable flowers were Coreopsis lanceolata, Gaillardia grandiflora maxima, Galega officinalis and its white variety, Alstromeria chiliensis, Campanula persicifolia alba plena, and others. The bedding Violas comprised some twenty splendid varieties from the purest white to the richest purple and violet shades; and the Messrs. Hooper & Co., Covent Garden and Twickenham, sent some good blooms of Carnations and Picotees, including one or two good seedlings which, as usual, received their full share of admiration; these three firms were respectively awarded First Class Certificates; on the whole the committee have good reason to be satisfied with the results of their labour.

Chiswick Horticultural.—*July 15th.*—The mention of a flower show at Chiswick is enough to make old gardeners prick up their ears and wonder whether the old days have again returned, whilst it should encourage young ones to visit the Royal Horticultural Gardens in which the show is held, and see for themselves, in addition to the show, what sort of work is being done there. If the show is not the creation of the Royal Horticultural Society, it is under its patronage, and is really promoted by a local body of horticulturists who have permission to use the Chiswick Gardens for their exhibition; and a delightful place for a show it is, even if somewhat spread about to meet the great demands this year made upon Mr. Barron's space. Very fine weather greeted the show and a fairly numerous company, but nothing like what would have been seen in some provincial town, for London people seem becoming too listless to support anything good with any public spirit. Groups are always telling features at shows, and were specially so at Chiswick. First the eminent firm of Messrs. C. Lee & Sons put up two large and distinctive collections of plants, the first including pot Roses, Statices, Kalosanthes, Spiræa Palmata, Hydrangeas, &c, backed by staudard and pyramid ornamental foliage trees, &c., and the other from their Wood Lane Nursery, Isleworth, and comprised rich-coloured examples of those hardy trees and shrubs for which the firm are so famous. Mr. May, gardener to the Marquis of Bute, Chiswick House, sent a very effective group of plants, as also did Mr. Roberts, from Gunnersbury Park, and Messrs. Fromow, of Turnham Green.

Of decorative groups, three of the leading trade decorators in the district, or indeed around London, Messrs. Hooper & Co., Twickenham, Messrs. Fromow, and Mr. A. Brown, Richmond, competed; the former being placed first, with one of charming arrangements, the others coming in the order named, and were each very beautiful and very light. The gardener's groups, Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, was a good first with a very pretty arrangement; Mr. Chadwick, Hanger Hill House coming second; and Mr. A. Wright, gardener to E. H. Watts, Esq., Cannock Chase. The best stove and greenhouse plants came from Mr. Bates, gardener to Mrs. Meeke, Poulett Lodge, Twickenham, who had admirable Allamanda Hendersoni, Bougainvillea glabra, Kalosanthes coccinea, Dendrobium, Sobralia macrantha, and Clerodendron, all very finely done; Mr. A. Wright was second. Mr. Chadwick had the best six Caladiums, in medium-sized but richly-coloured ones; Mr. H. Davis, gardener to H. J. Lake, Esq., Chiswick, being second.

Foliage plants and Ferns were in strong force, Mr. Chadwick having the best six, the first in Crotons variegatum, Cycas revoluta, Allocana Veitchii, Areca lutescens, &c., all good; Mr. Dawes was second with Ferns. Mr. A. Wright was first, having fine Asplenium lucidum, Nephrolepis exalata, Adiantum trapeziforme, all good; Mr. Chadwick and Mr. Dawes also had fine specimens. The three best Fuschias, good large Pyramids, came from Mr. A. Wright, who also had the best six Coleus, in huge flat bush plants, finely done and coloured. Mrs. G. Simpson, Sensation, Ada Sentance, and Glou, were amongst the best shown. Mr. Naile, gardener to the Honble. Col. Talbot, Esher, had good Pyramids for second place. With the tree pyramid mosses shown recently at Ealing, Mr. Wright was again an easy first; Mr. Chadwick coming second with capital pans. Begonias were plentiful, but not first rate; Mr. Wright having the best six, whilst Mr. Naile had the best dozen Gloxinias, really fine plants, full of bloom, but had been a little shaken with the long transit.

Zonal Pelargoniums were plentiful, but a little stale. In a special prize class for six Orchids, Mr. J. James, Norwood, was first with fairly good Cattleya Gaskelliana, Odontoglossum vexillarium and Alexandræ, Cypripedium barbatum nigrum, &c. Mr. Hill, gardener to H. Little, Esq., Twickenham, being second; Mr. Little also showed a very interesting collection of Cypripediums in baskets. Cut flowers were in strong force, the best

twenty-four Roses in the open class coming from Mr. W. Rumsey, Waltham Cross; Mr. G. Bunyard, Maidstone, coming second; and Mr. C. Turner, Slough, coming third. All the best show Roses were included in these capital stands. Mr. Fountain, Hanger Hill, Ealing, had the best striped York and Lancaster Roses, of which three boxes were shown. Of stove and greenhouse flowers, very fine collections came from Messrs. Bates and Hudson, who were placed in that order. Mr. Wright, gardener to J. P. Greenfield, Esq., Hanwell, put up the best twenty-four blooms of Gloxinias, very charming flowers; Mr. Hill coming second. Bouquets were a great feature, several professional makers contending in the class for three, one for bride and two for bridesmaids. Some were far too large, others, and notably one pretty lot rather too small, so that the judges had to hit a happy medium. In the case of the first prize lot staged by Mr. Chard, of Clapham Common, no difficulty was found as these were perfect. The brides included a base of Eucharis, Stephanotis, with Tuberoses and double white Primulas, and Maidenhair Fern for dressing. The bridesmaids were similarly made, but with the addition of pink Bouvardias and Carnations. Mr. J. A. Morris, Acton, was placed second; and Mr. W. Brown, Richmond, third. Button-hole flowers were moderate, one basket of flowers, pretty, especially that from Miss Prewett, Hammersmith, which was placed first. Dinner-table stands were good, also such good decorators as Mrs. Hudson, Mr. Chard, and Mr. Prewett competing, and taking prizes in the order named. Miss Fromow came first with a very pretty single stand.

Fruits: The only collection of six dishes came from Mr. Bates; all very good samples. Of black Grapes, Mr. Milsom, had the best in good Hamburghs, Mr. Bates being second, with the same kind. With whites, Mr. Coombs, Sheen House, Mortlake, was first with Fair Muscat of Alexandria, Mr. Bates coming next with Foster's Seedling. Mr. Waite had the best pair dishes of Strawberries in British Queen and Dr. Hogg; both good. Mr. Hudson had the best Cherries, and Mr. Bates had, in fine Lancashire Lads, the best Gooseberries; Mr. Waite coming first in Currants with good dishes of red and white. Of vegetables, Mr. Waite carried all the best prizes, being first with eight dishes, all capital samples; also first for the Messrs. Sutton & Sons and Messrs. James Carter & Co.'s special prizes for six dishes each, showing capital quality in each case. Mr. Waite also came first with three dishes of Potatos, and Mr. Garrod had the best dish of Peas in fine Duke of Albany. Mr. Felsell, gardener to F. H. Greaves, Esq., Twickenham, had grand Reading Perfection Tomatos, rich in colour. In large and unlimited collections of garden produce shown, the prizes were awarded to Messrs. A. Wright, Chadwick, and H. Davis. Medals of the Royal Horticultural Society were awarded to Mr. A. Wright for best displays of plants, and Mr. Waite, for the same of vegetables.

A very interesting exhibit of paintings on plates, tiles, and vases, was presented. A pretty but somewhat formal, yet faithful representation of Lælia purpurata, on a plate, by Miss Matthews, Richmond, was placed first; Mrs. Harry Turner, Slough, coming second with a very beautiful representation of mauve Clematis flowers, with foliage, on a tall vase. There was a large competition.

Braintree and Bocking Horticultural.—The annual show of this society was held on July 15th in the grounds of Mr. O. Gosling and Mrs. John Courtauld, a temporary bridge being constructed for the purpose of joining the pleasure grounds. A lovely day favoured the visitors, and a good show resulted from the energetic working of the president, Capt. J. N. Harrison, the treasurer, Sydney Courtauld, Esq., and the committee with Mr. H. Gibbs as secretary. In few country shows are the objects exhibited so varied and interesting, classes being provided for everything from collections of specimen stove and greenhouse plants, to wild flowers, fruits, vegetables, honey, &c.; the numerous money prizes testifying to the financial skill of the committee.

The Silver Cup for six distinct stove and greenhouse plants, remarkable for the beauty of their foliage, given by Mrs. J. N. Harrison, was awarded to Mr. J. Burrell, gardener to W. W. Duffield, Esq., Chelmsford, who staged a very fine lot; the second prize falling to Mr. J. W. Rolfe, the gardener at Saling Grove, who was not far behind; and the third to Mr. W. Dance. The Silver Cup given by Sydney Courtauld, Esq., for the most tastefully arranged group of plants in a space of 6 ft. by 4 ft., went to Mr. W. Dance, gardener to Col. Lowe, Gosfield Hall, in whose group the fine scarlet Scutelaria Mocsiniana was very effective. The second prize was awarded to Mr. C. Everett, gardener to Miss Cawston, who was a good second; and the third to Messrs. Saltmarsh, Chelmsford.

Among the many plant classes both Mr. Burrell and Mr. Dance exhibited well, generally standing first and second in the order we have named; Mr. Dance, however, came in first for a very fine six Caladiums. The Statice, about 4 ft. across, shown by Mr. Burrell, and which took first prize as a specimen plant, was simply superb. Among the other fine exhibits were the Ferns of Mr. Burrell and of Mr. Gunn, gardener to Sydney Courtauld, Esq., who also exhibited a very rare lot of species not for competition; the fine Coleus and Gloxinias of Mr. F. Smoothy, of Bocking; the superb specimen Stephanotis of Mr. C. Everitt; and the fine Achimenes of Mr. J. R. Vaisey's gardener, Mr. G. Clements. The handsome basket of Orchids and Ferns exhibited by Sydney Courtauld, Esq., and which contained one of the largest O. Alexandræ we have seen, was a grand exhibit, a long way in advance of the others.

Table decorations and arrangements of cut flowers for indoors and for dress ornament were much provided for at Braintree, and the excellence of the exhibits, most of them the work of ladies, must be very puzzling to the judges. The amateurs' first prize exhibit of Miss Tufnell, composed solely of white Lilies and Maidenhair Fern, was very chaste; those placed next, exhibited by Mrs. Crittall and Mr. Courtauld, being almost equally meritorious. In the professional class, Mr. W. Soder, who is an old hand, was well first, with a very tasteful arrangement. For the button-hole bouquets, Mrs. S. Courtauld was first, Mrs. S. Young second, and Miss Johnson third. Bouquets, dress ornaments and other things of the highest excellence were exhibited, which we should like to mention more fully would space permit.

Shropshire Rose.—*July 15th.*—The fourth annual show of this society was this year held in the Quarrey grounds on the above date, and proved to be the best exhibition the young society has yet held. The £10 offered as the first prize for seventy-two Roses, brought out five exhibitors, and the other classes filled well, although the rough wind and rain of the previous day proved very trying to the local exhibitors. A nice lot of stove and greenhouse plants, kindly lent by J. Watson, Esq., M.P., Messrs. Jones & Son's, and Mr. Murrell, nurserymen, added greatly to the attractions of the show; and Roses not for competition were shown by Messrs. James Dickson & Sons, Chester. A fine stand of blooms of Souvenir de Malmaison Carnations was also sent by Colonel Wingfield, Onslow. In class 8 (amateurs), E. F. Robinson, Esq., of Welshpool, showed in his first prize stand, a good bloom of the seldom seen Cloth of Gold. Although the weather was fine, the show was not so well attended as we could have desired. The list of awards is appended:—

Division A, open to the United Kingdom: Class 1, seventy-two varieties, single trusses—first, The Cranston Nursery Co., Hereford; second, Messrs. Keynes & Co., Salisbury; third, Messrs. Mack & Sons, Catterick Bridge. Class 2, twenty-four triplets—first, Messrs. Cranstons; second, Mr. Griffiths, Tillington, Hereford; third, Mr. E. Murrell, Portland Nurseries, Shrewsbury. Class 3, twenty-four single blooms—first, Mr. Griffiths, Tillington; second, Mr. E. Murrell, Shrewsbury; third, Messrs. Davidson & Co., Hereford. Class 4, twelve blooms of one variety—first, The Cranston Nursery Co.; second, James Dickson & Sons, Chester.

Division B, open to gardeners in the County of Salop: Class 5, twenty-four varieties, single trusses—first, A. P. Ralli, Esq., Ashton Court, Ludlow (Mr. Collin, gardener); second, Rev. J. D. Corbet, Sundorne Castle (Mr. R. Miluer, gardener); third, Col. Wingfield, Onslow (Mr. Lambert, gardener). Class 6, twelve single trusses—first, A. P. Ralli, Esq., Ludlow; second, Col. Wingfield.

Division C, open to amateurs: Class 7, twenty-four single trusses—first, Mr. Berrington, Ludlow; second, Mr. Townsend, Uffington; third, G. Bourley, Esq., Quarrey Place, Class 8, twelve single trusses—first, E. T. Robinson, Esq., Welshpool; second, Mr. Townsend, Uffington; third, Mr. Berrington, Ludlow.

Division D, open to the county; Class 9, twelve Tea or Noisette Roses—first, Col. Wingfield, Onslow; second, Mr. Berrington, Ludlow; third, Mr. Townsend, Uffington, Class 10, twelve Tea or Noisette Roses, one variety—first, Mr. Berrington, Ludlow; second, Col. Wingfield, Onslow; J. Watson, Esq., M.P., Berwick (Mr. Purser, gardener). The classes for local amateurs for Roses, Pansies, and also for cottagers, were well filled. Rev. J. D. Corbet was first for three dishes of Strawberries, Messrs. Jones & Sons second, and Col. Wingfield third.

QUESTIONS AND ANSWERS.

Names of Plants.—*W. D. Marks:* Zephyranthes carinata. *Cowdenknowes:* The bulbous plant is Ornithogalum thyrsoides, and the other Gnaphalium lanatum, Lamb's-ears. *C. C.:* Ophiopogan jaburan foliis variegatis; 2, Cyperus alternifolius variegatis; 3, Eranthemum, probably pulchellum; 4, Goldfussia anisophylla; 5, probably a Scutellaria; 6, a Justicia; 7, Portulacaria? 8, a Mesembryanthemum; 9, Punica granatum albescens. Please send those not fully identified when in flower. *M. L. H.:* 1, Ornithogalum sp.; 2, Veronica incana; 3, Heuchera sp.; 4, Lysimachia vulgaris; 5, Spiræa ulmaria variegata; 6, Symphytum asperrimum; 7, Passiflora Bonapartea? *R. Young:* Cymbidium pendulum, Gongora atropurpurea, and Ærides odoratum majus, a very fine variety.

Odontoglossum vexillarium—Erratum: At p. 728, the sentence near the bottom of the third column should read "though only in a 4 in. pot," and not in a 24 in. pot as printed.

Vines.—*John Bailey:* Yes, if as well treated.

Communications Received.—G. F.—J. D. & Sons—W. J. M.—W. P.—W. S.—W. E.—E. S. D.—H. G. S.

TRADE CATALOGUES RECEIVED.

George Bunyard & Co., The Old Nurseries, Maidstone.—Descriptive Catalogue of Fruit Trees.

NOTICES TO CORRESPONDENTS.

*** Special attention is paid in the columns of The Gardening World, to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides*. No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor by sending him their Schedules and Catalogues as soon as published.

COVENT GARDEN MARKET.

July 22nd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	3 6		Pine-apples, Eng., lb.	2 0	3 0
Grapes ... per lb.	1 3	3 0	Strawberries .. per lb.	0 6	1 6
Peaches, per doz.	2 0	10 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages .... per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	New Turnips, per bun.	0 9	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen blooms	0 6	0 9	Liliums in variety, dozen bunches	18 0	30 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	1 0	3 0
Campanula .. 12 bun.	4 0	9 0	Pansies, 12 bunches	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, per 12 sprays	0 9	1 0
Cornflower .. 12 bun.	1 6	3 0	— scarlet, 12 sprays	0 3	0 6
Delphinium .. 12 bun.	3 0	6 0	Pinks, various, 12 bun.	2 0	4 0
Daisies, common, 12 bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen	2 6	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses .... 12 bunches	2 0	6 0
Gardenias, 12 blooms.	2 6	4 0	Roses (coloured)	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Moss .. 12 bun.	6 0	12 0
Lapageria, red, 12 blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilium candidum, dozen bunches	24 0	30 0	Stephanotis, 12 sprays	1 6	3 0
Lilium candidum, dozen blooms	0 6	1 0	Spiræa, doz. bunches		
Lilium longiflorum, 12 blooms	4 0	6 0	Sweet Peas, doz. bch.	1 6	3 0
			Sweet Sultan, 12 bun.	3 0	4 0
			Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	1 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	6 0	12 0
Bedding Plants, various, per doz.	1 0	2 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lobelia, per dozen	3 0	4 0
Calceolaria, per dozen	6 0	12 0	Marguerites, per doz.	8 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	2 0	4 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	2 0	6 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen		

SITUATIONS WANTED.

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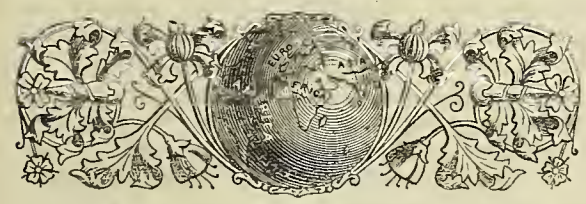


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 31, 1886.

THE ROSE SEASON.—It has become customary to regard each particular plant or flower that secures a large measure of the favour of amateur horticulturists, as holding a position of considerable uncertainty, and that, like fashions, it is liable to be suddenly discarded when something else is brought forward that pleases the popular taste better. This opinion is founded on good evidence, for there are several instances of such popularity followed by neglect in the cultivation of certain classes, races, or species of plants. There are, however, some remarkable exceptions to the rule, and one of these, the undisputed "queen"—the Rose, has during the past month given us good evidence that she not only maintains her supremacy, but that the number of her adherents is constantly increasing. It might seem astonishing to some that a flower should continue so popular as this has done for so long a period, but let a would-be Rosarian once undertake the culture of the plant; let him or her experience the innumerable great and little difficulties that have to be encountered, and then be rewarded with the lovely rich, delicate and charmingly fragrant blooms—the result of the care bestowed upon the plants—and he or she is at once converted into one of the most devoted of "her majesty's" subjects.

Supposing, too, that more than ordinary success should crown our Rosarians labours, that he be persuaded to enter at some local show, and place his productions in competition with those from his neighbour's garden, and that the inflexible judges discover the merits of his blooms, and award him a "First Prize," he is transformed into an enthusiast, and spends hours, or perhaps days in the following months preparing for another, and greater, victory in the succeeding year. He must increase his stock of plants and varieties, and his orders are transmitted to this or that nurseryman, who makes a speciality of the Rose; his collection grows, and if his success and his enthusiasm advance in like proportions, he soon becomes a celebrated Rosarian, clearing off the prizes at local shows, and perhaps boldly entering the lists of the National Rose Society's exhibition, he becomes the proud possessor of "a piece of plate," or a medal, which serve thereafter as eloquent witnesses to his skill and triumphs.

But the exhibitor's pleasure is only a tithe of that obtained from the culture of the Rose, for there are thousands who grow the plant, and with whom it ranks as the greatest garden favourite, who never take their place amongst competitors at shows, and yet are as great enthusiasts as our other friends. The plants are as carefully tended, the expanding buds are as closely watched, the characters of the respective varieties as closely scanned, and the developed charms as greatly admired; but to those cultivators the formality of a Rose show is objectionable, and they consider, very reasonably, that the blooms are seen to much greater advantage glistening with the morning dew upon the plants, or lightly arranged with their own foliage in vases. Such like to have their Roses in abundance, so that they can cut at will a dainty basketful as a gift to friends, or to cheer an invalid, and what is more welcome than a cluster of these bright sweet blooms? How agreeable, too, is the early summer morning walk in the Rose garden when all is so refreshing, and who can say when these matters are considered that it is surprising Roses have such great and lasting popularity.

We might refer at length to the results of the numerous shows held this season as further testimony of the advancing favour extended to these plants, but this task, together with a review of the varieties that have taken the best positions, must be left to our Rosarian friends, one of whom has promised to communicate his experiences in an early issue.

GARDENING MISCELLANY.

Meetings for next week.—*Thursday:* Annual meeting of the Yorkshire Association of Horticultural Societies at Sheffield. *Saturday:* Preston and Fulwood Horticultural Society; evening meeting; Paper to be read, "On Heating by Hot-water," by Mr. William Bardney, Norris Green, Liverpool.

Lilium speciosum.—At the meeting of the scientific committee, on Tuesday, Mr. O'Brien exhibited a plant which had been grown solely in moss for two years, with only a slight quantity of Clay's fertiliser added occasionally. He remarked on the importance of potting fresh imported bulbs in some porous material, such as cocoanut fibre, &c., and to avoid burying them in the ground, in order that there might be a free circulation of air about the bulb. The common practice of planting in the ground often caused the bulbs to disappear entirely. The interpretation of the advice seemed to be the same as for seeds; that if planted too deeply, or so that air could not reach them to set up respiration, they would perish from asphyxia and rot.

New Peas Certificated.—At a meeting of the Fruit and Vegetable Committee held at Chiswick recently, present, C. Silverlock, Esq., in the chair; Messrs. Weir, Sutton, Miles, Norman, Denning, Warren, Law, and Barron (Secretary), the collection of Peas growing in the garden was examined, and First Class Certificates awarded to the following:—Fame (Eckford), a green wrinkled Marrow, with large deep green well-filled pods; height, 5 ft. Empress (Eckford), white wrinkled Marrow, well-filled large broad pods, vigorous grower; height, 5 ft. Seedling No. 16 (Wildsmith), white wrinkled Marrow, very long pods, strong grower, good cropper; height, 4 ft. President Garfield (Veitch), white wrinkled, large well-filled pods, heavy cropper; height, 3 ft. 6 in.

A Caution.—Nurserymen and seedsmen will do well to make enquires before executing orders given by unknown persons in the neighbourhood of Nottingham. There are several "long firms" there just now who are carrying on the old game, ordering goods all round, and selling what they get for less than their value. Several names are used, and the address given looks well on paper, but it is really in a poor, low neighbourhood.

Amateur Gardening at Preston.—Within the last few years the interest in the cultivation of plants, &c., by amateurs has considerably developed in the town of Preston and neighbourhood, and to still further encourage this beneficial and healthful pursuit, the Preston and District Cottagers' and Amateurs' Floral Society was established not very long ago. The adjudication for prizes offered for the neatest and cleanest greenhouse took place a few days since, when Alderman Forshaw, Councillor Pearson, Councillor Turner (the chairman of the society), and several members of the committee visited those owned by Messrs. J. Grimshaw, 6, Rutland Street; John Blackburn, 43, Elgin Street; J. Dunn, 4, Clara Street; W. Cotterall, 16, Alexandra Street; R. Brewer, St. Mark's Road; P. Gannon, 11, Bank Place, Ashton; James Ashworth, 187, North Road; and Thos. Ryan, Scotland Terrace, St. Paul's Road. The judges, Messrs. Forshaw, Pearson and Turner, carefully inspected the greenhouses, and so excellently were they kept, that they experienced the greatest difficulty in making the the awards. In each instance the plants were thoroughly healthy, and spoke volumes in praise of the knowledge attained by the respective entrants in floral culture. Ultimately the premiums were given to, first, J. Grimshaw; second, J. Blackburn; third, J. Dunn. The annual exhibition of plants and flowers will be opened to-day (Saturday, July 31st) by W. E. M. Tomlinson, Esq., M.P.

Accident at a Flower Show.—While the judges were making their awards at the Grantham Show on the 22nd inst., an unfortunate accident occurred which might have had fatal results, had not plenty of strength been at hand. A sudden squall brought down a portion of the fruit and cut-flower tent, and knocking down two persons, one of whom was Mr. Alfred Outram, who had a struggle to extricate himself from a perilous position among the fruits and vegetables. Fortunately, no one was injured, but three or four collections of fruit were spoilt and the collections of vegetables upset. It was fortunate that the accident did not happen later in the day, as the tent was thronged with visitors during the afternoon.

The Yorkshire Association of Horticultural Societies, of which the Ven. Archdeacon Blakeney is president, Mr. G. Cook, treasurer, and Mr. E. Austin, 55, Dorset Street, Sheffield, secretary, will hold its second annual meeting at Sheffield on Thursday next. The members will meet at 10.30 a.m. in the Church Institute (near the Old Church), St. James Street, for the transaction of business, when a report of the year's proceedings, together with the statement of accounts will be presented. The place for holding the next annual meeting will be decided upon, and the officers for the ensuing year will be elected. Luncheon for delegates and officers will be laid at 12.30 p.m. in the small room of the Church Institute, and at 2.0 p.m. a visit will be paid to the Handsworth Nurseries, by the kind permission of the proprietors, Messrs. Fisher, Son, & Sibray. 7.0 p.m., a lecture entitled:—"A Chat about Hardy Herbaceous Flowers," will be given by the Rev. A. R. Upcher, M.A., Vicar of St. Mary's Church, in the large room of the Church Institute. The committee earnestly request the attendance of all its members on this occasion, and will also be glad to see any friends of the members who may take an interest in the association.

Gladiolus insignis.—Flowers before us received from Messrs. Collins Brothers & Gabriel, show this to be one of the very finest of the early flowering (ramosus) section, which also includes many other lovely forms. Its stiff arching spike of brilliant rose and rosy purple blossoms is very fine—a most handsome object for vase decoration.

Carnation Whitley Park.—From Messrs. Clark & Co., Florists, North Shields, comes some very fine blooms of a salmon-pink sport of the old Souvenir de la Malmaison Carnation. It is not the first pink sport of "Malmaison" that we have seen, but it appears to be distinct in the salmon hue which pervades the whole of the petals; and in other respects, such as shape, fulness, and perfume is an exact counterpart of the old favourite, and is said to be as robust a grower.

DOWNSIDE, LEATHERHEAD.

In his pretty garden, William Lee, Esq., has made a model, which any who have the means at their command could not do better than follow, doing as he did—begin well and afterwards keep all up to the mark. In the grounds are some very good examples of planting as a means of beautifying a garden without interfering too much with its space, and the manner in which the shrubs are trimmed over every year compels them to observe the limits allotted to them, and at the same time renders their appearance very neat. At the entrance lodge a very pretty effect is made by introducing among the other things a pair of variegated Acer negundo, beside which each has a tall dark tinted Irish Yew; further up the drive another good feature is introduced by a clump of half-a-dozen very fine Cupressus Lawsoniana, and here and there the copper Beech tells up with the improving effect on all around, which it never fails to impart where it is judiciously used. The little garden of Roses, and the garden of herbaceous perennials and sweet-scented flowers, are literally covered with the varied tints of those charming flowers which appeal to the affections of all—Sweet Peas, Honeysuckles, Mignonette, Lilies, Clematis, &c. Passing the kitchen garden, which is restricted within its walls, the long walk with natural wood on the one side and a fine row of Limes on the other, the mansion is arrived at, and some of those pretty views which, in Surrey, always greets the eye from the high ground present themselves, that on the side looking over Leith Hill and Box Hill being especially charming. On this side is the terrace along which are vases of scarlet Pelargoniums with white Ivy-leaf kinds drooping over, and below is a level green, and a few bright coloured arrangements of bedding plants.

The Large Conservatory

and Fern rockeries under glass, joining the house, runs a length of 200 ft., and forms a delightful adjunct. It is a very ornamental structure, but, nevertheless, one in which the plants seem to thrive well, there being no evidence of decay in the grand specimens of greenhouse Rhododendrons, one of which, a Countess of Haddington, has a dense head over 5 ft. across, nor in the fine clumps of Camellias planted here and there. The roof is gay with the flowers of the crimson Tacsonia, and other climbers, and the whole building bright with Pelargoniums, Lilies, Carnations, &c., tastefully arranged with Ferns and Palms; one of the latter, Seaforthia elegans standing over the water, towers to a height of 20 ft., and forms a splendid object. A great object of interest too, is a curious plant of the Elephant's Foot (Testudinaria elephantipes), with its elegant twining growth rising from a most unlikely centre, much resembling the foot of the animal which gained it its popular name.

The Fern Rockeries.

These adjoin the conservatory in two divisions, the inner for Killarney Ferns, Todeas, Hymenophyllums, &c., and the outer or larger one is planted with tree Ferns, and others suitable for the purpose, the whole having a very pretty and natural appearance, which is aided by some very curious Japanese designs in Davallia Mariesii, which are suspended about, and look very effective covered with their bright green fronds.

Many houses are devoted to the growth of plants for decoration, such as Carnations, Pelargoniums, Libonias, &c. Among the Carnations, the soft rose coloured Mary Morris is found to be a grand plant either in pot or border, and Pride of Penshurst is said to supply a free growing clear yellow much desired; houses, too, are devoted to Azaleas and hard-wooded Heaths, as well as to the culture of fruit generally, the Peach houses and Vineries being in fine crop, the late house of Lady Downe's Vines especially.

The Orchids.

But it is of no use beating about the bush any longer. It must be said that Downside is what is commonly called an Orchid place, and if the possession of one of the largest, healthiest, and rarest collections in the country is any qualification, it is well entitled to the name. In this department, as in all the other parts of the garden, Mr. Lee follows his usual plan, and makes proper provision for his plants. Thus each of the sections of Orchids has houses designed and built for them, or re-arranged so as to suit the things intended to be grown there, a plan which greatly simplifies the after treatment of the plants. The large Cattleya house (200 ft.) still keeps up its name for being a good house for the plants, the fine collection contained in it being in the best possible condition, a matter of no small importance to Orchid growers generally as well as the owner, for some of the plants contained in it are not to be found elsewhere. In bloom in it are some very handsome forms of the showy and useful Cattleya Gaskelliana, fragrant as Wallflowers, and a splendid lot of the many varieties of the variable, pretty, and sweet-smelling C. Eldorado, from the white form called Wallisii to the crimson-tipped C. Eldorado ornata, as well as the allied handsome white C. crocata, and the blush C. crocata rosea.

Also in bloom in the Cattleya house are a splendid mass of the rare Lælia Turueri, with three spikes of nine or ten flowers each; Lælia purpurata Warscewiczii, L. xanthina, the showy orange-coloured Chysis lævis; the very curious Cirrhæa tristis, like a large insect with wings thrown back; the equally curious Keiferstiuia graminea, which is continually producing its blackish flowers; Cœlogyne Schilleriana, a little beauty with white and orange flowers, only 2 ins. high, but almost that in size; many varieties of the velvety purple Promenæa stapelioides, &c. The Phalænopsis house and house for warm Cypripediums, is the last new addition. In it much provision for humidity is made by planting an undergrowth of Pilea, Cyrtodeira, Tradescantia, &c., and the Orchids seem to be benefited by it. In flower here are Phalænopsis violacea, Cypripedium marmorophyllum, C. Curtisii, C. Lawrenceanum, C. vexillarium, C. Godefroyæ, C. Sedeni, C. grande, Epidendrum ionophlebium, Cattleya Acklandiæ, a fine specimen of Houlletia Brocklehurstiana, with two tall spikes of its large yellow and crimson fragrant flowers, and a good mass of the scarlet-spathed Anthurium Andreanum. In flower, too, in this division are a great number of that most beautiful Oncidium Jonesianum, with long heavy sprays of spotted white-lipped flowers, which appear so unpromising with the reedy leaves hanging from the bare blocks before they flower, and so handsome when the blooms appear. There are many varieties of this plant, but while some are superb all are pretty.

The other intermediate houses have in bloom some very showy Saccolabiums and Ærides, Dendrobium Dearei, D. Dalhousianum, D. albo-sanguineum, D. chrysanthum, D. infundibulum, D. longicornu, D. Jamesianum, D. aureum, Epidendrum Tovarense, E. prismatocarpum, Bifrenaria atropurpurea, Anguloa Clowesii, Lycaste Deppii; some very fine Sobralia macrantha, Oncidium pumilum, O. Warnerianum, O. incurvum, Trichocentrum albo-purpureum, and Maxillaria grandiflora.

The Cool Orchids.

These occupy many comfortable and commodious houses, all of which have their share of bloom even at this season, which is the least showy in the Orchid houses. The clear white sprays of Odontoglossum Alexandræ and O. Pescatorei, seem never failing, and with the numerous flowers of Epidendrum vitellinum majus, and a few bright Masdevallias, a good show is made. Of the Masdevallias there are a fine lot at Downside, one great mass of a fine crimson-flowered M. Harryana, having had over 130 blooms open at one time. Also in bloom in the cool houses are Masdevallia trochilus, M. porcelliceps, M. infracta purpurea, M. Davisii, M. rosea, M. erythrochæte, M. chimæra, M. Backhousiana, and some fine spikes of the large golden Oncidium macranthum.

Among the rarer plants in flower are Cattleya Brymeriana, a very handsome import of Messrs. Hugh Low & Co., like a hybrid between C. Eldorado and C. superba. It is a very charming thing, with prettily marked flowers with bright carmine front portion to its curiously shaped labellum; Cypripedium Morganæ, a very handsome hybrid, with C. Stonei, with broad petals like those of C. Stonei platytænum; Dendrobium Hughii, another of Messrs. Low's new plants, with slender red tinted growths, and pretty creamy yellow wax-like flowers; Lælia Amesiana, a very handsome hybrid in the way of Cattleya exoniensis, with large blush-white flowers with showy crimson, beautifully fringed labellums; Masdevallia Carderii, with pretty little bell-shaped flowers with three yellow tails radiating therefrom, and the newer still M. striatella, just named for Mr. Lee, it has pretty flowers something in shape like those of M. ionocharis; Dendrobium Bensoniæ xanthinum, a desirable variety with white and yellow flowers, the dark blotch of the normal form being wanting; Anguloa Ruckerii, and A. R. sanguinea with their large fragrant helmet-shaped flowers varying in colour from reddish yellow to dark red; Saccolabium Hendersonianum, a gem of a little plant with neat rose and white flowers; the priceless white S. Heathii, and the very handsome Epidendrum Brassavola, which although not new to science, is very rare in gardens and very beautiful; its habit of growth is that of E. prismatocarpum, and its flowers, which are borne on upright spikes, are about 2 in. across, buff with long showy lip, white to yellow on the upper portion, and crimson in front. These and all the other treasures of the Downside garden speak more than words for the care of Mr. C. Woolford, the gardener.

ON BUDDING ROSES.

As we are now at the end of July, we are, here in the north, well nigh at the end of the Rose season; the time for making comparisons and taking notes is coming to an end, and their propagation by summer budding will now demand attention. It is on the latter subject that I desire to say a few words by way of a reminder to those amateurs among your readers who are not adepts in the art of budding, but who find a delightful and healthgiving occupation in the work, even when they do not meet with the success desired. The splendid showers we have had lately, the clouded sky, and the humid atmosphere, have been most favourable conditions for the budder, as the bark of the stock will part from the wood more freely, and thus render the process more easy, more successful, and consequently less vexatious than would be the case were the weather dry and hot. Of course, the new beginner must possess the qualities of determination and perseverance, for he cannot expect to be successful at first. It is practice that makes perfect, and a novice can never be as good as an expert, until by patient industry he acquires the needful amount of knowledge and practice.

We will presume that some, those who understand a little of the business, have the stocks ready in the garden. "What are stocks?" asks an enthusiast who has been to a Rose show, and become enamoured of the Queen. "Stocks, stocks—what are they?" Why, stocks on which to bud your Roses, and there are various sorts of them, from one called Napoleon by the Messrs. Harrisons, of Darlington, down to the Manetti; but the stock that I wish to allude to is the common Dog Rose or Briar. You bud your Roses on one of these and it is called a stock. "Ah! I understand now, and am sorry that I shall have to wait twelve months before I can have these said stocks ready for the operation." Not necessarily so; you are, perhaps, so situated that you can still do some budding this season, and so take Father Time by the forelock. In the woods, lanes, and hedgerows there are thousands of these stocks, Dog Roses, or Briars in many parts of the country, and all you have to do is to get the consent of Farmer Smith, Jones, or Brown, as the case may be, and then take your buds to the stocks.

The articles required for budding will consist of a pocket knife, a small thin wood lath 4 ins. to 6 ins. long, by 1 in. broad, smooth, and with the corners rounded off at one end, or better still a small ivory paper knife, as a budding knife is no other than a small combination of these two; a bunch of bast-matting or cotton, cut in lengths of 12 ins. to 16 ins., fastened to one of the buttons of your coat; and last but not least, shoots of various Roses you wish to take the buds from. The shoots selected must be healthy, firm, and of moderate size, as these produce the best and most plump buds. If these are not procurable, any nurserymen can supply buds at so much per dozen or hundred. Taking a stock in hand, commence by removing all but a couple of shoots at the top, around where the bud is to be inserted, break off the spines sideways, as they come off more easy, and with the left hand hold the shoot, and with the knife in the right hand make a cut lengthwise, 2 ins. to 3 ins. down the shoot on the upper side, 2 ins. or 3 ins. from the base. On the top side of the cut or stroke make a cross cut, so that it will then resemble the letter T. The bark must be clean cut through, then with the thin lath or paper knife, part and raise the bark on each side of the cut, commencing at the top and finishing at the bottom, thus opening each side outwards, which when open will appear like the letter V, and is ready for the insertion of the bud. Taking one of the Rose shoots, select the

bud that you wish to insert, the leaf stalk must be left to protect the bud, insert the knife ½ in. up to 1 in. below the bud, cutting inward and upwards, the deepest place being when opposite the bud, the knife coming out the same distance above the bud as when it entered below. In cutting deep it brings a small piece of wood attached to the bud, this should be carefully removed, and if well done a small internal core or bud will be left, but if this draws out altogether with the wood from the bark, success is doubtful. If successfully performed, however, insert the bud by sliding in the V-shaped bark on the stock; bind up with the tying material, commencing below the bud, and finishing at the cross cut.

Subsequently, the buds will require looking over once or twice, in order to slacken the bands after they begin to swell or unite. When the proper time to remove them from the hedge-rows comes, spade in hand, you set off, and bring back the successfully budded ones, passing over those that have not taken. I have done this more than once, and with the best results; the stocks so budded, being in the hedge-rows on the estate. And on many estates, I do not see why this plan should not be carried out, even were they left to flower naturally as they stand. I well recollect, one of the farm men once coming headlong to tell me of the splendid Roses they had in some of their hedge-rows, and which were none other than some that had been over-looked, and one of them was, certainly, especially fine, a Prince Camille de Rohan. There is, however, one drawback, that if left in the hedge-rows, if the estate is not well watched, they are liable to be stolen.—*B. L.*

MR. JAMES THURSTAN'S TULIP BED.

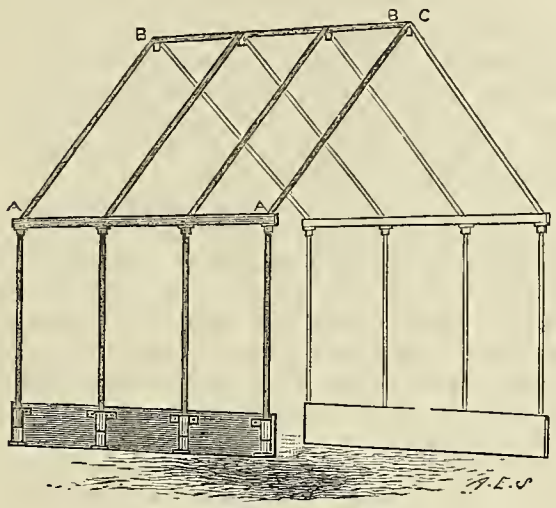
We now proceed to give a description of the framework of Mr. Thurstan's Tulip bed, as furnished by that gentleman, who states that the frame is equally suitable for covering Carnations and Picotees, Pinks, Ranunculuses, or any other kind of florist's flower grown in beds. The length of the Tulip bed represented in the engraving given last week is 51 ft. 2 ins. outside the edging-boards; the width is 4 ft. 6 ins. outside edging-boards, and the bed holds one hundred rows of bulbs, seven bulbs in each row, which are planted exactly 6 ins. apart each way.

The frame consists of thirteen wrought iron angle-rods, ¾ in. in diameter, and six top rods of similar dimensions. The former are in one piece, bent to shape, the dimensions being 3 ft. 9 ins. from either end of rod to the first angle A, as shown in sketch, 3 ft. 3 ins. from angle A to angle B, and 1½ ins. level top from B to C. Through the centre of each top is a hole ¼ in. square, to which the top rods are secured by bolts and nuts. The heads of the bolts are flat at top, similar to a wood screw, and the holes in the ends of the top rods which lap over the ends of the other top rods, also the centre holes in each of the six rods, are countersunk to admit of the nut-heads being flush with the rods when secured. This prevents the canvas being rubbed or chafed by the bolt-heads. All round the outside of the bed are tarred deal boards, 7 ins. deep by 1½ ins. thick, and 12 ft. long, except one piece on either side, which is 3 ft. long, so that each side has four lengths 12 ft. long, and one length 3 ft. long. To these boards are fastened by bolts and nuts the castings shown in sketch D, in each of which there is a round hole, ¾ in. full in diameter, to receive the angle-rods previously described. The holes in castings are 3½ ins. deep; the rods then appear bare for 5½ ins. deeper, and the bottom of each rod rests on the flanges of the castings, as per sketch D, which keeps the angle-rods at regular heights. The castings are secured to the edging-boards by two bolts and nuts, the nuts being screwed on to bolts inside, which gives the outside a neater appearance. These castings are secured to the boards exactly 4 ft. 3 ins. apart from centre of each hole.

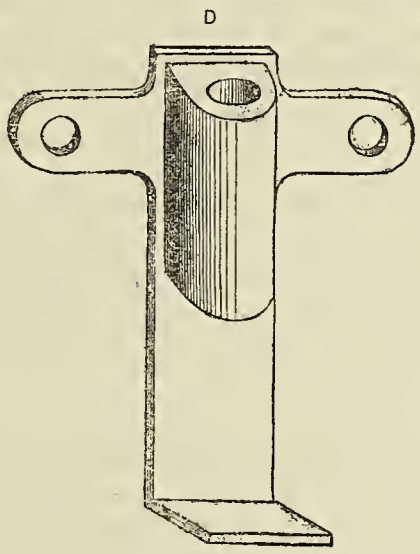
There are three square holes in each of the six top rods same size as those in tops of angle rods, and the ends of each top rod are hammered out to ⅜ in. thick, so that one top end laps over the other top end, and thus leaving the rods all level at the top of the frame when fixed, again preventing any friction of canvas.

A strip of wood 2½ ins. by 2 ins. thick, with round holes ¾ in. full in diameter exactly 4 ft. 3 ins. apart, is fixed on both sides of the frame at the first angle A, and supported by small castings with a screw which is tightened to each rod, as per sketch E. The strips of wood are in 9 ft. lengths, so that there are six strips on either side, and they reach 1½ ins. beyond the end angle irons. At each end of the strips the points lap over each other 3 ins. and each joint is made firm by two bolts and nuts, the latter being screwed on inside of the strips.

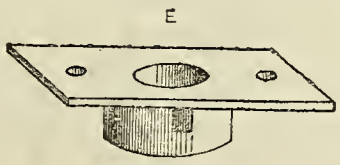
To fix the frame, first place the small castings E on the top of castings D, which are permanently fixed to the tarred edging-boards, then place the wood strips



over the small castings. When this is done, the angle irons must be carefully put through the holes in the wood strip, and the small castings E into the holes of the castings D; this can only be done by two persons,



one being on either side the bed, guiding the ends of the angle iron through the holes. This being done, then the two persons must carefully raise the strip of wood up the angle rod, and when it is close to angle A,



one person holds the strip whilst the other runs up the rod the casting E, which he screws tightly to the rods. Such rods being so secured then, fasten the wood-strip points by bolts and nuts, and after putting on the six top rods and securing them by the specially shaped bolt before alluded to, the frame is completed.

The canvas or covering is in two parts; it consists of strong grey twilled sheeting, and is sufficiently wide, when let down, to hang 20 ins. below the wood strip on either side. There are two hems on the bottom of either side of the canvas 2½ ins. deep, through which four flat wooden rods 2 ins. by 1 in. are run, projecting a little at end so as to rest on angle rods; these wooden rods are rounded off at the edges. The weight of the rods keep the canvas from blowing about, and when the sun is required to be kept from the bloom the side facing the sun is lowered down, and the opposite side is rolled up by the wooden rods, and tied to the end angle rods by tapes secured to the canvas by loops. Loops of tape are fastened at the top of inside of canvas at about every 4 ft., and these loops have pieces of strong tape put through them which are tied to the top rods which keeps the canvas in its place. In case of wind, the canvas is further secured to the angle irons by tapes being fastened to the ends of wood rods through which holes are purposely made, and when both sides of the canvas are lowered down and secured as described, all is perfectly safe.

Unfortunately, through an oversight, Mr. Thurstan's name was incorrectly spelt in the article accompanying his portrait in our last issue. It is correctly given at the head of these notes.

"DISTINCT."

I have been a bit good naturedly lectured over this subject, but I do not think any of your contributors have advanced the question towards a clearer solution. The main object I had in view was to impress upon judges at flower shows the importance of refraining from disqualifying, unless it is a case absolutely demanding it. I am sometimes horrified at the readiness shown by some judges to disqualify on what I can only term frivolous grounds. I half suspect it is partly done by way of displaying a little vanity, as if the person doing it was a very superior one, knowing something of everything. Only a few days ago I was a judge at a flower show where there was a class for twelve bunches of cut flowers, distinct varieties, and two out of three exhibitors—and those showing by far the best stands—had put three or four varieties of Gloxinias in a bunch, this bunch forming one of the twelve; in fact, there were nearly twenty than twelve varieties. Some judges would have held this to be a violation of the schedule, and disqualified both stands, on the ground that twelve varieties only where intended, while in all probability the judges who might have acted the previous year admitted such a collection, and awarded prizes. I asked the secretary who accompanied the judges what had been the practice hitherto, and he said: "To admit different varieties in a bunch." I said, you have by your previous practice sanctioned this course, and I am bound to do the same, and I did so; but there are some who will think it a clear case for disqualification, and say I should have thrown out the stands. The next day I went to an entirely new show—that is, a new society holding its first exhibition—and in the schedule of prizes I found a class for "Twelve bunches of hardy or outdoor cut flowers, distinct"; but a note was appended to the effect that by "the word 'distinct' it is understood that different colours of the same flower may be put in one bunch." Here was an authoritative recognition of the practice of putting several varieties of any one flower in a bunch, and it is a practice much followed at country exhibitions.

I think the suggestion by one writer that "kind" and "variety" should be regarded as no longer synonomous, is one that cannot be entertained. If a schedule of prizes sets forth that a collection of eight dishes of fruit shall consist of eight kinds, and that only one variety of Grape or Peach can be included, then kind is used in a distinct sense to variety, and two varieties of Grapes would disqualify. But so long as the term kind is used in the same sense as variety, to disqualify would be cruel.

What curious points sometimes arise in one's experience as a judge. One cropped up at the recent exhibition of the Royal Horticultural Society at Liverpool. My colleague as a judge in the cut Rose classes was a clergyman, who is a noted Rose grower, and the secretary of a provincial Rose show. The schedule read: "Seventy-two varieties of Roses, distinct; forty-eight varieties of Roses, distinct; twenty-four varieties of Roses, distinct; eighteen varieties of Roses, distinct." When we came to this last class we found a superb box of Tea-scented varieties, and my colleague at once went for disqualification on the score that in the case of the three classes preceding it was meant to include Hybrid Perpetuals, and as there was none in this stand, and there were classes for Tea Roses, it ought to be passed over. I contended that the schedule left it entirely to the exhibitor what Roses he should stage—whether all Teas, all Hybrid Perpetuals, or a mixture of both, and we were bound to take it into consideration. Here we stuck. This appeared to be a case of setting up a merely sentimental objection never contemplated by the framers of the schedule. Then I was told the National Rose Society would not allow it. I asked what business the National

Rose Society had in the matter, as it was not a show held under their rules; and in the end I carried my point, and the box was awarded the first prize. I claim that common sense was on my side. Yet another curious instance which occured only recently at a large provincial show. A man who had once been a professional gardener, but had made a competence and retired on his means, had exhibited as an amateur. The judges took upon themselves to disqualify him on the ground that once a professional gardener, always a professional gardener, and though he grew his own plants without assistance, he could not be regarded as an amateur! I could not give in my adhesion to this ruling, but with the secretary against me what could I do? But I do think the man was greviously wronged.

Enough for the present. I hope we shall still discuss the question. What we want is an authoritative dictionary of terms used at flower shows.—*R. D.*

FLORAL FASHIONS IN AMERICA.

The most stylishly arranged flowers are now sent out of town to the watering place resorts, and to the summer seats of wealthy New Yorkers. The city demand for flowers are for boxes of cut blossoms, which florists arrange very daintily, and with an eye to fine combinations. So charming a gift as a box of cut flowers should not greet the eye when the lid is lifted with a conglomerate mass with stems tangled. Many of our florists make clusters of each variety of flower, fastening with a string of silver wire, and laying it in the box so carefully that not a petal is crumpled.

Corsage bunches, sent as gifts to the watering places, are got up in exquisite style. They are not made large, but usually of a foundation flower, through which a spray of buds or blossoms is run and clearly defined. For instance, a bunch of Forget-me-not has a spray of Moss Rosebuds piercing its entire length. The cluster is tied with pale pink satin ribbon. Again, a bunch of six Baroness Rothschild Roses have a spray of blue Pansies darting among them gracefully. The spray should be long and slender. One of the handsomest breast bunches is made of Adiantums and Asparagus, with a delicate line of pink Pea blossoms traversing it. A charming belt bunch was sent to Long Branch to be worn at a ball. It was composed of rose Geranium leaves, over which pale Cyclamen nodded.

Although the floral establishments at watering places do a thriving business during the short season, yet those persons within a hundred miles of the metropolis prefer to have their flowers sent daily by express from their own florist, being more certain of the correct style—for the fashion in the make-up of flowers rules as powerfully as in the cut of a gown. Entire "sets" of blossoms are forwarded daily to the sea-shore and to Saratoga. By sets is meant a cluster for the parasol, one for the sun-hat, a corsage bunch for the day and one for evening wear, as there is usually a dance at night in the first-class watering-place hotel.

Corsage bouquets to be worn day-times are made of field Daisies and Perle or pink Rosebuds; also of Water Lilies. The stems of the latter are left very long, and the bunch is so put on, that the sedgy stems fall below the sash or belt ribbon. The sun-shade bunch is made to match, and is pinned on the parasol at one side near the edge. The bouquet for the wide-brimmed shade-hat is made quite large, and is frequently pinned on so as to hold back the brim at one side.

All the hand-bouquets made of small flowers that are carried at present are in pyramidal shape; they are tied loosely, long shoots of Larkspur pointing the ends, and Stocks and Geranium blooms filling in brilliantly. Rose bunches are carried altogether in side satchel baskets, which can be swung on the arm conveniently, or from the belt when dancing. These satchels are most gracefully filled and decorated. They are composed of light and pliable Italian straw, and are very small when empty. The florist, however, so fills them with long-stemmed Roses, radiating from the pocket upward and drooping downward, that they require several dozen Tea Roses. Ferns and Rosebuds are tied on the outside, so that but little of the straw is seen.

Natural flowers are worn on gowns at all the balls given out of town, although these are procured of the city florist. Large boxes are sent with an entire garniture for a dress, which is soon applied with tiny "safety pins" made of wire, black or white, for this purpose. A garniture of scarlet single Poppies was a very elegant one made by McConnell for a Long Branch belle. There was a garland for the skirt of Asparagus vine, in which the poppies were plunged. The gown was of jetted black lace, and where the sash drapery looped at the sides and back were large clusters of these flowers and long streamers of the foliage. There were small clusters, a single Poppy and foliage for the sleeveless arm-hole, and a breast bunch (not large) of Poppies, The satchel of Poppies was worn at one side and pinned close to the skirt. It was swung by black satin ribbon. A spray of the same flowers and foliage was worn in the hair.

A lovely garniature of pink Pea blossoms was made for a young girl to wear with a rose-coloured tulle dress at a Cape May ball. There were bretelles of the blossoms, and a panel of them to run down the front of the dress. Both these pieces were made by sewing the blossoms on the "foundation." The satchel of flowers contained all the coloured Pea blossoms.

The daintiest dress seen thus far at the West End, Long Branch was worn by a slender blonde. It was of lilac silk mull, and was trimmed with "butterfly" Pea blossoms. These were placed at the head of each flounce in fluttering tracery. From the left shoulder was a sash of these flowers, which extended across the breast down to the sash drapery on the right side of the skirt, were three Baroness Roses and several moss buds to finish.

Very light and graceful are the table decorations this month. An exquisite arrangement was made for a luncheon given at Larchmont Manor yesterday. The table-cloth was of linen lawn, hand embroidered with floss, which glistened in its own satin-like way, large peacocks spreading their tails as if to sweep down the transparent china and irridescent glassware. In the centre was made a field of blue Cornflowers (Centaurea cyanus) and yellow Daisies. This was so arranged that the flowers pushed up irregularly as if growing. The foliage was Adiantums, with here and there a fanciful wood Fern. The favours were small pitchers of irridescent glass containing the same flowers.

The latest fashion in steamer gifts is pottery vases filled with flowers. Some of these vases are large and of costly ware. They are well mossed, and in this the flowers are plunged. One of these, filled with moss Roses, Water Lilies and longiflorums, was superb. Small potteries are also filled with blossoms, such as china cups and bowls, which are supposed to be useful while journeying. The basket known in the commercial world by fruit-growers as the Belgian Strawberry-basket is in high favour at present with those making gifts of fruit and flowers combined. They admit of the most graceful arrangements in filling, and the large bow-handle is an excellent line from which to swing Grape bunches, berry baskets and boxes of small fruits. "Flower crates" are the newest and most convenient inventions for those carrying cut flowers to cemeteries and short distances. They are made of heavy pasteboard and very light wood. The flowers are packed in layers between damp sphagnum, and there is a handle like that on shawl-straps.—*American Florist.*

THE COLOURING OF FRUIT.

There is an idea prevalent that fruit cultivated under glass must be close to the roof if the desirable deep tints of colour are to be obtained. Sun must, of course, have full power on the fruit if it is to be perfect in colour, as well as have all the points of flavour. Peaches and Nectarines, for example, have their value much enhanced when the greater part of the fruit is of a deep blackish purple, and what remains is of a yellowish tinge; and under certain conditions many kinds, under ordinary circumstances, of greenish or drab colour are yellow or brouzy when ripe. The action of the sun has much to do with this high state of finish which signifies first-rate quality, but there are other agencies of much importance in fruit culture which must perform their part if high colour is a primary consideration—sound root action influenced by air, good soil, and supplies of wholesome moisture. While one advocates perfect drainage, absence of stagnant water, and soil of natural substance suited to the wants of the trees, perfection will be far distant if misapplications of food or moisture are administered. We specially note the giving of water; during the period of swelling and stoning up to ripeness watering must be applied with no stinted timid hand. There is seldom a case of virulent red spider on fruits under glass but has had its origin in starvation at the roots by withholding water, or giving it frequently but not enough to reach the most active roots, while the surface might have been rendered unwholesome by frequent dribblings.

In northern parts, and also in districts where the rainfall is very great, the errors of misapplication of moisture are not found to be exempt. In such districts extra pains are often taken to afford drainage equal to the circumstances—and security is often based on such precautions, while mischief may follow these well laid schemes in a manner which could not have occurred had the natural soil and drainage been left undisturbed. Drainage is not to curtail supplies of moisture, but to allow it to pass away when it is superabundant; and when water is given by artificial means it must pass to the drainage and reach every fibre which may be located at the base. We often have enquiries from private individuals (some we have never known) as to the cause of their failures—and in most cases vermin, mildew, small ill-flavoured and badly coloured fruit has its origin (not from their system of surface work, by mutilation, &c.) from the unnatural state of the roots. We are sometimes told that the work has been completed, according to advice given, as exact as hands could do it. But in cases where we have examined the work, matters have turned out to be the very opposite of what was recommended. Heavy loam, rich and wholesome, is often treated the same as poor gravelly or sandy soil, almost inert, which can consume a deal of manurial applications every year, while the rich heavy soil is easily ruined by the same—recurring to sun's influence—and no one doubts its propelling power of maturing fruit, aiding and directing the work of the cultivator. When artificial means are applied, the cultivator must be equal to the occasion, and assist or co-operate with the great orb rather than defy the heat and light so freely given.

We are told that when we plant our Peaches, Nectarines, Cherries, &c., 4 ft. from the glass, that we are acting contrary to what we adduce as our belief. It must be admitted, however, that there is a difference in the state of the atmosphere, and other conditions, surrounding foliage of fruit trees when placed close to glass roofs, where air cannot circulate freely around the whole surfaces and among the leaves. The trees being so close to the glass, are subjected to a semi-baking process, and require the greatest amount of attention, by airing and application of the syringe. Under such conditions, we have not seen the most successful fruit culture; and in such structures, planted thus with a back wall, invariably the finest fruit are found there. For very late supplies, where little fire-heat, if any, is allowed, circumstances demand a change. There are many other advantages in not cramming the trees to the glass, viz., one can get in front of them, and apply the syringe and engine; see better what is required by the trees as to stopping, disbuddiug, tying, clearing the leaves back from the fruit, thinning the latter, &c. On back walls, some 15 ft. from the glass, we have seen the finest Peaches, Nectarines and Figs which could possibly be desired; and, notwithstanding the rage for narrow houses, and placing of trees close to the glass, which was so prevalent some years ago, we believe wide well-ventilated houses, and trees well away from the glass (except in old-fashioned houses with small squares) are in every way most conducive to high cultivation, and are more easily managed. It has been my lot for many years to practice in both classes of structures, but at no time and in no position could we manipulate so easily and so satisfactorily with narrow and confined houses, with trees trained close to the glass, as when they were fairly wide, and the trees 3½ ft. to 4 ft. or more from the roof.

During the present season we have never had these theories better supported than by the fruits of Nectarines and Peaches which have been plucked since the middle of June. Hale's Early, at the base of a back wall far from the glass, succeeded by Crawford's Early, and then by Royal George; while on the front, about 4½ ft. from the glass, Nectarines and Peaches have been also of the darkest hue we have ever seen. The fruit (being very thick to help to curtail the growth of the vigorous young trees) were cleared off the foliage as soon as they were well set; many of the leaves being tied back, but none destroyed, so that light and air could circulate all round them. Crawford's Early was deep yellow on one side and dark crimson on the other, and many of them were not within 15 ft. of the glass.

At this time last year they were half root-pruned, and rather poor loam mixed with a goodly portion of Thomson's vine manure, and lime rubbish was rammed as firmly as possible, which appears to suit them admirably. Among vines one cannot shut our eyes to the fact that Black Grapes invariably colour very densely under a good canopy of foliage, while in the same house one may notice bunches with a brownish hue where they are well exposed to the light, and it is a fact that after black Grapes are ripened and they arc kept for late usc they soon lose their colour, and solidity too, when left exposed to the light. For late keeping darkness (for black kinds) is very desirable. On the contrary, light coloured Grapes attain the colour desired when well exposed to the sun, and when they have had full exposure from their earliest stages, we never saw them injured by the full glare of sun. Last year a few small bunches of Duke of Buccleugh were left close to the glass, fully exposed to the suu—the vine being a mere twig, and the bunches not being considered worth any trouble—but at the end of July the Grapes were transparent, deep yellow, not a spot to be seen, aud the berries of great size. While we advise abundance of air as well as light, excellence can only be attained when root action is equal.—*M. T.*

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.—IV.

A FEW hints may be necessary as to the best means of protecting the plants from high winds, so prevalent in the early autumn, and which often cause much anxiety to the grower. If a sheltered position cannot be secured, it is safest for small growers to lay all the plants flat on the ground until the wind goes down. They will be much safer iu this position than an erect one, however securely they may seem to be tied; but it is not well to leave them lying longer than is necessary, as the extremities of the branches have a tendency to curl up in order to get to the light. I have on more than one occasion got up in the dead of the night, when the wind has suddenly risen, and laid every plant carefully down on the grass-plot, after which I retraced my steps to bed without any misgiving as to any damage the plants might sustain, and next morning I invariably found them perfectly safe, which well repaid me for my nocturnal disturbance, and for the short time in which I might be said to have been "dwelling among the tombs."

The show came on a few weeks later, and in every exhibit of cut blooms staged, and with one exception, in twelve plants, I was placed first. Probably, some of my opponents' plants lost an arm or two that night for the want of a little kindly attention on the part of their master, or some favourite crown had come to grief on account of an act of self-indulgence on the part of the cultivator.

The safest plan for an exhibitor to act on, while preparing for the exhibition table, is that of "Equalled but not beaten," which, in other words, means "Know the right thing to do, and do it." No one can beat this—they may equal it. All the knowledge in the world will suffice nothing unless it be carried out, and competition is worthless unless it make the object for which you are striving to be difficult to secure.

I will now give the names of each of the five sections of Chrysanthemums, and endeavour to single out, to the best of my knowledge, some of the most serviceable kinds for an amateur to try his hand on; for much depends in competition on a careful selection of names.

I do not hesitate to state that sixty plants skilfully selected will produce greater results to the grower on the day of exhibition, than three times that number, gathered from any source, hand over head; and another mistake often made by small growers is, that they wish to possess a great many varieties, which is not wise for anyone who has only limited convenience. I would rather have under hand sixty plants in twenty first-class varieties, three of each, than the same number in sixty varieties, where the kinds were not so choice. The advantage in the twenty varieties would be, that I should have three plants of each, from which to select my blooms; and twenty varieties are mostly as many as an amateur will be called upon to stage. The evil of only having one plant of a kind is, that if from any accident or otherwise, that plant fails you, there is not another of the kind to fall back upon. I always like to have three of what I consider the real best kinds.

The five sections into which Chrysanthemums have been divided are the following:—Incurved, Japanese, reflexed, Pompon, and Anemone-flowered, everyone of which possesses attractions, and may be selected according to the taste of the grower.

The incurved, perhaps, as a florists' flower, has the pre-eminence, and the name incurved has been conferred on it from its habit of turning the petals of the flower inwards, or from the circumference to the centre; it is undoubtedly the most massive, and possesses the greatest uniformity of construction, some of the blooms almost resembling mountains of flower. In this section may be mentioned as suitable for selection, Empress of India, Queen of England, Golden Queen, Emily Dale, John Salter, Barbara, Mr. Bunn, White Globe, White Beverley, Golden Beverley, Mrs. G. Crossfield, Mrs. Geo. Rundle, Bendigo, Jeanne d'Arc, Plenipo, Princess Teck, and Alfred Salter.

The Japanese section, the flowers of which possess considerable attractions, are, nevertheless, devoid of that compactness which so distinguishes the incurved varieties, being of a sort of fly-away character, if I may so term it—a kind of phantom flower; but in many cases they are exceedingly pretty and fantastic, and when several varieties are grouped together, they produce a very telling effect. One peculiarity in this section is the remarkable habit which some kinds have of twisting their petals one across the other, presenting somewhat the appearance of a knot; such, for example, is Lady Selborne.

Some of the best and most useful kinds in this section are Elaine, Fair Maid of Guernsey, Comte de Germiny, Madame C. Audiguier, Boule d'Or, Dr. Macary, Duchess of Albany, Mr. John Laing, Meg Merrilies, Monsieur Tarin, Peter the Great, Rosa Bonheur, Soleil Levant, Thunberg, and Triomphe de la Rue des Chatelets.—*Geo. Kidson, Hull.*

SCOTTISH GARDENING.

Layering Strawberries.—At the present time this is, in some places, a very formidable operation. The layering of the plants is no easy matter where ground is scarce and the stock, perhaps, thousands have to be taken from the fruiting plants. Young plants planted soon, and established sufficiently to stand the winter, send out by far the finest runners for next year's forcing plants. Some depend on the forced plants planted out the same season; we have seen these do fairly well, but not equal to young established plants which have never fruited. One of the most important points in Strawberry forcing is to secure strong unchecked runners, though we have heard from a few northern writers (we discussed the matter with a veteran of this school the other day, who now heartily agrees with us) that collecting the young plants formed in autumn, and attending to them during the winter and spring, potting early and resting long is the best method of growing in the north. We have never seen such a practice supported by complete success, and some of those who advocated it may sympathise with the favourite old Scotch sentiment, "Contented wie little, but canty wie mair." To realise the last desire, we would say grow from young runners which have sprung from the parent plants during early summer. The runners should be rooted in small pots, or iu their permanent ones, if preferred, as early during July as they can be got, and potted before the month is out. For fruiting early in March, the plants may be potted in June with advantage; Black Prince, though small, is one of the best for a few early pickings. The profitless craze of having Strawberries during January and February is not common now. I remember, while an underling, being driven first to gather in February, then January, and the third year at Christmas. The labour and value of securing such items does not prompt us now to do much of this work, which brings in the crop before the middle of March. Our kinds this year are Vicomtesse Héricart de Thury and President. We hope to have all potted and in the full sun this week (last week of July). The soil used is ordinary loam, clean and sweet, mixed with a little soot and Thomson's Vine and Plant Manure; firm potting is of great moment.

Vermin, &c.—This season seems to match any of its predecessors for the destructive proclivities of vermin, and much labour we have had watching and battling with slugs and grubs, soot and lime mixed with fine ashes from the stoke-hole, sifted, is the best agent we have used; and sundry waterings at the root with guano water, in which is a little soot, wards off the enemies from the roots. Looking over the brassica kinds, there seems to be few blanks, and all are now considered safe till the time of Pigeons. A free use of the hoe over all surfaces among growing crops compensates labour well, besides the keeping of the ground free from weeds—weeds, green moss covered surfaces, decaying leaves, seeding vegetables are unpleasant sights at this season of the year, when all should be neat, orderly and clean. Coleworts or any young plants placed into the ground now may have their roots dipped in a mixture of cow manure, soil and soot well up their stems, this, with some of the mixture of ashes, soot and lime placed round their collars, will defy most of the "prowlers" which seek their food at the roots. Onions and Carrots (if the enemies are not settled at their roots) are helped much by liberal dustings among them while they are finishing their growth. Seeds of Onions, Carrots, Turnips, Prickly Spinach, Cabbage, Endive, Lettuce, Parsley, Radishes sown now or coming up, may have a coating of lime, soot and ashes.

Seed Saving.—The present time is favourable to collecting seeds, when the weather is dry, birds soon find them out, and such is their favourite food; netting or other means of protection should be used. When gathered the seed should be kept dry, spread out on a smooth surface (strong paper does for small lots), moved about occasionally till the seed is ripe, then it may be cleaned and put into drawers (dry and cool), folded in papers, named and dated. Most northerners know something of the storing of green Kale and Leek seed, but we notice that the stock is often taken too early and parched in hot kitchens or similar quarters. Onion and Leek seed stands a good deal of drying when it is sufficiently matured, but it should not be hurried too severely—much of this kiln drying is the cause of so many disappointments during the time of cropping.

The Pleasure Ground.—In the ornamental department many things are coming to their best, and timely attention to pricking off flower stems—mulching with old rotted tan or cocoa-nut fibre—topping to regulate appearances, and staking is now of extra importance, also water given in dry positions—manure water (where the soil is sandy) is excellent for aiding flowering plants at present—but in cool or shady positions such is not required. It is well to take the earliest opportunity in getting a start with the propagation of bedding plants—Bronze Pelargoniums and any kind of tender growth is better to be rooted and stored in good time—nights are now becoming cool and days shortening rapidly, reminding one that time should be improved.—*M. T.*

THE AMATEURS' GARDEN.

THE FLOWER GARDEN.

Just as the Roses are waning, or, at least, when their numbers are being reduced, we have a beautiful class of plants to succeed them, however, and to prolong the charms of the flower garden in the Carnations, Picotees, and Pinks. Our garden is now gay with these flowers, and by the time these notes appear in print, the National Society will have held their annual festival at Kensington, when there is such a gathering of these charming flowers in their best attire. Now is the time for amateurs to make their selections where they meditate adding a collection of Carnations to their border flowers, or to obtain any fresh or desirable varieties to increase their stock. The choicer sorts are rather expensive, and when once a number has been purchased to start with, it is not always convenient to increase the stock by procuring fresh plants, and resort must, therefore, be had to the propagation by layers, cuttings, or pipings. The Carnations and Picotees can be increased in the two former ways, and Pinks very readily by the last named; Carnations are, however, chiefly propagated by layers, which is a surer mode than cuttings.

Layering is a simple operation and very easily performed, some sifted soil is placed round the old plant and over the base of the stems, then the young growths are spread out evenly all round, and all those most conveniently placed are selected for layers. A few leaves are cut from the base of the shoot, and a joint selected where the stem is moderately firm, then with a sharp knife make an incision just below this joint on

the upper side sloping towards the lower side and the apex of the shoot, and three parts through. The upper portion is then slightly twisted to bring the cut surface in contact with the soil, and is pegged down firmly and covered with a fine sandy compost. Water lightly with a fine rose can and little more attention will be needed until it is found that the layers are rooted and become independent of the parent plant, when they can be separated and transplanted if desired.

For propagating these plants by cuttings or pipings, a space of ground should be selected in a sheltered position near a wall, and if hand-lights are employed, numbers of other plants, such as Veronicas, Pentstemons, &c., can be raised in the same way. The soil should be finely sifted and contain a good proportion of sand, being well drained and raised slightly above the level to prevent the accumulation of water around the bases of the cuttings. This is especially necessary for Pinks, which are very impatient of excessive moisture. Pipings consist of the shoots 3 ins. or 4 ins. long, which are not cut but pulled off the plant, and do not usually require any trimming; they must be pulled straight and sharply, or they would be torn and not likely to be very satisfactory. When cuttings are employed they must be cut neatly just below a joint, the lower leaves removed close down to the stem, and when inserting them firm the soil carefully around them and at the base.—*Scolytus.*

LONDON GARDENING.—III.

Its Minor Difficulties.

They are five:—Walls, Cats, Cramped pSace, Intractable Soil, and Hard Water. The first of these is practically the worst at present, inasmuch as it seems to be seldom even recognised as a difficulty, and until the corner of recognition is turned of course treatment is not so much as in sight. Yet the Wall difficulty is amenable to treatment, though not of the heroic order.

In the country the advantages of a walled garden are many; walls afford shelter, store warmth, break the force of the wind, and harbour few insects if well built and well kept. But the country walled garden is usually more or less spacious, and outside its walls stretch open fields or fragrant woodlands, over which the wind can rush unchecked; and oh! what a difference that makes! Healthy breezes charge the garden walls, and toss the boughs of the trees that peep over them; the flowers within are sheltered from the violence, yet refreshed by the pleasant movement of the outside world; the walls protect without imprisoning them, and they breathe a continually changing air. But in the little London garden walls means stagnation. Itself hemmed in on all sides by high houses, and often planted thickly with tall trees, the space allotted by the builder for what he grandiloquently calls "pleasure grounds" is divided and sub-divided by walls, generally built of rough and uneven bricks, which effectually bar the passage of such currents of air as may have found their way into the enclosure. Now these wall are presumably unavoidable, for in such a situation hedges are out of the question, and palings would not give general satisfaction because wood is popularly held to be more perishable than it really is, and the British householder delights in the solid, the durable, the impermeable—in his "money's worth" in fact, as he fondly calculates. Thus the walls are as impregnable as an institution as they are materially proof against the solicitations of the breezes. We must have them. But why should we not try, as far as we can, to reduce the mischief that they do? why should we play into their hand, so to speak, by putting our plants immediately beneath them? Plants love ventilation and sunlight, and these walls prevent the one and exclude the other; yet, ill as the London gardener can afford to lose any available light or air, what is the constant practice in laying out a town garden? What but to run a border round it immediately under the walls, so as to bring the plants well within their shadow and their influence? Now suppose the walks, and not the border, were to skirt the garden and be thrown into juxta-position to the walls; and that the plants were to be grouped in beds or borders in the middle:—should we not secure for plant life the maximum of sunshine and of air, and the minimum of molestation, at the same time, by ants, earwigs, snails, and cats?

Ah! cats. Truth has obliged me to station them second among the drawbacks to the happiness of the London gardener. But I must frankly avow that counsel for the prosecution where cats are the accused I could never be. Sandies, tortoiseshells, tabbies, long-haired, short-haired, green-eyed, yellow-eyed—I love them all, as the late Bishop Thirlwall loved them, even to the point of personal sacrifice; and traduced and misunderstood as they too often are, I have found them, as he found them, worthy of esteem as well as affection. His easy-chair and his waste-paper basket, I think, the good bishop was wont to surrender to his cat at her convenience, and in the shadow of such a name one may well proclaim one's love for cats with pride. But plants are nearer to one's heart than easy-chairs or the baskets which are the comfort of the tidy soul, and though I would not hurt a cat for hurting a plant of mine, I would do—and, indeed, have done—all I could to defend my plants from cats, and my simple devices are easily recorded. The first point is to make the descent of the walls an arduous undertaking—that is, if the borders lie at the wall's foot in the conventional fashion; it is obvious that if walks are there instead of borders, neither the "thud" of the descending paws nor the passion of the paw's owners for a warm wall to loll against during the noon-tide siesta will do any harm. But in the ordinary case fine-meshed wire, 18 ins. deep, fastened to the inner edge of the wall, and kept upright at short intervals by wooden supports nailed to the brickwork, will be found a pretty effectual check. A precipice *per se* may be a trifle to cathood, but a precipice edged by a stiff fence, with no claw-hold on the offside, is regarded, I observe, as a widely different affair. Cats sometimes have access to a garden other than by wall-scaling, and great is the havoc when it is the scene of a battle royal; but on less dramatic occasions a liberal dressing of pepper or flour of sulphur will usually avail to put the visitors out of conceit with any border they may especially affect.

Let us duly note in passing how profitable under some circumstances is the smalluess of small gardens! Aye, and that though the very next difficulty on our list is none other than Cramped Space. If, as I have heard it said, the secret of an orderly house is the banishment of superfluities, a house occupied in every corner is less likely to fall a prey to the mystery of accumulations than one inhabited only here and there. For we all know how conveniently things that have no particular place, and perhaps no particular use, are relegated to rooms that have no particular owner. Yet a single "box-room," it must be admitted, is a comfort in any house, nor is there any reason why its heterogeneous occupants should not be marshalled in the most edifying order.

Just so in a garden. The accumulations of garden life, indeed, differ from their indoor kindred in that they are not only inoffensive, but most valuable, and it would be hard to over-estimate the consequent value of a few square yards of empty ground—behind some hedge or in the angle of some out-buildings—in which to store them. A pit full of dead leaves here, a pile of decaying turf there, little mounds of spent manure, of river-sand, of peat, and of fibrous loam, hard by—a shed in this corner to shelter clean pots and pans as well as gardening tools—an airy little loft up that ladder where bulbs can be safely lodged, be the winter ever so wet—oh! what a tempting picture this sort of outdoor "box-room" is! But the London gardener must sternly turn the back of her imagination upon it; such delights are not for her. Her little pet stores, moreover, cannot be gracefully accommodated within her four uncompromising walls; she must cover them with sacking, or matting, or boards, or other unsightly materials, and even then those that can be injured by the weather will be injured. Still much can be done when you philosophically cease to consider appearances; in my little garden a big washing-tub is conspicuously *en evidence*, full of "Auricula-compost"; it has a wooden lid of the rough-and-ready kind, and if every-one did his duty in the world as stoutly as does my washing-tub, and look no worse than it looks, a great improvement in the world at large would very shortly become apparent. Where there is a will, there is a way to garden without gardening conveniences, and after a time, if one tries hard, one ceases to wish for them, or at least to wish for them otherwise than spasmodically.

Of the last two difficulties I have not left myself room to speak this week, but they can be conveniently considered conjointly with the other class of opponents, those plants, to wit, which will not grow kindly, or perhaps grow at all, in London—about which I shall have something to say in my next paper.—*C. A. G.*

PINK PIPINGS.

Calling at the Royal Nursery, Slough, a fortnight ago, I found the process of taking cuttings or pipings of Pinks in full operation. The second or third week in July is, perhaps, the best time to do this, and certainly the cuttings to be taken should be removed from the plants before they have lengthened and hardened into side-blooming shoots. At Slough, John Ball and his staff were hard at it, and I found a different plan was now employed as compared with the one in operation when I was at Slough thirty years ago—namely, that of striking the pipings under hand-glasses on a hot-bed.

Now, some nice sandy soil is prepared, and 48-sized pots are filled nearly full with it—after being carefully drained, of course—and on the surface is placed a thin layer of silver sand. The pipings are then inserted somewhat thickly, the soil pressed firmly about them, and then they are treated to a good watering at first. Then the pots are placed in a frame on a gentle bottom-heat, kept moderately moist, shaded from the sun, and the lights kept nearly closed, just allowing a little air during the day. In about three weeks or so they have made roots, more air is given; later on they are placed in a cold frame and encouraged to grow, and when strong enough planted out in the open ground.

But this caution is necessary. If a Pink-grower would have his flowers well laced when they bloom, he must not only plant out in the autumn, but he must plant out early enough for the roots to get a good hold upon the soil before winter sets in. That is a golden rule in regard to Pink culture. I have known Pink plants to be ordered in March. How can anyone expect them to flower in character in July?—*R. D.*

STONE'S CYPRIPEDIUM.

The original Cypripedium Stonei, the narrow-petalled flower (A) in the accompanying illustration, is an admittedly fine plant, and when well grown with several spikes of three or four flowers each, a noble object in any collection; but beautiful though it be, it is fairly eclipsed by its rarer and more showy variety, "platytænum," (B) which was introduced by Messrs. Hugh Low & Co. as a chance plant among a lot of the old Stonei nearly twenty years ago, and first flowered soon after by John Day, Esq., the learned Orchidist, of Tottenham. The beauty of this foundling cannot fail to suggest the question, "Is it a cross-bred seedling, or what?" From a study of the flowers, side by side, I should say it certainly is not the result of cross-fertilisation between two species, but rather that it is the outcome of a freak of nature in a plant of the true type.

Comparison shows that the two plants in most respects are identical, or resemble each other as nearly as any Orchids of the same species do. Both have the same slipper-like lip, white veined and flushed with rose, the jaw-like fold on the under-side, and the same yellow pink-tinted fringed cushion at the base. Both plants resemble each other in their pure white sepals with nearly black lines, and differ only in the form of their petals. A critical examination of these, however, shows that there is no other difference between them than just that which might take place by the widening of the petals of the common C. Stonei. In proof of this, it will be seen, on reference to the illustration, that the typical form has the dark chocolate markings on its petals displayed in spots or irregular blotches running into lines along the nervures. Imagine that by some process these very same markings would have to supply the material for widening out into the variety platytænum, and I think we must conclude that they, being surface colours, would assume just the form they present on the wide-petalled form, the widening of the blotches reducing the lines in order to cover the broader surface.

This is just what has taken place in the broad-petalled hybrid, C. Morganæ, raised by Messrs. Veitch between C. Stonei and C. Veitchii, no trace of the lines of C. Stonei appearing although the plant in other respects bears strong traces of both parents. C. Stonei platytænum which is a great beauty, is just one of those plants, the hope of obtaining one of which animates the breast of every Orchid grower when watching over his unflowered importations. The flowers illustrated come from Sir Trevor Lawrence's collection at Burford Lodge, where C. S. platytænum flowered with two spikes of three flowers each this summer. C. Stonei and its varieties, some of which have much more twisted

petals than others, C. S. platytænum, and all the other Borneo Cypripediums, are very free growiug if kept in a warm shady moist house, the only change they require being a sojourn in the Cattleya-house while in bloom. The cold house they never accommodate themselves to.—*James O'Brien.*

HARDY PLANTS IN FLOWER.

The month of July has its complement of hardy perennial and bulbous plauts in flower, and week by week as they come and go, much varied in general aspect and much more so iu their strikingly brilliant or otherwise handsome flowers, one cannot help but recall the many pleasing and valuable subjects which for a while have passed away, while thoughts glide on into the future in anticipation of others to come. Nothing of which we can boast in the flower garden at this season can equal much less excel the gorgeous and brilliant flowers of the Gaillardia ; where these exist in large clumps their value has no limit. The flowers embrace almost every shade of orauge, crimson and scarlet, in some flowers the colour is self, and invariably when this occurs crimson or orange predominate ; none more picturesque, few more floriferous and profuse, lasting as they do far into the autumn months, when flowers of such gaudy hue are seldom seeu, and are in consequence of greater value.

The culture of Gaillardias is simple, they may be grown from seeds with a little care and patience, or if effect is desired in less tiue than seedlings could perform it, then I would recommend established plants in pots ; these are easily procurable from most hardy plaut nurseries, and if planted at once will (*not* flower this season probably, uuless there is some signs of flowering at the present time) make excellent plants for flowering early next year, when you may honestly expect an abundant supply of their gorgeous flowers. There are many varieties of undoubted excellence now being offered to the public, all of which are sure to give satisfaction, excepting perhaps those whose flowers are inclined to be yellow selfs. During summer and autumn we have a preponderance of yellow composite flowers, which render additions to the already numerous list the less needful, and thus it is, speaking for myself, that I all the more welcome the combination of colour which makes these flowers so conspicuous wherever they are seen. Only a few days ago I had on exhibition at a local show a handful of its flowers, G. grandiflora and the variety maximus being those which represented the group. My modest little collection of hardy perennials created quite a sensation among the amateur cottagers, none of whom passed without passing a well-deserved compliment on the Gaillardia ; no variety I have yet seen anything approaches the last-named, either for size or intensity of colour, it measures fully 4 ins. across when well grown, and should be included in all collections of hardy flowers.

For another brilliant lot of colour, let us turn to Gladiola insignis, which now is so rich and effective that one wonders why it is not more often seen in collections of hardy flowers. Can it be possible that such a lovely flowering bulb is comparatively little known. As an instance of the especial value of it at this time, I venture to remark that in every collection of a hundred herbaceous and bulbous plants this should always be included. Flowering at this time, I need hardly add that it belongs to the early-flowering section, and is iucluded in the varieties of G. ramosus. Quite recently I have learnt that this makes an excellent sub-bog plant. At present I have not tried it, but I fully intend so to do, not that I doubt the authenticity of the informatiou I have received, but rather with a view of gaining information myself upon the subject. Taken as a whole, the genus Gladiolus will generally succumb to excessive moisture at the roots in winter time ; but if in this we have an exception to the geueral rule, we shall have a valuable addition to bog plants, especially so in point of colour, of which there is abundant room for improvement. I spoke of the pearly white form of G. Colvilli in a recent issue, but omitted one particular respecting it—viz., that there are two whites in cultivation, one much superior to the other in point of purity. The best variety has very pure white flowers and white anthers ; the inferior kind has also good white flowers, with violet-purple anthers, which detract much from the purity of the flowers as a whole.

But to proceed, and for the moment to set aside the desire for gay colours, let us dwell on the lovely nodding blossoms of Papaver nudicaule, for in its varieties we find a charming trio of colours, each partaking of the same satiny substance which marks the type, while in colour we have white, yellow (type), and orange. They are all extremely pretty and most effective, suitable either for the rockery in groups or in the border ; 1 ft. or 15 ins. high is the maximum attained, and they contiuued to yield an abundant supply of flowers. Easily grown from seeds, and transferred to permanencies in the border when large enough to handle, they constitute a small still highly attractive little group of summer flowers ; and then, for another dwarf companion, let us select Delphinium nudicaule, with scarlet flowers on spikes 15 ins. high, also good for small colonies and easily managed from seeds. Again leaving the gaudy, we find a most singularly interesting and pretty group in Cyclobothra. C. pulchella is now in flower, growing 8 ins. high, and having drooping yellow flowers remarkable for the dense bearding of the interior. C. alba is a charming kind with drooping white flowers. To grow them well use equal parts of peat and loam made rather sandy, and to which may be added well-rotted manure to about one-sixth that of the soil. The bulbs are best dried throughout the winter, and may be plauted during February and March.

If we seek a bit of blue, we have it supplied in Polemonium Richardsoni, an ever flowering plant, dwarf and compact in habit, and pleasing in its colour, and suited at the same time to auy good ordinary soil. For rose-coloured flowers we must refer to Achillea millæfolia rosea, and Lathyrus latifolius roseus, both valuable well known and easily grown subjects, the latter, as is well known, ranking still among the best of old-fashioned hardy flowers, valuable in a cut state, or for the embellishment of the rock garden, or in semi-wild places where natural beauty may receive no check. And if we would wish for white flowers we cannot do better than turn to the white form of the latter species,

A, Cypripedium Stonei ; B, Cypripedium Stonei platytænum.

and here we find one of the best, a plant still uncommon, though once so abundant in gardens, and highly valuable for any purpose; it is very durable in a cut state, pure in colour, and equally free flowering as any. Plant it well in deep rich soil, and you will have the most gratifying result. Allow it to remain undisturbed for years if you wish to see it in that state of perfection of which the hoary heads of the profession know well and tell the tale, and we, the younger members of the school, have yet to see and know.—*J.*

FLOWER SHOW AT HAREFIELD GROVE.

The annual exhibition of the Harefield Horticultural Society was held on the 21st inst. in the grounds of Harefield Grove, near Rickmansworth, the seat of George Webster, Esq. This society, so far, has aimed more at the encouragement of cottage gardening than a general exhibition, and this year the cottagers and amateurs of the district had the prizes devoted to their interests, and some highly creditable exhibits were staged by them; but it was the neighbouring gardeners who made up a very pretty exhibition, by gratuitously contributing groups of plants. In the tent in which the competing exhibits were grouped, the large centre stage was well filled by groups, one, contributed by Mr. W. C. Mundell, of the Moorpark Gardens, being nicely arranged; and another from Mr. Wall, gardener to Mrs. Drake, Brakspeares, Harefield, who had some good Palms, a fine Araucaria excelsa, and other ornamental plants. Mr. Brush, gardener to Lady Hume Campbell, Highgrove, Eastcote, contributed some well-grown tuberous Begonias and an excellent collection of cut herbaceous blooms, well set up, also a collection of Roses. Mr. Wall also contributed a collection of cut herbaceous blooms and Roses. Mr. Milone, gardener to William Barnard Byles, Esq., Harefield, staged a pretty group of plants, and W. H. Kennell, Esq., Harefield, set up a collection of wild flowers in bunches of each kind and other exhibits. The postmaster at Harefield, Mr. Quickenden, took the chief first prizes in the amateur classes for some nicely grown Fuchsias, Pelargoniums, and other plants.

Another spacious tent was well filled by Mr. Gough, the manager of the Harefield Grove Gardens, and was in reality the feature of the exhibition. The centre of the tent was occupied by a grand group, 50 ft. long, of Palms, tree and other Ferns, Caladiums, a splendid lot of Crotons, a collection of well-grown climbing Asparagus, and many other plants; at the entrance, right and left, were groups of Tuberoses and Maidenhair and other Ferns; at the far end of the tent was another group of Palms, &c.; on the right-hand side of the tent was a long table with Palms and other plants at the back, a fringe of Maidenhair Ferns in the front on a sunken shelf, and boxes of cut Roses, herbaceous blooms, zonal Pelargoniums, stove and greenhouse flowers, &c., were worked in, forming bright-coloured panels in a mass of Adiantum Farleyense, A. cuneatum, Lomarias, and other plants; a corresponding table ran along the left side, on which there was a similar arrangement of plants, but with masses of colour here and there, such as a group of Pelargonium Volante Nationale alba, a very fine new double pinkish white zonal Pelargonium, Kate Twinings, and other plants were used. Interspersed were stands of Grapes, Black Hamburghs and Alicantes, superbly done; Peaches, Nectarines, thirteen fruits of Harefield Golden Gem Melon, six very fine fruits of Higheross Hybrid, and six extra fine fruits of Edward Bennett Melon, evidently a superior variety. Groups of Tomatos were filled in, such kinds as King Humbert Improved, Phillips's Perfection, Harefield Grove Selected Red, Harefield Golden Gem, a very fine kind, fruit large and heavy, and a great cropper; and Hackwood Park Prolific.

ELFORD HALL, TAMWORTH.

This fine old country seat is situated about one and a half miles from Elford and Hesalour station on the Midland Railway. As we passed through the quiet and pleasant village, we noticed that every cottage was surrounded with Roses, and many were the fine standards, with dozens of fine flowers, that adorn many of them. We approached the hall through a pair of iron gates, and thence along the carriage drive, which is broad and straight, and on either side of which are fine Elm trees. At the end of the avenue, close by the hall, stands the church, which, from all appearance, has been there for several generations. Its surroundings are adorned with flowers and shrubs, and the grass kept cut short like a bit of well-kept pleasure ground. The pleasure grounds proper at Elford are extensive and beautiful. The flower garden is situated on the east front of the hall, and is protected from the north by a high wall, which is covered with Roses and fruit trees. At the base of the wall is a border planted with herbaceous plants, and among these are a goodly number of standard and dwarf Roses.

A few yards from the border in question is a large geometrically designed flower garden in four panels, all of which are planted with subjects of a harmonious character, and the work of planting has certainly been done in a most complete manner. As it is a very large design, to relieve the great mass of colour, standard plants of Acer negundo variegata and Dracæna australis are placed in the centre of the principal beds, which gives the whole a charming effect. Surrounding these flower-beds are some good specimens of ornamental trees, amongst them a very fine plant of Wellingtonia gigantea, clothed to the ground. Close by stands a very fine Irish Yew, 30 ft. high and 7 ft. through, a perfect mass. Leaving the flower garden we turned in a southward direction, and soon came to the River Tame which divides the pleasure grounds from the beautiful park, which is so picturesque from the south front of the hall.

The kitchen garden is situated on the west side of the hall and pleasure grounds, and within the walls, is two and a quarter acres in extent; on the south wall, within the pleasure grounds, where there is a large lean-to conservatory, which was well furnished with decorative plants, amongst them being some fine old Camellias planted out. The kitchen garden is divided into four sections by Holly-edges, and on each side of the cross-walks and flower-borders. The walk which runs from east to west, is planted with bedding plants and standard Roses; and the latter, at the time of our visit, were in grand bloom. The side-borders of the other walk, which runs north and south, is devoted to herbaceous plants. We next enter a range of Vineries, 80 ft. long, and consisting of two compartments. In the earliest house we noticed some fine examples of Muscat of Alexandræ and Black Hamburgh, both well finished in berry and colour; while in the other compartment, there is a good even crop of late Grapes. On the north side of the kitchen garden there are several houses, pits, and frames, devoted to Peaches, Nectarines, Cucumbers, and Melons, all of which are producing good crops. Close by is the gardener's house, which is roomy and pleasantly situated at the west end of a long broad gravel walk, bordered on each side with herbaceous flowers, intersected with standard and dwarf Roses. Good dwellings are noticeable all over this estate, which is a proof that its owner, Howard F. Paget, Esq., is one of those gentlemen who interest themselves in seeing to the comforts of their servants and tenants. Although Mr. Udales, the gardener, has only been here but a few months, the crops and grounds alike, are in good order.—*Visitor.*

NOTES ON THE FRUIT CROPS.

There was an abundance of blossom on all kinds of fruit trees here, and in this neighbourhood, but the ungenial weather in March and April, and a very wet cold May, have in general had an unfavourable effect on the crops. Apples, Pears, and Plums, are a spare crop, even that free-bearing kind, the Victoria Plum, being very thin; Damsons half a crop; Morello Cherries are also almost a failure. Of the choicest kinds of hardy fruits, viz., Peaches, Nectarines, Apricots, or Figs, none are grown here except under glass; Raspberries are excellent in every way; Gooseberries are also laden with well swelled berries; Currants, red, white, and black, a fair crop; Strawberries, our earliest and best cropper is Viscomtesse Héricart de Thury, but this season they are unusually small owing to the protracted drought during June. President and British Queen suffered most through the winter and late spring frosts, many plants being quite stripped of their foliage, consequently the crop is very poor indeed; James Veitch is our heaviest and best cropper this season, and is a variety that always does well on our heavy soil, but its value is much discounted by the fact that it is the first to decay in damp weather, especially the largest fruits, even before they begin to colour. For late picking on a north border I grow Helene Gloede and Loxford Hall Seedling, both varieties are swelling heavy crops, and will give us a good supply in August. Early Potato crops are exceptionally light owing to the dry weather in June, but the late plantations look exceedingly well, and entirely free from disease at present.—*W. Elphinstone, The Gardens, Shipley Hall, Derby.*

In this immediate neighbourhood we have to contend with a very light soil that dries up quickly. It is not only light but also shallow, and rests upon sand and gravel. We have to manure heavily to produce crops of vegetables, and to produce fruit in any great weight is often a difficulty. Still, we experience our good, or tolerably good, seasons and our indifferent ones, when we have to lament an under-average of many things. When we get to May and June we want more rain than we usually get, for the old adage, that "a dripping June keeps all things in tune," is perfectly true in our experience. In the June that has just passed we only had 0.39 of an inch, with bright scorching days, so that we suffered intensely. On a lawn of about three acres the mowing-machine was put by for nearly a month, and the water-carts had to be used morning and evening; but as I now write we are experiencing a happy change in this respect, for we have had nights of rain that has soaked the ground well, and the whole face of nature is changing for the better.

To begin with that staple fruit, the Apple, the crop will be light; still, there are in places trees of certain kinds that are now swelling-off crops that will not be despised at gathering time. King of the Pippins is nicely full (old trees), and old Dr. Harvey will not be amiss; and we have a few trees that seem to be grown only in this part of the country that we cannot find names for, and these will carry a medium crop. That very early Apple, the Irish Peach, is cropping freely on young trees, and Lord Suffield, grown as espaliers, is also carrying a crop. Still, most of the trees in the orchard are destitute of fruit. Apricots on walls are very thin; Peaches and Nectarines are a crop in places, and in places very thin; and exactly the same must be said of Plums and Cherries. Pears are very thin, and what there is look so intensely hard—their skins look so brown instead of being green. Strawberries never looked more promising; but the want of rain, however heavy we mulched them, told upon them, and they did not swell-off to our satisfaction, though they were not exactly alike in all gardens.

I notice on our Filbert bushes very few nuts, quite the reverse of last year, and Walnuts are thin, except on some solitary trees that carried light crops last year. Gooseberries and Currants are a good crop, and so are Raspberries very good, these July rains are swelling them off well, and they are also making good canes for another year. Our early Peas suffered much, as did also the Carrots, Turnips, Onions, and Cabbages. We thought at one time we should have a general dearth, but everything is happily now changing for the better, and our vegetable crops are making up for lost time; we have not found one diseased Potato yet. From the evening of the 12th to this evening the 26th we have registered 4·01 ins., which is none too much; but now we shall want dry weather again, for the harvest will be nearly fit in a fortnight's time.—*T. W., Wroxham, Norfolk.*

We are now in the midst of the Strawberry picking, having commenced on the 13th of this month, only a few odd ones having been gathered previously. On young plants, or those planted about this time last year, the crop is satisfactory; but not so on plants in their second year, and those in their third year are miserably poor, but of these, fortunately, we have very few. An old gardener in the neighbourhood complained to me that this was the worst year he ever knew with him for Strawberries, and when looking round the garden with him I observed that he had no yearling plants, and that many were very old. Now, if I had sufficient labour at command to layer the requisite number of plants at the proper time, I would destroy every plant after fruiting once, and plant young ones thicker than is usually done for permanent beds.

Bush fruit is a heavy crop, especially Gooseberries, and they have been offered in the market at less than 1*d.* per quart. These and currants, as a rule, suffer more from birds taking the buds than they do from the weather. Here it is the tomtits that have done the mischief, excepting in one year, when a batch of green

linnets stripped our Black Currant trees just at the time the flowers were revealing themselves. Dark-coloured threads will scare these if stretched thickly to-and-fro amongst the branches, so that the birds, in their rapid flight, come in contact with it, which surprises them and makes them shy to return. That which we use is almost invisible at a short distance off, and so frail that a small bird flying against it in most instances will break it. The tom-tits are not, however, terrified in this manner, and when stoned they only move from one branch to another. This year it was suggested by one of our garden labourers that we should try spring traps fixed on a stand or box, and bait them with crusts of bread, or peels of Apple or Pear. When the traps were on the ground, other birds, and especially robins, that we did not care to catch got in before the tits, and we were assured that the novelty of a stand would be an attraction to the tits, whilst the other birds would keep aloof; and this proved true, for we had not gone twenty strides away from the traps before one of these daring little creatures was hopping about on one of the stands, and in less than a week we had caught thirty of them, or about all that was in the habit of visiting the orchard. Raspberries are a heavy crop, and the fruit is of fine quality. The only cause of failure in this crop, as far as I have observed, is drought at the time they are in flower or after. Unlike other fruits they are not affected by frosts, as the flowers open at too late a date, and on this account I regard the Raspberry as the most profitable crop we have, if such sorts as Falstaff, Prince of Wales, and Carter's Prolific, are planted. The majority of small gardens in this district seem to me to have some old small variety, or they may be chance seedlings. When I procured the sorts named, I planted a few of this inferior kind found on the place amongst them for comparison, and the fruit they produced was not half the size.

Pears are a poor crop, and the fruit is late and small. There was once every prospect of a bountiful crop, the fruit having been really formed on most of the trees, but the cold piercing wind that blew at times with great violence for some time, and as late as the 20th of June, destroyed foliage as well as fruit. Not only was the ground covered with green leaves more than once, but many of those that were left on the trees looked brown and shreddy, and our hardy forest trees had likewise a seared and tattered appearance, traces of which may yet be seen. The following standards and pyramids have a moderate crop on them, Louise Bonne, Beurré Bosc, Beurré d'Amanlis, Williams' Bon Chrêtien, and Eyewood. There are very few on our two west walls, and several of the trees are without any; Easter Beurré is the best, and the fruit may readily be counted on it; and Glou Morceau, Napoleon, Beurré Diel, and Ne Plus Meuris. A small tree of Easter Beurré which makes about 6 in. of growth annually, has had a full crop, and always has had, and is one instance of vigour and fertility not running together.

The following Apples are a moderate crop—Blenheim Orange, Golden Noble, Wellington, better known to many in this part as Normanton Wonder, King Pippin, Scotch Bridgett, and Linsey's, both local names, specimens of which were sent to the Apple Congress with a request that they might be named, but nothing more was heard of them. I have no idea what the correct name of the first may be, but I feel sure that the second is Tower of Glammis.

We have not many Peach trees on the walls, and the only sorts that carry anything like a crop are Bellegarde and Elruge Nectarine, and they have set their fruit better than trees of other varieties have done in unheated houses situated in a low shady part of the garden. As wall Peach trees have died, we have filled their places with Pear and Cherry trees; three of the latter were trees 6 ft. high already on the place, but in the wrong aspect to bear fruit when they were moved two years ago, and they have a splendid crop. Rarely have they and all other fruit trees been so free from blight and insect pests, and the continuous downpour we have had to day, Monday, will further secure this immunity.—*W. P. R., Preston, Lancashire.*

Although here (North Shropshire), we have had it very hot and dry, we have been more fortunate than your correspondent, Mr. Stevens, Paston, Northumberland (p. 747). We had a dry February, 0·80 of rain; a fairly wet March, 2·78; very dry April, 0·92; and great floods in May, 7·56. The early part of June was wet, and the last half of that month and first half of July very hot and dry, so that your correspondent has had two weeks more dry weather than us, and earlier in the season. All outside fruit is very late indeed this year, and will require a sunny autumn to ripen up the late sorts.

Apricots are thin; Apples a little thin, but finer looking fruits than usual at this season of the year. Pears are rather thin, but we have good crops of the late keeping sorts. Plums of all kinds are a very heavy crop indeed, the best we have had for several years. Cherries are yielding good crops, and I am pleased to say the trees are freer of black fly than I have seen them for years. Strawberries, very good; Currants of all kinds, also good; and Gooseberries a very heavy crop, and almost free of caterpillars; of Peaches not many are grown outside, but the crops are fairly good in places; Raspberries, very good; Walnuts, thin; Nuts, thin in places.—*J. L. Onslow, Shrewsbury.*

FRUITS, FLOWERS & VEGETABLES.

Root-pruning Fruit Trees in Summer.—There was a well-timed note recently in your columns under the heading of "Scottish Gardening," and I would strongly recommend its perusal to all who have trees that are growing too strongly. Root-pruning in summer is easy and safe to adopt, and very effectual, but many shrink from practising it for fear of injuring the trees. In the case of trees of large dimensions, however, it is not practical to lift them; and if done all at once in the case of the largest size that can be dealt with, canker would be likely to follow, and so the remedy would be worse than the disease. But the plan of lifting one half at a time as recommended by "M. T." is good and sound practice. Some few years ago I called upon "M. T." when he had charge of an establishment of some repute in Worcestershire, and noticed how fruitful his young trees were on the walls. I made a remark about their fine condition, and was then told by your correspondent the details of the system he was then practising, and now again recommends. On returning home I decided to try the plan in connection with some young Plum and Pear trees that were getting too strong, and not fruiting so freely as I could desire. The work was done in August, that is to say, we root-pruned one half of the roots at that time, and did the other half in the following season, with the result that the trees soon became, and now are, as fruitful as could be wished for. Selecting two trees of Cox's Orange Pippin Apple, we half-pruned one in August, and completely lifted the other in October, with the result that the last named gave no fruit the next season, while the half-lifted tree carried a fair crop of good well-coloured fruits. This was six years ago, and now the trees are equal in strength. I would strongly advise all who have not adopted the system of lifting one half the tree at a time to do so, feeling sure they will be satisfied with the results.—*Con.*

Hardy Plants in Flower.—On looking over our borders of hardy plants this evening (July 22nd), I noted the following as being very showy and useful for cutting, and thinking the list may be useful to somebody, I send it on to you, with the remark that of course it does not include a tithe of the sorts we have in bloom:—Achillea ptarmica, Alstrœmerias of sorts, Anchusa italica, Campanula Hendersoni, C. carpatiea, and its variety alba; C. persicifolia and its varieties, alba flore-pleno and cærulea; C. turbinata, C. urticifolia, C. alliariæfolia, Erigeron speciosa, E. macrantha, E. grandiflora, Lychnis chalcedonica flore-pleno, L. coccinea flore-pleno, L. vespertina flore-pleno, L. viscaria rubro-plena, L. dioica alba-plena, Spiræa palmata, and S. palmata alba (these are very fine), S. filipendula, Dianthus Napoleon III., D. striatus, D. Highclere, Polemonium Richardsoni, Iberis Gibraltarica, and its variety hybrida; Delphiniums, a large collection of sorts, including the rare Siberian D. grandiflora flore-pleno; Ranunculoides, &c.; Phloxes, Pentstemons, &c. These are only a few out of our large collection that I could name, but they are all good growers and most useful things. It would be of great interest to many of your readers if those who are interested in this grand class would send you notes on other good subjects as the season advances, and they would be all the more valuable if sent when the plants are in flower.—*Con.*

Fuchsia, Phenomenal.—"Do you grow Phenomenal?" was the question put to me when looking over a collection of Fuchsias last spring in a nurseryman's place. The answer was promptly given, "No; I do not." "Well, you should possess that variety, I can recommend it as very good," said the nurseryman, and I ordered a plant on his recommendation. I have now bloomed that plant. It was potted in a 6-in. pot when it came, and has had no more than ordinary cultivation, but I have had one bloom which has certainly been a phenomenon to me. The corolla measured when fully expanded quite 3½ ins. across. I have grown the Champion of the World and Avalanche to a good size, but not to equal this. I consider it an improvement on the Champion, which has hitherto for size taken the lead. It is also of better habit than the Champion, and more free; the foot-stalks of the flowers are of a good length; colour of the sepals bright red, broad, of good substance, and well reflexed. The corolla, which is very double, is of large size, and is of a bluish purple colour. I enclose a shoot on which are two flowers, the corolla of one of which is close upon 3 ins. in diameter.—*B. L.* [The variety is well named, its blooms being, as described by our correspondent, of truly Brobdignagian dimensions.—Ed.]

Chrysanthemum leucanthemum var. Puy de Dome.—In the stand of Messrs. Backhouse & Sons, York, at the late provincial show of the R.H.S. at Liverpool, I espied a variety of the Oxe-eye Daisy under the name of Puy de Dome, and which showed itself so conspicuously that I ordered plants of it, taking it to be a good variety. It has good broad flat florets of the purest white, and the individual flowers are of good size; a fine improvement on such of the existing varieties as I am acquainted with. It was found by their collector, Mr. Potter, growing in the mountainous districts of Central France, at an elevation of 4,000 ft., and it received a First Class Certificate from the Floral Committee.—*B. L.*

Clematis Jackmanni.—I have just returned from enjoying one of the finest floral sights I have ever seen out of doors, namely, a Clematis Jackmanni, which has taken possession of a Cherry tree, 20 ft. high, and is now perfectly festooned with blossoms. It is a sight I shall not very soon forget, and I advise all lovers of flowers to grow the Clematis. It is easily managed, and most beautiful when in bloom. Truly, as Messrs. Smith & Co. have often proclaimed in your advertising columns, many an unsightly position may be made beautiful and cheerful by the use of such plants.—*Thomas Garnett, 2, Russell Terrace, Tooting, S. W., July 27th.*

White Violas.—Allow me to thank Mr. Stevens, of Paston, for his answer to my enquiries respecting a white Viola. I shall certainly give Snowdrop a trial, and have selected Mrs. Gray to accompany it, out of the batch named by the editor, in the same issue, last week. I obtained a collection of a dozen varieties late last autumn, and Mrs. Gray was among them, but unfortunately some of them missed fire, this among the number. The best white, out of those saved, is Champion, but it makes rather long growths here, nevertheless, it is a good round flower. Skylark is another, but it cannot be called exactly a white, having blue edges around the petals, but it is very pretty and attractive. I am exactly on a par with Mr. Stevens, in having had for five years a border of Perfection, alongside the drive here, 150 yds. long, and which, in its season, has been a perfect mass of blooms, and it has not been disturbed. It is the general recommendation that young plants do best, and to plant yearly, but if they are left alone and the flowering shoots are cut out when they have done blooming, and a slight mulching of manure is given, you can and will have better bloom and more of them than is the case where they are always planted or uprooted.—*B. L.*

Earwigs and Chrysanthemums.—I have been catching and killing earwigs every day for the last six weeks on my Chrysanthemums, and since I saw the opinion expressed in the interesting notes of Mr. George Kidson, have been watching to see if they are merely "hiding there" in the partially curled leaves of the young shoots, or whether, as Mr. W. E. Boyce thinks, "the young shoots and buds are seriously injured by their ravages." I am satisfied they do infinite mischief to the *flower-buds*, and should be killed to prevent propagation; but until the flower-buds are formed I lean to Mr. Kidson's opinion. Mr. Burbidge, in his excellent book on the Chrysanthemum, which should be in every growers' hands, inclines to the latter view, adopting Professor Westwood's opinion.—*W. J. Murphy, Clonmel.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

Chrysanthemums will now need staking, and in doing this, avoid as much as possible that bunching together of the growths, which is a certain source of mildew, and which robs the plant itself of all beauty; this mode of training is all very well if the plants are to be staged along a narrow border at the back of the fruit houses as one so frequently sees them in many places, but this is surely giving scant courtesy to so useful and valuable an autumn-flowering plant as the Chrysanthemum undoubtedly is. If the plants were stopped as advised, from six to a dozen good growths should be on each plant, and these if nicely staked out should form the nucleus of a good specimen, whereas if bunched together, staging to anything like advantage is an impossibility, and most, if not all, the interest in a collection destroyed.

What can be more interesting than, say a Peach house or Vinery in the months of October and November filled with nicely trained specimen plants, more particularly as the regular occupants at this season are utterly devoid of interest, except to those in charge; awkward questions are often avoided by a little forethought, and particularly where flowers are concerned. If the plants were half plunged, as previously advised, free access is obtained without removal from their positions, which is a great saving of time: each plant after staking should have sufficient room to be turned once a week without interfering with its neighbour.

We are to-day looking over last season's stock of Cyclamen, they are not as satisfactory as we could wish, many of them having been kept far too dry, consequently the roots are for the greater part dead. We are shaking them out, removing all the old soil, and repotting them in a good sound mixture of loam and leaf-mould, with just a little peat added. The loam being of a rather light nature, little sand is needed; it is, however, particularly necessary that the pots are well drained. As soon as they are potted they will be placed in a warm pit, and kept shaded close until started, when they will be gradually hardened, and encouraged to make a stocky growth.

The spring-sown batch are making nice stuff, and will receive a shift into 5-in. pots, and be kept on the shelves in the intermediate house. We trust to these more than the old stock, and find them much more reliable. Of course, where plants, say in 8-in. pots, are required, it is absolutely necessary that the best of the old stock should be marked when flowering, and carefully stored, but never allowed to dry off, or the fleshy roots will disappear also, and then success is quite out of the question. Where pit-room is abundant, probably a part of it may be devoted to Bouvardias. In this case let the lights be constantly off, except in the case of heavy rains, which would cause the soil to become soured, but at all times it is necessary that the plants be freely exposed, and growth encouraged; then the very best results are certain to follow in an abundant cutting of flower later on.

THE FRUIT HOUSES.

Although we are experiencing a somewhat dull time just now, it will not do to rob the Muscat or other white Grapes of too much foliage. If for show or other purposes a few bunches are required, it is only necessary to tie back the leaves from each individual bunch selected for the purpose; a too free cutting away of laterals only tends to produce a stagnation of root action, so fatal to next season's crop, so avoid it. Much rather prune back non-bearing laterals and tie the leaves than severely prune, especially at this season, because surely we may hope to have some hot weather yet; and should severe pruning in have been resorted to, scorching or browning of Muscats will be sure to follow, and a consequent disfiguring of the clusters ensue.

Most unfortunately, we have got the disease in our Melons; this is the first time we have had it, and we hope it may be the last. We shall burn all seed by us, and trust to the generosity of neighbours who are not thus infested to help us. Perhaps this may catch the eye of some good Samaritan—if so we shall be grateful. This past week I visited a good establishment, unfortunately similarly afflicted. Be careful that an abundance of air is always admitted to the Peach-houses or cases which are ripening their crop, and freely syringe those from which the crop has been gathered.

THE KITCHEN GARDEN.

The early Ashleaf Potatos being quite ripe, it will be advisable to lift the whole, selecting each day those fit for table, and storing them in some cool shed or cellar, and allowing the seed to remain for some days on the ground to become hardened and greened before storing them away in the seed loft; by this means abundance of seed will be obtained for a good early planting, which will be found more satisfactory than having to purchase from seedsmen. Second earlies will also very shortly be ready to treat in the same way, and by such a mode I am quite convinced a great deal may be accomplished in warding off the attacks of disease. So far with us no trace has appeared, and with the rains we have lately experienced, everything points to an abundant crop. That most reliable variety, Cosmopolitan, is with us of the best quality, and I strongly recommend it to the notice of all requiring a change in second earlies.

Peas are greatly benefited by the rains, our old friend, Ne Plus Ultra, being as green as a leek, although coming on rather quicker than we would wish; all other crops are now in a most satisfactory state, with the exception of weeds which grow at an alarming rate, and tax our energies to the utmost. The Strawberry beds must be cleared of the mulching without further delay, and the runners removed. Where fresh plantations are to be made the runners should be saved, carefully dressed, and pricked out on a shaded border, preparatory to being planted out a little later on; by this means a good gathering from them may be secured next season.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Grammatophyllum Ellisii.—In the collection of G. Nevile Wyatt, Esq., Lake House, Cheltenham, might have been seen a few days ago a fine plant of the above in flower, and bearing two spikes, the larger having forty-four blooms upon it, the smaller one just half the number. The finer spike of the two has been put into the hands of Mr. F. Sander, to be figured in his new work, *Reichenbachia*. This Madagascar Orchid does not flower freely annually, the plant in question not having flowered since 1883.

Anguloa Ruckerii sanguinea, in the same collection, is just now bearing seven blooms, and is said to be a very fine plant of the kind.

Houlletia chrysantha.—Like the two preceding ones, this cannot be called an every day Orchid; nevertheless, it is very beautiful when in full bloom, as it is at present at Lake House. Two plants with six flowers upon a spike show up their sweetly scented golden yellow flowers in a striking manner, suspended above the green foliage of the other occupants of the cool-house.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*July 27th.*—The display of Carnations and Picotees held under the auspices of The National Carnation and Picotee Society, was the main item in the bill of fare on this occasion, and a notice of the same will be found in the next column. For visitors other than those specially interested in florists' flowers, there was again a fine show of hardy herbaceous plants, and a capital competition also took place with Cabbages and Peas, for prizes given by Messrs. James Carter & Co. and Messrs. Sutton & Sons.

The new plants certificated by the floral committee, were Rhododendron balsaminæflorum Rajah, one of the hybrid greenhouse section, with good trusses of beautiful, double, rich orange-scarlet blossoms; and which was also specially interesting as coming out of the same pod of seed as produced the double white, yellow, and pink-flowered varieties. To C. G. Hill, Esq, Arnold Hill, Notts., Mr. Davenport, gardener, for Cattleya gigas, Hill's variety, one of the grandest things ever shown, a flower of noble proportions and brilliant colouring; the large sepals and petals being of a rich rosy purple, the broad expansive lip deep plum-purple, with two large bright yellow blotches. To R. J. Measures, Esq., Mr. Simpkins, gardener, for Oncidium stelligerum Ernestii, a striking form, with pale green sepals and petals, heavily blotched with purple-brown, and the lip dull chocolate, with the upper portion white. To Messrs. James Veitch & Sons, for Todea grandipinnula, a supposed hybrid between T. Fraseri and T. hymentophylloides, and certainly a very beautiful and distinct plant. To Mr. T. S. Ware, for Matricaria inodora grandiflora plena, one of the finest of double-white flowered herbaceous plants, being a good grower and free bloomer, with the blossoms pure white, of good shape, and much larger than the old double form of M. inodora. To Mr. James Douglas for Carnation Terra Cotta, an edged flower of a peculiar terra cotta shade of red.

In Mr. Ware's extensive and very effective display of herbaceous plants, besides the Matricaria above noted, there were two other first-class subjects worthy of special comment. These were Helianthus japonicus, a showy, yellow, and wonderfully free-blooming plant, only growing about 2 ft. high; and Chrysanthemum leucanthemum maximum pumilum, a fine white, free-flowering variety, growing about 8 ins. high, and flowering a month earlier than the old maxima. It is, we believe, one of Mr. G. Maw's introductions from Spain. Messrs. Barr & Sons, and Messrs. Paul & Sons, Cheshunt, the latter especially, had fine displays of showy summer-flowering subjects; and Messrs. James Veitch & Sons, contributed a splendid collection of cut blooms of all the sections of Carnations and Picotees, beautifully shown on fresh green moss. Mr. T. S. Ware also sent a large collection of these showy and popular flowers, set up in bunches, with a toning down of their own grass. Messrs. Hooper & Co., Covent Garden, also contributed to this department. Messrs. W. Paul & Son, and Messrs. Paul & Son, Cheshunt, were large exhibitors of beautiful Roses; and Mr. R. Owen, Maidenhead, had some good stands of seedling double and single-flowered Begonias. Mauve Beauty and White Intermediate Stocks, both truly beautiful things, came from Mr. R. Dean, Ealing; and Mr. W. Bealby, Roehampton, received a cultural commendation for a finely-bloomed plant of Begonia Louis d'Or, a very fine double, of a rich canary yellow colour.

The Fruit Committee had but few subjects to adjudicate upon, the principal one being a fine group of fruit trees in pots, and a collection of eleven sorts of Cherries from Messrs. T. Rivers & Son, which included, besides the half-dozen sorts named in our last, a few other fine black varieties, such as Bigarrean Noir de Girben, Bedford Prolific, and Geante de Hedelfingen; and Griotte Imperiale and Emperor Francois, both very fine reds.

The Cabbages—Little Gem, Reading All Heart, and Carter's Early Heartwell Marrow—shown in competition for the prizes offered by Messrs. Sutton & Sons and Messrs. Carter & Co., were a most creditable lot. For samples of the two first-named sorts, the highest prize went to Mr. Cornish, gardener to J. Downing, Esq., The Shrubbery, Enfield, for examples of remarkably fine growth, and the other awards went to Mr. G. Woodham, Model Farm, North Dulwich, and Mr. C. Osman, South Metropolitan District Schools, Sutton. In the Messrs. Carter's competition, extra large examples of the Early Heartwell Marrow secured the principal award for Mr. Osman; and the next best came from Mr. Timbs, Hammersley Lane, Tyler's Green, Amersham. The last-named exhibitor, in a good competition, secured the premier award for Carter's Leviathan Beans; and in a competition for three varieties of Lettuce, initiated by the Messrs. Carter, Mr. T. A. Beckett, Cole Hatch Farm, Penn, came in first with fine samples of All the Year Round, Carter's Longstander Cabbage, and Giant White Cos. In the principal Pea class (for Messrs. Sutton's prizes) there was a fine competition, and again the Messrs. Marriott, senior and junior, of Boston, secured the two leading awards, among their contributions being fine samples of Telegraph, Telephone, Duke of Albany, Laxton's Charmer, Evolution, and Sutton's Satisfaction.

National Carnation and Picotee.—*July 27th.*—If we allow for the usual chapter of accidents which places some growers a few days too early with their flowers, and others a few days too late, we find that this annual exhibition more than holds its own, both on account of numbers and quality, though being spread over a larger area than usual, it certainly seemed to be a smaller exhibition than it really was, for in the small classes there was undoubtedly a greater number of fresh exhibitors than we have noticed at any previous exhibition. The flowers generally were of a good order of merit, and Mr. Turner, of Slough, especially was in rare form, carrying off the lion's share of the awards, with blooms that certainly were worthy of their high repute as growers. Mr. Douglas, usually hard to beat for first honours, had to be content with second honours generally, though his Picotees were certainly good, and his seedling yellow grounds were simply invincible. The awards made were as follows:—

Twenty-four Carnations: first, Mr. Turner, with Ed. Adam, John Ball, H. K. Mayor, Mr. Bridgwater, Miss E. Wemyss, J. Douglas, H. Cannell, Matador, Rifleman, A. Medhurst, F. S. Dodwell, Robt. Lord, Rob Roy, W. Skirving, Mr. Tombe, George, James Taylor, Mrs. Payne, and Sporting Lass, all fine in size, perfectly fresh and bright in colour; second, Mr. Douglas, gardener to F. Whitbourn, Esq.; third, Mr. J. Hines, 81, Bramford Road, Ipswich; fourth, Mr. T. Garratt, Bishops Stortford; fifth, Mr. F. Hooper, Vine Nursery, Widcombe Hill, Bath. Twelve Carnations: first, Mr.

James Douglas with Thalia, Unexpected, James Douglas, Matador, S. Payne, Fred, Duc d'Aumale, J. Kent, Merryweather sport, p. p. b.; Alisemond, Squire Whitbourn, and A. Medhurst; second, Mr. J. Hines; third, Mr. J. Lakin, Temple Cowley, Oxford. There were eight competitors in this class. Six Carnations: first, Mr. C. Phillips, Earley, near Reading, with R. Morris, J. Kent, G. Melville, Tom Power, H. K. Mayor, and W. Gawn, a rose flake; second, Mr. T. Henwood, Hamilton Road, Reading; third, Mr. J. Anstiss, Brill; fourth, A. Spurling, Esq., The Nest, Blackheath; fifth, Mr. H. Startup, 3, Stanley Road, Bromley, Kent. Single classes, scarlet bizarres: First and second, Mr. Turner with Robert Lord; third and fourth, Mr. Douglas, with Medhurst and Master Stanleys; fifth, Mr. C. Philips, with George. Crimson bizarres: First, Mr. Douglas, with Duc d'Aumale; second, Mr. Turner, with Rifleman; third, Mr. Douglas, with Merryweather sport; fourth, Mr. J. Lakin, with Master Fred; and fifth, Mr. Anstiss, with the same variety. Pink and purple bizarres: First and second, Mr. Turner, with Sarah Payne; third, Mr. Douglas, with Unexpected; fourth, Mr. J. Lakin, with Squire Llewelyn; fifth, Mr. M. Rowan, Clapham, with W. Skirving. Purple flakes: First, Mr. Turner, with Mayor of Nottingham; second, Mr. J. Lakin, with Squire Meynell; third, Sarah Payne (no exhibitor's name); fourth, Mr. Turner, with Sporting Lass; fifth, Mr. J. Lakin, with Major Gane. Scarlet flakes: First, Mr. Douglas, with Matador; second, Mr. Turner, with H. Cannell; third, Mr. C. Phillips, with Sportsman; fourth, Mr. Turner, with Figaro; fifth, Mr. Douglas, with a seedling. Rose flakes: First and second, Mr. Turner, with Rob Roy; third, Mr. Lakin, with Tim Bobbin; fourth, Mr. Douglas, with Diana, a seedling; fifth, Mr. Douglas, with Thalia, a seedling.

Twenty-four Picotees: Equal first, Mr. Turner and Mr. Douglas, though it was generally conceded that Mr. Turner had the best. Mr. Douglas' flowers were Her Majesty, J. B. Bryant, Alice, Mrs. Payne, Clara, Liddington's Favourite, Mrs. Chancellor, Princess of Wales, Constance Heron, Dr. Horner, Clara Penson, Thomas Williams, Heureuse, Muriel, Brunette, and Mrs. Gorton; Mr. Turner had Her Majesty, Favourite, Juliette, Orlando, Duchess, Dr. Epps, Mrs. Payne, Princess of Wales, Brunette, Louisa Muriel, Maud, J. B. Bryant, Lucy, Edith D'Ombrain, J. Williams, Mrs. Chancellor, and Constance Heron; second, Mr. J. Hine; third, Mr. F. Hooper; fourth, Mr. T. Garrat, Bishop's Stortford. Twelve Picotees: First, Mr. J. Douglas, with Her Majesty, Princess of Wales, Alice, Constance Heron, Mrs. Gorton, Favourite, Muriel, Thos. Williams, J. Smith, Clara Penson, and Mrs. Payne; second, Mr. J. Lakin; third, Mr. J. Buxton, Clapham; fourth, Mr. M. Rowan; fifth, Mr. J. Hines. Six Picotees: First, Mr. J. Anstiss, Brill; second, Mr. E. Henwood; third, not identified; fourth, Mr. C. Phillips; fifth, Mr. F. Glasscock. Single classes, heavy-edged scarlet: First and second, Mr. Turner, with Henry; third and fifth, Mr. Douglas, with Princess of Wales; fourth, Mr. J. E. Henwood, with Mr. Dodwell. Light-edged red: First and second, Mr. Turner, with Mrs. Gorton; third and fourth, Mr. Douglas, with Thomas Williams; fifth, Mr. C. Phillips, with Clara. Heavy-edged purple: First and second, Mr. Turner, with Muriel; third, Mr. Douglas, with Mrs. Chancellor; fourth and fifth, Mr. A. J. Saunders, with Zerlina. Light-edged purple: First and second, Mr. Turner, with Juliette; third, Mr. Douglas, with Her Majesty; fourth, Mr. A. J. Saunders, with Nymph; fifth, Pride of Leyton. Heavy-edged rose: First and second, Mr. Turner, with Mrs. Payne; third, Mr. Rowan, with the same; fourth, Mr. J. Hine, with Edith D'Ombrain; fifth, Mr. Douglas, with Mrs. Payne. Light-edged rose: First, Mr. Douglas; second, Mr. Lakin; third, Mr. Douglas; fourth, Mr. Anstiss; and fifth, Mr. Turner, all with Liddington's Favourite. Yellow ground: First, Mr. Douglas, with Agnes Chambers; second and third, Mr. Turner, with Prince of Orange. For twenty-four mixed blooms, Mr. Turner was first; and for twelve, the highest award went to N. Spurling, Esq.

The premier Carnation was Rob Roy, in Mr. Turner's stand of twenty-four; and the premier Picotee, Mrs. Payne, shown by the same exhibitor. Several new flowers were exhibited, and First Class Certificates were awarded to Mr. J Anstiss, for a heavy-edged purple Picotee named, Pollie Brazel; to Messrs. James Veitch & Sons, for a rich maroon Clove, named General Stewart; and to Mr. Douglas, for a yellow ground Picotee, named Annie Douglas.

Royal Horticultural Society of Aberdeen—Summer Show.—In the course of its sixty years existence, the Royal Horticultural Society of Aberdeen has had admirable shows. Many of the shows held in past years have been bigger, but few have been intrinsically better than the one opened by Sir Francis W. Grant, Bart., of Monymusk, in the Music Hall Buildings, Aberdeen, on Thursday, 22nd inst., and which remained open until Saturday, 24th inst. This year the entries have decreased to 650, compared with over a thousand last year; but the holding of the Highland Society's show in Aberdeen last year, tended to make the horticultural exhibition of that year greater than it otherwise might have been. Seldom indeed has the Music Hall looked so beautiful as it did on the closing days of last week. The floor of the hall was covered with tables, on which all the different departments of practical horticulture were illustrated; Fuchsia and Myrtle, Begonia and Fern, alternate in graceful rows, the eye delighted in a wealth of flower and foliage such as is rarely seen in Aberdeen. Cut flowers, fruit and vegetables were also very attractive; and so well was everything arranged, that the veriest amateur could have no difficulty in following the sections. As heretofore, there were four classes in the show—professional gardeners, nurserymen, amateurs, and workingmen's classes—each of the sections was worthily represented, but the professional class received most attention from visitors; in this section the Queen presented a very handsome first prize for a table of pot plants arranged for effect, and Sir William Cunliffe Brooks, of Glentana, gave the second and third prizes. The competition was interesting, and resulted in Mr. James Malcolm, Sunnyside Asylum, carrying off the royal prize; Mr. A. Gregor, Fairfield, coming second; and Mr. Thomas Forrest, Haddo House (Earl of Aberdeen), third. The three tables were assorted with cultured taste, but even the untutored eye would at once have laid the blue ticket on the Sunnyside exhibit. Among the other pot plants shown by professionals, Ferns, Pelargoniums, and Fuchsias were noticeable for wealth of beauty. Among other prizes, Mr. Edward Mooran, Stoneywood, carried first honours for Ferns; and Mr. Scott, Aberdeen, although an amateur, successfully competed among the professionals with a fine Lily. Mr. Ogg, Morven House, with six grand Fuchsias, bore off the first and second prizes. Mr. J. Kendry, Aberdeen; Mr. Grigor, Fairfield; and Mr. Scott, Deemount, also entered successfully for pot plants. For cut flowers—which, by the way, contained some beautiful Roses—Mr. Hunter, Richmond Hill; Mr. Robert Grigor, Sunnybank; Mr. James Mowat, Aberdeen; Mr. A. Hay, Westburn; and Mr. William Pope were the most successful entrants. Mr. George Goss, Cranford, with a dozen lovely blooms, made a fruit stand, that had to be won twice, his own. The show of fruit made by the professionals was not extensive, but withal good.

The gentlemen who took the lead in other departments were also first here. One peculiar feature in this section deserves to be mentioned. Mr. Alexander Milne, Aberdeen, carried off a challenge cup last year for Strawberries, after winning it twice. He this year again won, for the first time, a challenge cup presented by Lord Provost Matthews for a similar exhibit. The vegetables were a capital lot, but the lateness of the season has materially diminished the number of exhibits. Mr. Thomas Middleton, Monymusk; Mr. William Davidson, Aberdeen; Mr. Anderson, Lower Cornhill; Mr. Malcolm, Sunnyside Asylum; Mr. Reid, Uric, and Mr. Scorgie, Foresterhill, showed the best vegetables. The same cause that interfered with the success of the vegetable class, militated against a large collection of fruit, but what was shown was of the highest quality. In the nursery section, Messrs. Cocker & Son, Aberdeen, carried all before them. Amateurs exhibited a large and good collection of pot plants, among which was a collection of British Ferns, shown by Mr. Gillespie, Aberdeen, that would have done credit to any professional table. The other chief winners of prizes were Mr. Maitland, Woodside; Mr. W. Silver, Auchmull; Mr. James Minty and Mr. J. A. Kemp, Aberdeen; and Mr. R. Hall, Belhelvie. The cut flower specimens forwarded by amateurs were not numerous, and Mr. Duthie and Mr. Pope, Aberdeen, had matters pretty much their own way. The amateurs collections of fruit was select, although vegetables did not bulk largely. The exhibition made by working men in pot plants, cut flowers, fruit and vegetables, was very creditable indeed. The chief prize winners were—Mr. Francis Stewart Banchory; Mr. Watson, Stoneywood; Mr. Maitland, Woodside; and Mr. W. Beattie, Auchterless. A feature of the exhibition, which received general attention, was the fine selection of herbaceous plants shown by Messrs. Smith & Son, nurserymen, Aberdeen. The judges were—pot plants, Mr. Cameron, Forglen House, and Mr. Breadfoot, Aberdeen; cut flowers, Mr. McLeod, Ardmiddle, and Mr. Wyness, Usan, Montrose; fruit and vegetables, Mr. Reid, Durris House, and Mr. Kennedy, Brucklay. The Royal prize and the other important trophies were presented to the winners by Sir Francis W. Grant, who in the opening ceremony spoke of the state of horticulture in this country. Beautiful weather prevailed during the exhibition, and hundreds of people visited the show which was a decided success.

Waltham Abbey and district Horticultural.—The first exhibition of this newly formed Horticultural Society took place in the grounds of Farm Hill, the residence of Miss Francis, on the 22nd inst. The birth of this society may be said to have arisen out of a flower show in connection with the meeting of the Essex Agricultural Society in July last, and of which Messrs. George Paul, of Cheshunt, and H. Gough, of Waltham Abbey, were the hon. secretaries. The services of Mr. Gough have been secured as one of the hon. secretaries by the new society, and it has held a kind of inaugural show with every prospect of success in the time to come. One good sized tent was filled quite full of exhibits, and while it contained no striking feature, it was yet suggestive of a good exhibition by-and-bye, after a year or two's experience. A smaller tent contained the cottagers' fruit and vegetables, and a supplementary tent was quite filled by a fine collection of cut Roses contributed by Mr. William Rumsey, Nurseryman, Waltham Cross, quite a pleasant little Rose exhibition of itself. This was highly commended; so was a collection of fine cut Roses and flowering plants, from Messrs. Paul & Son, Old Nurseries, Cheshunt; and groups of plants from Mr. Reding, gardener to A. J. Edwards, Esq., Beech Hill, Plaistow; and A. A. Lancaster, Esq., Honeyland, Waltham Abbey. The same award was made to the Waltham Pottery Company, for an excellent lot of ware used for garden purposes.

I can touch only on a few of the leading classes, for time did not admit of my taking a lengthened report. One class, the competition in which created a good deal of interest on the part of the exhibitors, was that for a group of plants arranged for effect. All of these were somewhat packed, but one stood out from all the rest as showing a greater amount of artistic skill in the arrangement, from Mr. J. Green, gardener to Sir T. Fowell Buxton, Bart., Warlice Park, Waltham Abbey; Mr. S. Perry, gardener to S. Rowlett, Esq., Woodlands, Cheshunt, being second; and Mr. T. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, third. The best six miscellaneous plants came from Mr. James Nicholson, gardener to Mrs. Melles, Sewardston Lodge, Waltham Abbey, who was first with Cycas revoluta, Plumbago capensis, Croton Veitchii, Pandanus Veitchii, Yucca aloifolia variegata, and Aspidistra lurida variegata; Mr. Green was second. Ferns were shown in sixes. The best came from Mr. Green, a very nice lot, consisting of Gymnogramma chrysophylla Laucheana, Lomaria gibba, Adiantum tenerum, A. Farleyense, Platycerum alicorne, and Thamnopteris nidus. I unfortunately missed the name of the exhibitor of the second prize lot. Then the best lot of six stove and greenhouse plants came from Mr. Nicholson, who had a fine Cordyline australis, Areca Verschaffelti, Bougainvillea glabra, Rhyncospermum jasminioides, Croton undulatus, and one other. Mr. Nicholson had six excellent Caladiums that were one of the features of the show. I made a note of the following as fine exhibition sorts:—Mr. A. Hardy, Prince Albert Edward, Sirius, and Pyrrhus; and the same exhibitor was a good first with six Coleus, having nicely grown and coloured specimens. There were some very fine foliaged Begonias, but I find I failed to get the exhibitor's name; and Mr. Nicholson had the best six tuberous-rooted varieties. The best specimen plant was a huge Polypodium vulgare; the best specimen plant an unnamed Palm. Fuchsias, Pelargoniums, and table plants were fairly well shown.

The cut flowers scarcely call for remark. Mr. P. Perry had the best twelve cut Roses, Mr. Carr, gardener to Mr. David Carter, Waltham Abbey, being second. Mr. Green had the best six Roses of any one variety, having Celine Forestier. Mr. Nicholson had the best six bunches of cut flowers, Mr. A. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton, being second. Bunches of hardy cut flowers were nicely shown by Mr. Smith and others; vases for table decoration were neat and effective.

Fruit was somewhat sparingly shown, excepting such as Gooseberries, Currants, Raspberries, and Cherries. Mr. A. Smith had the best two bunches of white Grapes, showing Muscat of Alexandria; Mr. P. W. Andrews, Grove Yard, Waltham Abbey, being second. Mr. Smith was first with two bunches of black Grapes showing Muscat Hamburgh; Mr. Andrews being second with Black Hamburgh; and Mr. Smith was again first with two bunches, distinct varieties, having Muscat of Alexandria and Black Hamburgh; Mr. Andrews being second. Mr. Smith also had the best collection of six dishes of fruit, having Black Hamburgh and Muscat of Alexandria Grapes, Peaches, Nectarines, and black and red Currants.

Vegetables were pretty good and fairly numerous, and with that general remark I must bring my report to a close, regretting that time did not admit of my taking fuller particulars.—*R. D.*

Grantham Horticultural.—The fifteenth summer exhibition of this society was held on July 22nd, and proved in every way a great success. The show is well supported and patronised by the local residents, and is looked forward to as a general holiday and a gala day. The classes were numerous, and the entries good, the only slight falling off being in the plant classes. Fruit, vegetables, and cut flowers were well shown both in quantity and quality; indeed, we have seen no better fruit at any provincial show this season. Cottagers and amateurs showed well, the various exhibits being of first class merit, and reflecting great credit upon those who grew them. The weather was very squally, and while the judges were making their awards a very unfortunate accident happened, which is noticed in another column.

In the competition with groups of miscellaneous plants arranged for effect, 200 square ft., Mr. Lyon, gardener to Lady Ossington, was a very easy first with an effective group similar to the one he showed recently at Nottingham; second, Mr. Webb, Kelham Hall

Gardens, who has greatly improved in his style of arranging. The last-named exhibitor was first for stove and greenhouse foliage and flowering plants; Mr. Lyon, of Ossington, second. For six Ferns, Mr. Lyon was first with a good half-dozen, and the same exhibitor was also first for table plants with a good lot. Coleus, Begonias, Fuchsias, &c., were only of moderate quality, as also the hardy Ferns. The competition with cut Roses was very keen, several boxes of good flowers being shown by various exhibitors, and in most instances the flowers were fine and fresh. For twenty-four distinct blooms, Mr. Merryweather, Southwell, came in first, and Mr. Frettingham second. For twelve, Messrs. E. Fennell & Sons, Lincoln, came in first, and Mr. Frettingham second again. Messrs. Fennell were also first for six blooms.

Bouquets were of good quality in most instances. Messrs. Perkins & Sons, of Coventry, achieved the same success as at Nottingham in carrying all before them. This enterprising firm were first for bridal, ball, and Rose bouquets, likewise for button-holes. Collections of wild flowers were fairly shown, as were also epergnes, but in most instances the latter were far too heavy.

The fruit department was very good, the collections first class, and the Grapes very fine, being well ripened and highly finished. For a collection of six varieties, Mr. Edmonds, gardener to the Duke of St. Albans, was well first with good white and black Grapes, Pines, Melons, and excellent Peaches and Nectarines; second, Mr. Lyon, The Gardens, Ossington, whose samples were also fine; third, Mr. Melville, gardener to Mrs. Hornsby. For four dishes, J. R. Boyle, Esq., was first, and Mr. Hare second. For black Grapes, Col. Thorpe, Coddington Grange, was first; Mr. Goodacre, Elvaston, second; and for white varieties, Col. Thorpe was again first, and Mr. Lyon second. With Peaches, Nectarines, and Strawberries, Mr. Edmond had it all his own way, and Mr. Lyon was first for Melons. Cherries, Currants, and Gooseberries were also well represented.

Vegetables were well shown all round, the quality being excellent and all nicely put up. The first prize for the collection went to Mr. Crawford, gardener to Col. Thorpe. The amateurs and cottagers came out well, and are to be congratulated upon the excellence of the various articles exhibited. May we add a word of advice that a rule should be made, and strictly enforced, that all plants, fruits, and vegetables should be legibly named. This would be a great boon to those who attend the show, as many were anxious to know what this and what that was, but were unable to get any information.

Caterham Horticultural and Cottage Gardeners' Society.—*July 21st.*—This annual exhibition took place as usual in the rectory field, kindly lent by the rector, the Rev. J. H. Heard, and it was one of the best exhibitions we have seen for years past, and this result was opposed to the general expectation, for this year the competition for prizes was confined entirely to subscribers to the society, the result being that local exhibitors were put upon their mettle, while others who had not previously exhibited were induced to compete. The exhibition all through was a great improvement upon any that had preceded it; and the establishment of a system of "home rule," or home competition, had answered admirably. We may remark that there is a gardeners' society for mutual improvement associated with the horticultural society, and the report for the past year stated that "the meetings for mutual improvement have continued to be both interesting and useful." The hon. secretary is Mr. G. H. Rose, of the School-house, Upper Caterham, and the society must be congratulated upon the accession of so able, courteous and painstaking an officer. There is a good working committee of gardeners and amateurs, and they seem to pull together in the most admirable manner.

The show was greatly helped by several exhibits sent not for competition. Thus Messrs. J. Laing & Co. sent from their nursery at Forest Hill a nicely arranged group of plants, consisting of Dracænas, Crotons, Palms, Orchids, Begonias, &c., and, in addition, some charming cut Roses. Messrs. Paul & Son, the Old Nurseries, Cheshunt, sent three boxes of very fine cut Roses, clean fresh blooms, that were eagerly scanned by the visitors. Mr. G. J. Woollett, nurseryman, Caterham, had a very nice group of plants, and some boxes of pretty cut Roses. The Westerham Nursery & Seed Company sent boxes of cut blooms of hardy plants, including Delphiniums, Phloxes, &c., and also nice fresh cut Roses. All these were highly commended.

The classes in the schedule are small so as to bring the competition within the means of the local gardeners; and in the class for three stove or greenhouse plants, Mr. Brand, gardener to Mrs. Gardiner, Essendine, Caterham, was first with a fine pan of Achimenes Ambrose Verschaffelt, and a fine Hydrangea hortensis; second, Mr. Hicks, gardener to J. E. Street, Esq., Woodside, Caterham. Mr. Papworth, gardener to S. Vorley, Esq., Reddings Court, Caterham, was first with well grown plants of Pandanus Veitchii, a good piece of Dieffenbachia Bausei, and Maranta zebrina; second, Mr. Pearman, gardener to H. Horne, Esq., Salmons, Caterham, with Alocasia macrorhiza variegata, Caladium Laingii, and Begonia metallica. The best specimen plant in bloom was a Stanhopea well flowered, but being so high that we could not see the exhibitor's name. Mr. Wyatt, gardener to J. Perry, Esq., Bradenhurst, Caterham, had the best foliage plant, staging a very fine specimen of Caladium esculentum; Mr. Pearman coming second with an excellent piece of Latania borbonica. Tuberous-rooted Begonias were nicely shown in threes, Mr. Brand being first, and Mr. Wyatt, second. There was a special class for a flowering Begonia, and here Mr. Pearman was first with a very freely grown and flowered double variety. The best three exotic Ferns came from Mr. Pearman, who had a good piece of Leucostegia immersa, Adiantum cuneatum, and A. gracillimum; second, Mr. Harris, gardener to R. Salmon, Esq., Caterham, with Adiantum Farleyense, distinct from the foregoing. Mr. Pannell, gardener to Dr. Smith, Caterham, had the best three Fuchsias, showing nicely grown and bloomed plants. Mr. Wyatt had the best three zonal Pelargoniums; Mr. Pannell coming second. Caladiums were well shown by Mr. Pearman, who had good plants of Houlettii, Albert Edward and Laingii; Mr. Brand being second. Mr. Wyatt had the best three table plants; Mr. Papworth being a good second. A special prize was awarded for three Adiantums, and one exhibitor, whose name we failed to obtain, had good plants of A. cuneatum, A. concinnum, and A. capillus-veneris, and was awarded the prize; another showed three good plants of A. Farleyense; another three of A. cuneatum.

Groups of plants, arranged for effect, are a decidedly improving feature, but a little too much packed. Let one of the exhibitors try the effect of displaying to a larger extent the individuality of his plants and he will be surprised and gratified by the result. Mr. Pearman had the best group; Mr. Brown coming second; and Mr. Harris third. Heaping up the plants together in a formal heap does not conduce to effective arrangement.

In the cut flower department there were Roses, boxes of greenhouse and hardy plants, &c., and table decorations by ladies only. Miss E. Winter, Caterham, had the best—bright, elegant, and well balanced—made up of a few simple garden flowers and grasses. Certificates of Merit were awarded to Mrs. F. B. Winter, Miss E. Birt, and Miss Hall, all of Caterham.

In the way of fruit, Mr. Pearman had the best four dishes, staging black and white Grapes, Strawberries, and Raspberries; Mr. Brand being second. Mr. Harris had the best collection of four dishes of hardy fruits; Mr. Garlick, gardener to F. A. White, Esq., Portley, Caterham, being second. Black and white Grapes, Strawberries, Gooseberries, and other hardy fruits were well shown.

Vegetables were numerous and very good. Mr. Brand had the best collection of six sorts; Mr. Pannell being second. There was a class for nine vegetables in which a special prize was offered, this was won by Mr. Wyatt; and one for six varieties with one special prize, which went to Mr. Colpus, gardener to Dr. Davis, Devon House, Caterham. Mr. Wyatt had the best four dishes of Potatos, staging admirable examples of International Kidney, Beauty of Hebron, Radstock Beauty, and Vicar of Laleham; second, Mr. Palmer, gardener to J. Clarke, Esq., Birchanger, Caterham.

There were many classes for cottagers, and also for school children, and in all cases there was a very encouraging exhibition; and it is pleasing to note that this useful society is prospering and doing good work in the neighbourhood. May it continue, and we be there to see the exhibition in 1887.

Lichfield Horticultural.—The annual exhibition of this society was held in the Museum grounds on Wednesday the 21st inst., and proved to be one of the best ever held by the society. The entries were numerous, and the exhibits of good quality. Plants were well represented by Messrs. Chapman, of Hawkesyard (not for competition), and Mr. Meakin, of Burton-on-Trent; flowers by Messrs. Perkins, of Coventry, and Miss Trevor, of Lichfield, ; fruit by Mr. Gilman, of Ingestre, Stafford, and Mr. Udale, gardener to Howard F. Paget, Esq., Elford, and by the Rev. Sir G. Wilmot, Horton; and Mr. Gilman, gardener to the Earl of Shrewsbury and Talbot, Ingestre, took the lead with vegetables.

For four stove plants distinct, for four greenhouse plants distinct, and six Fuchsias, the first prize went to G. Meakin, Esq., for very fine plants indeed. For tricolor and bronze Pelargoniums, the highest award went to A. Hinckley, Esq., ; and Mr. Meakin was again first for six Ferns and six Selaginellas. For twenty-four Roses, distinct, Messrs. Perkins, Coventry, came in first; and for dinner-table decoration, Miss Trevor, Lichfield, was first with an elegant arrangement.

Collection, fruit, six distinct varieties, first, Mr. Gilman; second, Rev. Sir G. Wilmot; Grapes, two bunches, black, first, Mr. J. Udale, Hambro, large bunches, and well finished; second, Rev. Sir G. Wilmot; two bunches, white, first, Mr. J. Udale, Muscat of Alexandria, large berries, and well coloured; Melon, best flavoured, first, Mr. Gilman; Peaches, six, first, Rev. Sir G. Wilmot; second, Mr. J. Udale; Nectarines, six, first, Rev. Sir G. Wilmot; second, Mr. J. Udale, highly coloured but scarcely ripe. Collection of vegetables, six distinct kinds, first, Mr. Gilman.

QUESTIONS AND ANSWERS.

Laurels.—*J. C. B.*: The perforation in the leaves are not the work of insects, but the result of bright sunshine acting like the lens of a microscope on spots of rain after a shower. The spots so acted upon are burnt, wither, and then drop out.

Bottling Raspberries.—*Gardener's Daughter*: Pick the Raspberries carefully when dry, and put them into clean, dry, wide-mouthed bottles, covering them with syrup made by boiling 3 lbs. of sugar with a quart of water whisked up with a tea-spoonful of the white of an egg. Cork the bottles down tightly, and then place them up to their necks in a saucepan of cold water; bring the water to the boiling point, and then let it simmer for ten minutes. Leave the bottles in the water until it becomes cold, and then store for use.

Marigold.—*J. W.*: A good case of what scientific men term "axillary prolification." We have seen the like several times before.

Names of Plants.—*Cosmopolitan*: 1, Selaginella stolonifera; 2, Selaginella cæsia; 3, Tydæa venosa; 4, Achimenes, probably Edmund Boissier; 5, Acalypha tricolor; 6, Swainsonia galegifolia. *C. G.*: 1, Spiræa ariæfolia; 2, Rubus spectabilis; 3, Campanula fragilis; 4, Veronica Traversii? 5, Athyrium filix-fœmina; 6, Polystichum coriaceum capense.

Erratum.—On page 746, dealing with the crosses in Tulips made by Mr. James Thurstan, for Mrs. Lomax (or Merit), read Mrs. Lomax (or Mabel); Merit being a bizarre.

Communications Received.—J. N.—W. E. B.—A. B. D.—J. O'B.—E. S. D.—A. O.—J. L. (many thanks).

LONDON SEED TRADE.

July 28th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report little trade at to-day's seed market. White Mustard meets a steady sale at full prices. White Clover seed is advancing in value owing to continued unfavourable reports of the new German crop, a fair supply of home-grown seed is expected. Trifolium is still neglected here, although a sharp advance is reported from France. Rape seed sells slowly at prices current last week. Bird seeds unchanged.

COVENT GARDEN MARKET.

July 29th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	4 0	Peaches, per doz.	2 0	12 0
Cherries, ½ sieve	3 6		Pine-apples, St. Michaels, each	2 6	8 0
Currants, ½ sieve	2 6	3 6	Pine-apples, Eng., lb.	2 0	3 0
Grapes.....per lb.	1 3	3 0	Strawberries ..per lb.	0 6	1 6
Melons, ...each	1 0	2 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages....per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	New Turnips, per bun.	0 9	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen blooms	0 4	0 6	Liliums in variety, dozen bunches	18 0	30 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	1 0	3 0
Campanula ..12 bun.	4 0	9 0	Pansies, 12 bunches	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, per 12 sprays	0 9	1 0
Cornflower ..12 bun.	1 6	3 0	— scarlet, 12 sprays	0 3	0 6
Delphinium ..12 bun.	3 0	6 0	Pinks, various, 12 bun.	2 0	4 0
Daisies, common, 12 bunches	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis, per dozen	2 6	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses ....12 bunches	2 0	6 0
Gardenias, 12 blooms.	2 6	4 0	Roses (coloured)	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Roses, Moss..12 bun.	6 0	12 0
Lapageria, red, 12blms.	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Lilium candidum, dozen blooms	0 6	1 0	Stephanotis, 12 sprays	1 6	3 0
Lilium candidum,			Sweet Peas, doz. bch.	1 6	3 0
Lilium longiflorum, 12 blooms	4 0	6 0	Sweet Sultan, 12 bun.	3 0	4 0
			Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	1 0
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Heaths or Erica, var., per dozen	10 0	24 0
Begonias, per dozen	6 0	12 0	Lobelia, per dozen	3 0	4 0
Calceolaria, per dozen	4 0	8 0	Marguerites, per doz.	6 0	9 0
Cyperus, per dozen	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Musk, per dozen	2 0	4 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz.	6 0	18 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each	1 6	7 0	Petunias, per doz.	2 0	6 0
Foliage Plants, various, each	2 0	10 6	Rhodanthe, per dozen	6 0	9 0
Fuchsia, per doz.	3 0	8 0	Spiræa, per dozen		

SITUATIONS WANTED.

HEAD GARDENER requires a situation where his services would be appreciated. Thoroughly practical in all branches, including, Pine, Peach, Grape, and Melon growing, also Orchids, Hard and Soft-wooded subjects. Credentials of the highest order. Age 29 years; married.—Address: T. G., 2, Russell Terrace, Longley Road, Lower Tooting, S.W.

GARDENER, HEAD WORKING, age 29—T. L. Cummins, Hackbridge, Carshalton, begs to offer his services to any Lady or Gentleman requiring a thoroughly practical man.

FLOWER SHOW.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, AUGUST 10th.

SHOW OF PLANTS AND FLOWERS.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 7, 1886.

THE POTATO HARVEST.—Very shortly we shall be, if not reaping at least lifting, our annual Potato harvest. We have not now before us the necessity of demonstrating the great value and importance to the nation of an abundant Potato crop. Prior to the appearance of the fell Potato disease, we had, perhaps, hardly thought about the matter. When, however, in 1844, the crop seemed almost as if struck and blasted by some unseen and unrecognised agency, creating alarm and distress, then we realised to the full the importance of the Potato crop to the nation, and its value to us as an article of food. The disease was with us more or less destructive for some forty years, but during that time we not only awoke from the kind of stupor which its disastrous appearance generated, but have become so far accustomed to it that its annual attacks upon our Potato crops were regarded with varying degrees of philosophy, though never with unconcern.

Presently, too, we began to battle with the disorder by the raising of new and robust kinds of Potatos, and these have proved wondrously helpful during the later years of the fungoid visitation. We also diagnosed the disease fully; and, thanks to the patient labours of the fungologist, were at length able to comprehend it fully. Its life history has been written, the disease has been found out, and just as we became familiar with its nature and operations, so did we become bolder and, perhaps, more confident. It is true that little has been done in what may be termed a scientific or remedial way to check the ravages of the Potato disease. Beyond giving advice—too often difficult or impossible to follow—little indeed has been done in a scientific point of view to check the disease. Some compositions were to have destroyed the fungus, but those failed in the hour of need; whilst the introduction of the protective earthing system, so interestingly described for our benefit by Mr. Jensen, very oddly has been followed by seasons in which the weather rendered its practice of no avail.

Still, we have gone on not merely growing Potatos, but largely increasing the acreage cropped, and raising from year to year, as a rule, enormous crops, sometimes badly, but sometimes comparatively healthy, and latterly exceptionally healthy, until now, in this year of grace 1886, we find ourselves entering into the autumn and ripening month of August with, so far as can be learnt, not a complaint of the appearance of the disease anywhere. That it might have been looked for, having regard to the abundant rains and often low temperature which marked the past month of July, was but natural. Remembering, as we do well, how with just such weather in past Julys the Potato-tops have become almost universally blackened and blasted, and the tubers destroyed by the accompanying rot, what more natural than that reminiscences of those disastrous times should be recalled by rains and storms such as have of late so largely prevailed, and the disease expected? Still, it does not seem to have presented itself anywhere, or if so in such a mild and mitigated form as to alarm no one.

Practically, our Potato harvest bids fair this year to be a grand one, and gathered in without any blot or blight. If the plant was rather late because the season was late, the heat of the earlier summer-time promoted rapid growth, and universally the haulm has been robust and healthy, and their tuber produce abundant. There is just now every reason to believe that we shall lift this year one of the finest and cleanest of Potato crops we have been favoured with for some years. But what has become of the disease? Is the snake detected—the fungoid monster killed? That is too much to hope for, and yet it would seem as if its fangs had been drawn, and its power quite minimised. To what causes do we attribute this apparent good fortune? Has the fact that the disease has been "found out" driven it from our shores? Does it detest microscopical examination, analysis, and illustration? Does it fear the fungologists so far that, like the famous swine of old, the fungus has rushed down steep places into the sea from very fear, and perished in the waters? If that cause for its disappearance seems too romantic, may we look for the phenomenon in the influence exercised by the recent comparatively dry summers, and that of last year especially, when the drought literally withered up not merely those moisture-loving spores, but the very food in the young Potato-plant life upon which they existed?

That the attacks for some few years past have been weaker and weaker has been evident, and it may be that the aridity of the previous summer gave to the detestable Peronospora its *coup de grâce*. If so, may it remain deceased till the end of time, or at any rate till humanity has ceased to grow and partake of Potatos and Tomatos. That the Apple of the earth is a considerable blessing to us we all believe, and long may it flourish and be amongst the most honoured of garden products.

GARDENING MISCELLANY.

Meetings for Next Week. — *Monday:* Darlaston Horticultural Society's show (two days). *Tuesday:* Fruit and Floral Committees of the Royal Horticultural Society meet at South Kensington; Show of Plants, Clay Cross Horticultural Society's Exhibition *Wednesday:* Hastings Horticultural Society's exhibition. *Saturday:* National Carnation and Picotee Society's exhibition at Old Trafford, Manchester.

The Carnation and Picotee Union.—The meeting and annual exhibition by the members of the union at Oxford on Tuesday last, of which we publish a report in another column, was one of the prime floricultural events of the past week, and its success must have compensated the veteran Mr. E. S. Dodwell for the labour and anxiety cast upon him. The day was brilliantly fine, there was a remarkably fine show, the average of quality being exceedingly level. Mr. Dodwell's wonderful Carnation and Picotee garden was seen to the best advantage; as many as twenty-five exhibitors competed, a number almost unparalled at any previous exhibition in the country, and a great many visitors were attracted to see it, rich and poor alike being admitted without charge; among the visitors being the Mayor and Mayoress of Oxford. Friends and sympathisers with the Union came from all parts of the country, and the gathering was in every respect most agreeable. After the awards were made many of the visitors, including several ladies, sat down to luncheon provided by Mr. Dodwell, in the Hall of Cowley, St. John's High School, the Mayor of Oxford presiding; the vice-chairs being filled by Mr. Shirley Hibberd and Mr. Rippon of the *Oxford Times*. The Mayor made an excellent chairman, and the leading toasts were proposed and spoken to by Mr. Rippon, Mr. R. Dean, Ealing, Mr. Shirley Hibberd, Kew, Mr. J. S. Hedderly, Nottingham, Mr. E. S. Dodwell and others, in a series of pleasant and genial speeches. The toast of the Horticultural Press, given by the Mayor in a very able address, was admirably responded to by Mr. Shirley Hibberd, who gave some apt and very interesting information as to the rise and progress of the gardening press of the present day. That this pleasant gathering may be an annual one was the hearty wish of all present, coupled with the hope that Mr. Dodwell's health will enable him to receive his floricultural friends in the Stanley Road for many years to come, to partake of the floricultural "feast" he so bountifully provides.

Bulbs for the Parks.—We understand that Her Majesty's First Commissioner of Works have accepted the tender of Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, N., for supplying Hyacinths, Tulips, Crocus, Daffodils, &c. for the following royal parks:—Hyde Park, Regent's Park, Victoria Park, Bethnal Green Museum, Battersea Park, Kennington Park, and Hampton Court Gardens.

Bennett's New Roses.—Of Bennett's pedigree Roses we like the following very much:—Lady Mary Fitzwilliam, delicate flesh colour, sometimes of a light rosy pink; a grand constant Rose and very free, one that promises to become very popular as a show variety; this is classed with the hybrid Teas. Grace Darling, the base of the petals creamy or pale yellow, deeply tinted and edged on the petals with pinkish peach, quite a new colour, very distinct and remarkably free; classed with the Tea-scented varieties; and W. F. Bennett, deep bright rosy lilac, and a sweetly fragrant Rose. It is recommended by the raiser as the finest red Rose yet introduced for winter blooming, and for growing for cut flowers at all seasons, as it combines the continuous blooming qualities of the Tea Rose with the richness of colour and quality of the crimson hybrid perpetuals; it is classed with the hybrid Teas.

Royal Bouquets.—Miss Cypher, of Cheltenham, had the honour of presenting the Princess Beatrice with a bouquet of choice flowers on the occasion of Her Royal Highness's visit to the Royal Horticultural Society of Southampton's show last Saturday.

Auricula-eyed Sweet Williams.—A showy bunch of flowers of a very fine strain of Auricula-eyed Sweet Williams, has reached us from Messrs. Dobbie & Co., florists, of Rothesay. The flowers are of good size, and smooth, and the large white centres which characterise this section are very pure. Beautiful as are the old-fashioned Sweet Williams, the Auricula-eyed forms are even more so, and their fine form, and general air of "quality," always commands admiration.

Peter Lawson & Son, Limited.—The second annual report and statement of accounts of this company, presented to the general meeting of shareholders on Thursday last, show a surplus on the past year's trading, after providing for discounts, abatements, &c., sufficient to pay 17½ per cent. on the paid-up capital, and then leave a balance of £5,233 to be carried forward. The directors, however, resolved on paying a dividend of 10 per cent. per annum, free of income tax, and devoting £400 towards writing-off machinery and fittings account, and £750 from seed stocks, &c., carrying forward a balance of £5,386 4*s.* 11*d.*

Tropical Fruits.—In a lecture on "Tropical Fruits," delivered in the Conference Room at the South Kensington Exhibition, Mr. D. Morris said, that for a long time the tropical fruits were not cultivated; but now the West Indies were paying attention to the work and were exporting various fruits to America to the yearly value of a quarter of a million sterling. The people of the States were much larger consumers of fruit than we were, but that was because we were not sufficiently acquainted with the merits of tropical fruits. The orange was one of the few fruits with which we

were really acquainted. The present import of Oranges to England was 4½ million bushels a year, which, estimating a hundred oranges to the bushel, represented a very large quantity of the fruit. Jamaica exported £274,000 worth of fruit to America; the Bahamas, £48,000 worth of Pineapples; Trinidad, £50,000 worth of Cocoanuts; and British Honduras, large quantities of various fruits. There were many tropical fruits that were only fit to be eaten in the tropics, but there were others that contained most wholesome and refreshing juices that might very well be introduced into this country. The lecturer exhibited a basket of West Indian fruit that had arrived on the preceding day, and which was, he said, the beginning of a large industry between the West Indies and this country.

Daffodils.—Mr. W. Baylor, Hartland, Patrick Street, Cork, has just issued a third edition of his quaint "Little Booke of Daffodils," which contains much information of interest to lovers of these favourite flowers of spring.

FUCHSIA ISLAND.

It was undoubtedly an odd coincidence that when I took up my quarters for a few and all too short days in the Isle of Wight recently, it should be at Fuchsia Cottage. I have dubbed this whilom garden of England Fuchsia Island, because it seems a far more pleasing and appropriate one than is the bold geological appellation of Isle of Wight—an appellation, as most schoolboys know, derived from the chalky whiteness of its cliffs, with the difference that whilst we have altered the spelling of the term as applied to colour, we have left it untouched as applied in geography.

Now, few things strike the garden visitor to the island with greater force, or present to his mind more evidence of garden beauty, than is found in the beautiful Fuchsia trees and bushes which everywhere abound. I refer chiefly to the district of Ryde because I have seen most of that part of Fuchsia land, and these Fuchsias, in glorious blood-red bloom, may be found as common as Lilacs and Laburnums in spring over on this side of the Solent. The most abundant kind certainly is the old Fuchsia Riccartoni, introduced some fifty years since, and in my boyish days grown as a good greenhouse variety. This beautiful kind crops up everywhere in various forms and sizes about St. Helen's Green, where the residents look out over Brading Harbour and some lovely hill and dale scenery, with the sea in the distance; I saw quite trees of this Fuchsia I should think from 12 ft. to 14 ft. in height, blooming grandly. One garden—alas! too enclosed to obtain more than a passing glance of—seemed planted entirely with Fuchsias in great variety; and at Appley Towers, Lady Hutt's beautiful place, overlooking Ryde, there is quite a long hedge of this Fuchsia—in fact, it is seen everywhere. I also met with the old Coccinea and the once favourite Globosa, and the larger Corallina in big bushes, and occasionally more modern sorts, all of which seem untouched by winter frost. It must indeed be a glorious climate where Fuchsias will grow so freely and so beautifully as they do in the Isle of Wight. Then I observed in many places that the pretty blooming half-tender forms of Veronica do well. I came across, in a cottage garden, a bush of V. Hendersoni, full of flower, and some 9 ft. across; whilst bushes of the more abrupt-flowered Andersoni and the pretty red Traversii were plentiful.

The most interesting garden in the island, however, is, without doubt, that of Appley Towers. It is not only a grand place, though not now kept on its merits, but it contains plants which, in every ninety-nine other places in the hundred, would be found in conservatories and greenhouses, rather than be seen growing out on the lawns as ordinary hardy shrubs. Palms of the Fortunei section do grandly; and, indeed, one big bed of Palms and Aralias presents as noble a piece of what we commonly call sub-tropical foliage as may be seen anywhere. We must remember, too, that this is not planted out here in the spring. The whole of these things remain as if only Laurels or Rhododendrons. Aralia Sieboldi is indeed grand here; its fine leaves of glossy green hue present a marked contrast to the sombre leafage of the over-hanging and noble Palms. Close by is a big mass in full bloom of that ancient garden favourite, the Lemon plant or sweet-scented Verbena, Aloysia citriodora. A little farther off, growing against an arched wall, are white and red Lapagerias, thriving admirably, and near a very fine plant in profuse bloom of the climbing Rhyncospermum jasminoides. This specimen thus growing in the open air is as big as the finest seen at exhibitions, and is far more vigorous and healthy.

On the east side of this wall is found a variegated form of this Rhyncospermum, and no doubt the tenderer also, but it thrives well, making luxuriant growth. Gunnera scabra, a gigantic Rhubarb-like plant, is a very attractive feature, and specially so are such ordinarily treated tender plants as Leptospermum lanigerum, with growth something like that of the Cotoneaster, and covered with spikes of white flowers; Desfontanea spinosa, a holly-like shrub, bearing reddish yellow flowers; Colletia bictonensis, a very curious shrub, with solid fleshy foliage, placed alternately on the branches, and presenting a veritable monkey puzzle; Camellias, Escallonias, &c.; in fact, things innumerable, which literally make one stare to see them growing so grandly out in the open. Some noble Blue Gums have not a leaf injured. The Camphor Laurel and the Cinnamon tree stand side by side, thriving luxuriantly; noble Spiræas, such as Hooperii, carrying large spikes of bloom from 18 ins. to 20 ins. long; also ærifolia, having hardly less beautiful flowers; a glorious plant, feathered to the ends, and some 9 ft. across, of Acer polymorphum decussatum, a beautiful specimen, are all attractive features, amongst many more.

Appley is indeed a garden to see and rejoice in; and few places possess more interest, especially when chaperoned by Mr. Miles, the gardener, who points out with intelligent appreciation all those features in shrubs or trees which merit attention. After all, I think the Isle of Wight is most happily named the "garden of England."—*A. D.*

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.—V.

In my last article I discussed the merits of the Incurved and Japanese sections, and will now take up the reflexed varieties, which are more compactly built than the Japanese, and in the fullness of flower rather resemble the incurved, with the exception, that they turn the petals of the flower outwards, or from the centre to the circumference, from which circumstance they derive their name. Among this class there are some very handsome flowers, though in point of size they are inferior to the incurved. A few of the best are as follows:—Chevalier Domage, Crimson Velvet, Dr. Sharpe, Felicity, Geo. Stevens, King of Crimsons, Mrs. Forsyth, and that newly-introduced one, Cullingfordii, which is spoken of as being superior to any in the list; we shall see at the end of the coming blooming season. It may be well to mention in passing (though I shall have to deal with the subject afterwards), that the reflexed class is probably the best adapted for selecting exhibition plants from; as a rule they all make good bushy trees and produce plenty of flowers.

Now for the Pompon, which may be considered the Chrysanthemum in miniature, and which for the sake of variety is well worth growing, but where space is limited it has often to be excluded; these make splendidly bushy plants, and for a window I do not think any plant looks much better, when well grown. A few of the best kinds are the following:—Golden Madame Martha, Sœur Melainie, Cedo Nulli, Vulcan, Model of Perfection, and Snowdrop.

Just a few words on the Anemone-flowered section, which possesses considerable attractions, yet as a rule the flowers are not generally so much appreciated as the other classes; nevertheless, for the sake of variety, they are very good in their place, and in this class there are perhaps more traces left of what the Chrysanthemum was in its original state previous to the florist's interference with nature. If one of these flowers were compared with a large Ox-eyed Daisy, no great stretch of imagination would be required to discern a wonderful relationship between them in the broad smooth centres, and the circumference of petals with which each of them is furnished. Some of the best in this section are, Fleur de Marie, Lady Margaret, Marguerite de York, Prince of Anemones, Sœur Dorothea Souille, and Empress.

I will now deal with another and most important part of Chrysanthemum culture—viz., the most approved method of growing plants which are intended to produce cut blooms for exhibition; and I do not know that there is more variety of opinion amon growers in any part of its treatment than on this subject.

Some authorities say that in order to produce the largest and best blooms, you should not stop the plants at all, but grow them on one central stem, when at a given stage of their growth they will break of their own accord into three or more branches, each of which will produce a flower.

I have no doubt but that this plan will succeed with certain flowers, while in others it will not answer the grower's expectations, and I may say that in order to grow a miscellaneous collection of plants successfully, it will be necessary that the grower understand the habit and peculiarity of each kind, and this holds good not only with Chrysanthemums, but with almost every florist flower in cultivation; and it is, in my opinion, a knowledge of these constitutional differences which gives one exhibitor an advantage over another, for while the inexperienced treats all the plants on the same principle, the other scarcely treats any two plants in exactly the same way. I tried this plan of not stopping at all rather extensively last season; in some cases it answered fairly well, while in others I succeeded in producing giant trunks and immense leaves; but am sorry to say in a great many cases they too closely resembled that tree of which we have all heard, and which, when approached by a party of fruit-seekers, presented "leaves only."—*Geo. Kidson, Hull.*

(To be continued.)

CARNATIONS AND PINKS WITHIN DOORS.

Your correspondent, Mr. W. J. Murphy, Clonmel, whose contributions I invariably read with pleasure and profit, remarks on p. 746, under the head of "Double White Carnations and Pinks"—"I cannot be persuaded the Carnation or Pink were ever meant to be grown indoors." This is a kind of tantalising statement, for I confess I do not quite understand what he is driving at. No one who grows Carnations, Picotees, and Pinks to have them in bloom in July, thinks of growing them within doors. It is true that it is the practice of Mr. Turner, Mr. Douglas, Mr. Dodwell, and others, when the plants have come well into bloom in the open air to put them into greenhouses for the convenience of shading, and to protect the blooms from being soiled by rain; but every light and door is put wide open so that there may be the freest circulation of air. And it must be obvious to Mr. Murphy that to have tree or perpetual Carnations and forcing Pinks in bloom in February and March and in May, they must be grown under glass; they cannot be had in bloom in the open air during those months, unless in a garden of perpetual summer.

I think your correspondent and others are a little too fond of having a sly hit at the "florist," as he is somewhat contemptuously termed at times. The florist grows his choice Carnations and Picotees in his own way, because it pleases him to do so, and he does not in the slightest degree interfere with the liberty of Mr. Murphy to grow them in any way he pleases, or to put any restraint upon him. The florist, and especially he who grows for exhibition, shades certain flowers in order to have the white grounds as pure as possible, and prevent the running of the flaked colours; but because he spreads an awning over his bed, or places his plants in a cool glasshouse to accomplish this, no one can say that by so doing he means to infer that Carnations are to be grown indoors. If Mr. Murphy would try to look at the matter a little more from the standpoint of the florist, he would not be betrayed into making unconsidered statements from which incorrect inferences can be drawn.—*Dianthus.*

NOTES ON LILIUMS.

The hardy plant garden at this time of the year is exceedingly rich in choice flowering perennials and bulbous plants, some of which I have from time to time noted in these columns. Among bulbous-rooted subjects we have none to compare with the Lily for grandeur, none which can vie with it for gorgeous or brilliant colours, and none which compare with them in their almost overpowering fragrance. Taken as a whole, the genus has many admirers, all of whom are ready to go into ecstacies of delight at the sight of them. Still, however, their cultivation is limited, and

especially is this true of the rarer species, which, perhaps, are not quite as easy of cultivation, or, to be more strictly correct, their requirements are not so generally well understood by the great majority of those who so ardently admire them.

No hardy plant border can be complete without its complement of this family, for what have we possessing so many charms, so much variety, so brilliant or effective colours, and producing flowers from early in June till the autumn frosts defy them. To have this extended flowering period, however, a rigid selection is necessary of those kinds which follow each other in quick succession, and so keep up one continuous display for several months; and if this be not known to those who require them for such a purpose, the columns of this paper are open, I feel sure, for supplying the information, which, I doubt not, would be speedily forthcoming. This magnificent genus has many points in favour of the general cultivation of its members, among which may be named their adaptability in some instances to any ordinary garden soil, their usefulness for pot culture, and their unequalled value in a cut state. For pot culture there is an almost endless number of forms adapted, and as many of these stand forcing fairly well, it is possible to have them in flower in the greenhouse some weeks before those in the open ground expand their lovely waxy petals. When I say *forcing*, I do not infer that amount of artificial heat generally accepted by the term, as this would be highly injurious to them, and would not only force the flower out of the bulbs, but at the same time the life also. But their greatest beauty after all, perhaps, is in the border among other plants, where they may remain for years undisturbed, and where they will annually increase in strength, and the number of flowering spikes and flowers in the same proportion.

A word of caution as to planting may be in season. When planting hardy plants it is too often the rule to dig a hole with a spade, "drop" in the bulb or whatever it may be, and covering it in, to expect to see it in the same perfection as neighbour so-and-so's, who takes such a great amount of pains in this simple, though primary, point. The ground, if only for a single plant, a new comer it may be, should be well dug and manured, according to the state of the soil, the manure should be well incorporated with the soil, and then a full measure of success may be expected and forthcoming. What if the operation for planting an individual in this way, occupies half an hour, isn't it far better that it should be so, than cramming it in the soil, and ever after presenting a miserable and neglected appearance? the answer is obvious to all. The Lilium, as regards manure, is rather changeable, though somewhat decided from a different standpoint, for it may be taken as a generally accepted fact that the peat and bog-loving section do not require manure at all in the soil, though they are benefitted by it in liquid form at certain seasons, while the commoner kinds, so well suited for the border, delight in an abundance of it. I prefer at all times using manure thoroughly decomposed, whether it be from the stable or the cow-shed; the latter I prefer on light sandy soils, placing it at least two inches below the bulbs and where the roots are sure to find it, and also a smaller dose about 2 ins. above the bulbs, the latter to benefit the plant at flowering time, when many species and varieties emit quantities of stem-roots.

Another place where some of the more stately Lilies are so much at home, is the Rhododendron-bed or border, and to produce effect should be planted in clumps, here and there; such a position is especially adapted for those tender kinds which the nipping frosts of spring so frequently disfigure and injure for the rest of the season; the shelter afforded them by the Rhododendrons is all they need, and as these pass out of flower, the Lilies, with that dignified grace which makes them so remarkable, will soon be filling the air with their delicious fragrance. In a cut state many of them are highly valuable, and it is an interesting fact, that nearly all the buds expand in water; in this respect they are similar to the German Irises. I will now endeavour briefly to give some of the most worthy members of this valuable and extensive genus, taking them in the order in which they flower, so that the amateurs and others requiring a selection for flowering, during any given month from June to October, both inclusive, may have the needed information at hand. The first, then, in the flowering field is

Lilium pyrenaicum, with orange-red flowers growing about 3 ft. high, when they have become established. In company with this comes the yellow-flowered variety, L. pyrenaicum flavum; it is a good yellow, rather thickly studded with black spots. Both these are very good, and showy and useful, inasmuch as they are first to flower. They succeed well in any ordinary soil—in fact, instances are known to the writer, of these growing and flowering well annually in very strong soil, and which, as a consequence, is not over rich. According to the season itself, this section of the Martagon group, all of which have their flowers distinctly recurved when well expanded, flower during the latter days of May and early June; and in close succession comes the lovely

Lilium tenuifolium, with fiery scarlet flowers. This is a perfect gem among the dwarf early-flowering species; its average height is from 18 ins. to 2 ft., and its narrow and graceful shining leaves impart to it an elegance which few Lilies possess. It is peculiarly sweet-scented, not an overpowering fragrance, but delicious and enjoyable. It is well adapted for pot culture, and delights in a free rich open soil. Of its effectiveness in small groups, the reader can imagine readily, when I say that it is capable of carrying as many as twenty of its vivid flowers on a spike. This generally commences flowering during the second week in June. Following this closely, we have the lovely

Lilium Washingtonianum, with white lilac-shaded flowers. It is a truly handsome and graceful Lily, attaining 3 ft. to 5 ft. high, and a peat lover; partial shade and moisture seem also to suit it, and a free

Lilium Washingtonianum.

drainage is absolutely essential in its successful culture. There is also the purple-flowered form of this, L. Washingtonianum purpureum, also known under the synonym of L. rubescens: in the first instance, the flowers are white, changing to rose in their youthful days, but assuming a purplish hue when they reach maturity, and which they retain till they ultimately fade and die. These are both highly fragrant and beautiful Lilies, and should be found in all collections of hardy plants. In my next I will endeavour to continue these notes, taking them all in the order in which they flower.—*J.*

ROSES AND ROSE-GROWING.

At the recent Bath Show, Mr. T. W. Girdlestone gave a short address on the subject of Roses and Rose-growing, the substance of which he has communicated to *The Gardeners' Magazine* as follows:—It is with the utmost diffidence that I have accepted the invitation of your committee to address you for a few minutes on the subject of our queen of flowers, for two sufficiently obvious reasons: First, that I am not used to speaking in public, and therefore little likely to do justice either to my subject or to my audience; and secondly, that I must appear to many of you, a very tyro in the art of Rose-growing. But if I have not been engaged in the special culture of the Rose for so long a period as some of my fellow exhibitors, I have seen enough to convince me that the particular conditions of soil which are so often insisted upon as necessary, are not really essential to the successful cultivation of Roses. I believe that climate is a far more important factor in the conditions advantageous to Rose-growing than soil, if only because it is more completely beyond our control. For instance, in the immediate neighbourhood of large manufacturing centres, where the air never seems clear of chemical impurities, the satisfactory cultivation of Roses out of doors certainly is impracticable. But, given a clear atmosphere, if the soil be too light or too heavy, means can be found to remedy the defect; if the situation be unduly exposed or too closely sheltered, either condition may be modified. It is notorious that a rich loam is the soil best adapted to Rose-growing—that is to say, is the soil best calculated to produce first-rate Rose-blooms with the minimum expenditure of trouble on the part of the cultivator; for it may be accepted as an axiom that the production of the most beautiful Roses is not to be spontaneously effected by any soil or situation under the sun, but it is in direct proportion to the amount of personal care and individual attention bestowed at all periods of their growth upon the rose trees.

The best soil for Roses is a rich loam; if, however, the soil be light and sandy or peaty, it may be greatly improved by dressing it in autumn with loam or clay, to be left lying on the surface until quite broken down by frost and weather, and then well worked in in the spring. Clay is not beneficial to light land if dug in in wet clods in winter; as when so treated it never mixes with the surrounding soil; but when the clods, after lying on the ground through the winter frosts, are thoroughly dried by the subsequent March winds, they may be easily pulverised with the back of a hoe, and will then mix evenly with the native soil when dug in. If the soil be a very heavy solid clay, ashes or burnt earth may be advantageously worked in to make it more friable.

Where the soil is poor, some Roses may be most advantageously grown on their own roots, in which state many are extremely long-lived; but it does not seem so easy to obtain first-rate blooms from own-root Roses; and, owing to the much greater number of worked plants which can be produced from a given quantity of material, the latter will probably continue in the large majority. On the question of what is the best stock for Roses, there may be some difference of opinion, and it will be advisable to mention the qualifications of each of the four forms of stock in general use. These are the common brier: (1) as a standard, (2) as a seedling, (3) as a cutting, and (4) the Manetti Rose.

The first is recommended by those who no longer like stooping, and by ladies who like to attend to their own Rose trees themselves without the risk of getting their dresses torn. Standard Rose trees are also useful for raising the back of large masses of plants, and for this purpose are, perhaps, most to be commended as pot-plants for effective grouping among or behind dwarfs in the conservatory. The objections to standards are, that the stem is liable to be broken by high winds, that the head is liable to be broken down by snow, and that, singly, they are, perhaps the least picturesque form of tree known to horticulture. They also incur the greatest danger from winter frosts; for since, in the South of England at any rate, the cold is rarely sufficiently intense to injure Rose trees below the ground line, when dwarf Roses are frostbitten they often shoot up again from just below the surface of the soil; but in the case of standards, if the part above ground, whether stem or scion, be killed, there is nothing below but briar to replace it. From these causes standards are commonly short-lived and unsatisfactory. They will, however, continue to be grown for two reasons; first, because, as maidens, they often give exceedingly fine flowers, which come in a little sooner than those on dwarf plants, and are thus especially useful to nurserymen for the earlier shows; secondly, because no speculative builder seems to consider his semi-detached villa architecturally complete and ready for the market without the twelve standard Rose trees set each in its little ring on the grass beside the front drive.

The second and third stocks mentioned may be considered together, the chief differences between the briar seedling and cutting being in the propagation and working of the stocks. I may as well say at once that if I were to begin Rose-growing again, on whatever soil, I would plant nothing but dwarfs on briar seedling or cutting. Dwarf plants on briar are long-lived, hardy, and from not beginning to grow quite so early in the year as manetti, are less liable to injury from spring frosts. Manetti are sometimes recommended for light soils owing to the fine fibrous nature

of their roots, but even there they are surpassed by the briars, whose much more powerful roots are able to go after any moisture that may be available, while in excessively wet soil the hardness of briar roots resists the tendency to rot, to which the fibrous Manetti are only too prone. At several extensive Rose nurseries no other stock is now grown except seedling briar: and another great grower told me he would use only this stock if he could but teach his men to work them. For this is the one objection to seedling briars, that they are somewhat difficult to propagate and work. Like all seedling Roses, they are victims in the young state to mildew, and owing to their thin bark and twisting stems it requires a good deal of practice to bud them successfully. The objections to briar cuttings I have yet to learn; for the stocks can be made with but little more trouble than Manetti, and are just as easy to bud. The briar is the only stock for Tea-scented Roses out of doors, and the maiden blooms on briar stocks of any form are on the average far more perfect than those on the Manetti.

From the foregoing remarks it may have been gathered that I would not recommend anyone to plant Roses on Manetti, the fourth stock named, and the most universally grown. It is true that these stocks have fibrous roots, but from the very fact of being near the surface they are liable to be burnt up in summer drought or injured by winter frost. Not that growers will give up Manetti, for the stocks are practically no trouble to make or to bud Sticks cut into 9-in. lengths and inserted in sandy ground are sure to grow into stocks, and when budded rarely miss, while they make immense saleable plants the first year. They grow well the first two years, and then steadily deteriorate, and unless the scion succeeds in getting on to its own roots in the meantime the plant commonly dies. I have made a point of planting side by side Roses budded on each stock, in order to compare them in identical soil, situation, and age. Invariably, after the third year the Manetti rows are deplorably gappy, while the health of the briars is maintained. There were generally a few strong plants left among the collapsing Manettis, which for some time puzzled me, but on digging them up I found that all these had succeeded in getting on to their own roots before the death of the stock; and I am inclined to think that the chief use of Manetti is as a means of raising own-root Roses. Another reason I have for disliking Manetti is that plants on it seem far more subject to Orange fungus than plants on briar. From plants on the former stock I picked this year infested leaves enough to fill a plant-basket, while from the plants on briar I did not gather a dozen leaves.

Again, a great many varieties do well on briar that will not grow on Manetti at all well; and, generally, the dark-coloured and the smooth-wooded Roses thrive best on briar. Among darks, A. K. Williams is no exception to this rule. Four years ago I budded eight Manettis and eight standard briars with this Rose; they all made good plants, and were duly transplanted, whereupon seven of those on Manetti died, while all the standards lived. When grown on briar, however, I have found the apprehensions at one time entertained as to the vigour and vitality of this Rose to be entirely ungrounded, and I should not have the lest hesitation in selecting it as the very best all-round H. P. I have six-year-old plants on seedling briar still giving first-rate flowers, and have plants of all less ages, on every sort of soil, all doing well; its flowers are the first to come in and the last to give up, brilliant in colour and perfect in form; while it is the freest to give flowers, a good traveller, hardy, and not very liable to mildew.

Talking of mildew, a remedy seems at last to have been discovered for this fungoid pest, in a solution of sulphide of potassium. This chemical dissolved in water at the rate of half an ounce of sulphide to the gallon of water, and applied on the first appearance of mildew by means of a syringe or spray diffuser, effectually checks the spread of the unsightly disease.

The raising of Roses which are capable of resisting mildew may well occupy the attention of raisers; and just as new varieties of Potatos are raised less and less liable to Potato disease, so we may hope for a race of Roses that shall be mildew-proof. A beginning has already been made with George Baker and Mrs. George Dickson, the latter of which is a very pretty Rose of a distinct and pure shade of clear pink, while both varieties are exempt from mildew. I do know that this excellent quality is characteristic of any of the other novelties, but some few have considerable other attractions. Among the H.P.'s, Comtesse de Paris (the second of the name) is a very charming and free-flowering Rose, somewhat in the style of Countess of Roseberry; Alphonse Soupert is a large and useful addition to the bright pinks, and is vigorous and very free; Prosper Langier is one of the best of recent darks, large, vigorous, and brilliant deep crimson in colour; Eclair is dazzlingly bright, but seems to be too characteristically transient, expanding very rapidly. There are two other Roses, Marshall P. Wilder and Benoit Comte, which are very good, if distinct, but both come dangerously near Alfred Colomb. There are several good new Teas, notably Madame de Watteville, a pointed white flower, tipped and washed with bright rose, very beautiful; Souvenir de Gabrielle Drevet, somewhat similar, but more creamy in colour; Grace Darling, a lovely pink-tipped Tea with yellowish base, always in flower, and attractive in all stages; Sunset is not of much use as an exhibition Rose, but to force for cutting in winter is invaluable. The much discussed Gloire Lyonnaise is very pretty, though not perpetual flowering, but it will probably be useful in a wet season, and from being rather thin it should be a good seed-bearer.

The raising of seedlings is a branch of Rose-growing that amateurs might very well take up more systematically, considering how many qualities are essential to a first-rate Rose, and how few varieties possess all, or even several, such good points. In estimating the merits of a new Rose, the beauty of its flowers should not be the only consideration, but regard should be paid to other characteristics, such as vigour, hardiness, freedom, perpetuity of blooming, and power of resisting mildew and analogous diseases; for it must not be forgotten that exhibitions are only a means to the end of decorating our gardens more perfectly, so that Roses that will not grow or flower freely should not be encouraged. Two of the most beautiful of recent Roses, Lady Mary Fitzwilliam and Mary Bennett are, unfortunately, both very stumpy growers, so that the cutting of the flowers generally involves the demolition of the plant: and in raising seedlings every effort should be made to avoid this lack of constitution. Perhaps the introduction of some of the semi-double, or even single, Roses may be of service in this direction of imparting vigour; and, at any rate, some of them are highly ornamental.

Take, for instance, the beautiful Japanese species, which has already given us the charming "Mignonette," "Ma Paquerette," "Perle d'Or," &c., Rosa polyantha, a climber that will cover a greater area in a given time than any Rose I know. Its individual single flowers are not more than 1 in. across, but being borne in trusses of sometimes nearly a hundred blossoms, a good plant of it, 20 ft. high and wide, sheeted with snowy bloom, is a sight of the greatest beauty. Or, again, show anyone a group of big bushes of the miscalled *copper* Austrian Briar in full bloom, and then see whether they will say that single Roses are too rubbishy for garden plants. If it is objected that single Roses so soon shatter when cut, let them be left to keep the garden gay at home while the other Roses go to the shows. But, as a matter of fact, a considerable collection of single and semi-double Roses has been successfully exhibited twice this year, and endured the ordeal of great heat under canvas remarkably well, in one case at Ryde, Isle of Wight, after a long journey of about four hours. The singles certainly have some colours and qualities which other Roses lack, and if some amateurs are able to pursue the intelligent hybridisation and raising of fresh varieties, we may all the sooner hope for a race of Roses which shall combine with every desirable colour the essential qualities of vigour, hardiness, freedom, and perpetuity of flowering, and that most desirable power of resisting the attacks of mildew.

FLOWERY RAILWAY EMBANKMENTS.

It is comforting to feast one's eyes on beautiful flowers, even from a railway carriage, and such a feast is always a very refreshing treat, especially when one is wearied with a long journey. Observe, too, what select and animated conversations—alike with the initiated and the uninitiated—these sights promote. Yet with these innocent attractions for the travelling public, it is rather the exception than the rule to see railway embankments flowery. Perhaps the most gorgeous exception I have ever witnessed, adjoins Lord Portsmouth's seat at Eggesford, on the way to that rising and highly romantic watering place, Ilfracombe, in Devonshire; but I suspect that the credit of this is due to that excellent nobleman's generosity rather than to the railway people.

For fully a mile ere the train rushes into Eggesford Station, and beyond it, the railway bank is covered with huge bushes of Rhododendrons and Azaleas; and for some weeks past, these have been clustered with myriads of their effective flowers. Last week I was in Cornwall, and on my way thither, observed another pleasing flowery railway bank in the neighbourhood of the Devonport station,—a mile or so of the Valerian, not a patch here and there, but continuous beds or masses of lively pink and red flowers. These are the only flowery railway banks I have yet met with sufficiently powerful to arrest my attention.

When will railway companies cast off their apathy in this matter? Please do not suppose that I mean that the hundreds of miles of railway embankments should be transformed into flower gardens—this would be almost impossible; but there are places where even indigenous plants could be adapted with splendid effect; to wit, Primroses, Foxgloves, Bluebells, Daffodils, Furze, &c., whilst hundreds of other subjects could easily be climatised at comparatively little outlay.—*W. Napper, Alphington Cross.*

NOTES ON THE FRUIT CROPS.

In this neighbourhood, which is surrounded with large market gardens, I have lived for fifteen years, and do not recollect ever seeing such a heavy crop of Pears of all kinds, as there is this season. The Hazel or Hessel is the chief Pear grown by the market gardeners. That grand Pear, Souvenir du Congres, grown here as standards, bore a very heavy crop of fruit last year, and at the present time the branches of the same kind are almost bending to the ground with the weight of fruit upon them. Doyenné du Comice, Durandeau, and Pitmaston Duchess, which had only half a crop last year are bearing a good one this season. Also that excellent Pear, Louis Bonne, is bearing a very heavy crop on standards and pyramids. Apples are very partial; in some gardens the trees have scarcely an Apple on them, and in others have a good crop. Keswick Codlin, Manx Codlin, King of the Pippins, and Cox Orange Pippin, are the chief kinds bearing this year. Wellington, and that good early cooking Apple, Lord Suffield, are only very moderate. Plums are a very good crop of all varieties, except Victoria. Cherries, an abundant crop of all varieties, especially the Morella, which is grown very largely for market. Peaches are a good crop on the walls. Of Strawberries there was only half crop, which made a very short season for market gardeners; the chief kind grown is Sir Joseph Paxton. Raspberries, Gooseberries, and Currants, a good crop. Like most of your correspondents, we suffered very much through the want of rain during June, as the soil here is very light, but we had a good rain during July, which has done a deal of good to the crops in this neighbourhood. —*Geo. Thompson, The Gardens, Croxby House, Hounslow, Middlesex.*

Although the West Riding of Yorkshire is not famous as a fruit-producing country, nevertheless in all the gardens that I saw in spring, there was an abundance of bloom of all kinds, which gave promise of a good yield of produce; but, alas for the fickleness of our climate! such is not the case, so far as standard fruit trees are concerned. The cold months of March and April, and the unseasonable weather experienced in May and June, caused many to drop, and what was left on the trees could not grow properly on account of the dryness of the wind which passed over them, cutting and bruising the leaves. Never have I seen our plantations of forest trees look so bad as they have done this summer. However, there has been a few favoured places in the valleys, which have escaped these blasts, but only to suffer from late spring.

However, we have had a thorough soaking of rain lately, and vegetation of all kinds has been greatly benefitted. On Sunday, July 25th, we had one of the heaviest storms of the season, and from eight o'clock p.m. rain fell, more or less, until six o'clock the next morning, the rainfall registered in ten hours being 2·31 ins. Apples are under the average, and are very small; the principal bearing sorts that I have noticed are: Nelson's Glory, Lord Suffield, Greenup's Pippin, and a few Hawthorden and Ringer's. The last-named is a very good Apple in these parts, and is somewhat after the style of Lord Suffield. Pears are poor, and

call for no especial comment. Williams' Bon Chrêtien, Autumn Bergamotte, and a few of the old hardy Hessle and Swan's Egg are among the best this year. Plums are almost a failure, with the exception of such as are under walls, and in favoured situations; Victoria, as a matter of course, wears the crown. Of Damsons, none are grown. Of Cherries, the Dukes are a medium crop; Morellos thin. Peaches, Apricots and Nectarines are not grown outside. Bush fruits with me are very good; in some gardens they are only a moderate crop, that is to say, red, white and black currants, but the latter with me are excellent. Gooseberries are a moderate crop here, but in more favoured localities they have been a drug, and have been hawked about at one penny per quart; indeed, in one place, where the population is thin, and means of communication bad, they had not been worth gathering, selling at the ridiculous sum of fourpence per stone, out of which twopence per stone had to be paid for carrying them to market, and one penny for the stand, leaving a solitary penny for the grower. Raspberries are a moderate crop, and Strawberries a good one, the best bearing sorts being Keen's Seedling, Vicomtesse Hericart de Thury, President, James Veitch and Barnes' Seedling.—*B. L., Huddersfield.*

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—XII.

Continuing my remarks upon manures (see p. 682), there is another kind of manure sometimes used viz., manure from stables or fowls; this should be used with great care, but generally speaking, if it is mixed with water, till the water gets the colour of brandy, it will be sufficiently strong.

There are now a variety of artificial manures in the market which are more or less used. A very old kind is guano, of which about one ounce to the gallon of water should be used. I have tried several kinds of artificial manures, but that which I like best and what I find suits Chrysanthemums (as well as other plants and vegetables) is blood and bone manure (sold by Mr. H. G. Smyth, 21, Goldsmith Street, Drury Lane). This I use largely and would not be without. It can be used either in a liquid form with water, or the plants can be top-dressed with it if wet weather should set in. To make manure water it should be used at the rate of one ounce, increasing to one and a half ounces to the gallon of water.

It often happens that after the buds are set, wet weather sets in for a short time, by which the plants receive all the watering that is required. At the same time the plants must still be fed, and to do this a little of the manure should be sprinkled over the surface of the soil. For those in the ground use two ounces to the square yard, and for those in pots use a tea-spoonful to an 8½-in. pot. When the buds are swelling the plants should be occasionally supplied with water, to which sulphate of ammonia has been added at the rate of half-an-ounce to the gallon of water. This will help to swell the buds.

In giving manure water, it will be sufficient if the plants receive it twice a week at first, increasing the strength and giving it oftener till the buds show colour, when it should be gradually withheld.

Early in August the pots will be well filled with roots, and the plants will then be greatly benefitted if they are top-dressed with partly rotten manure.

From the time the cuttings are inserted till the plants are housed, careful attention should be paid to keeping the plants perfectly free from insects, and one of the pests that should be carefully looked after is the earwig. These do great injury to the plants; oftentimes a shoot is spoilt through their ravages. Their time of feeding is at night, and what they delight in doing is to eat the very point of the shoots; therefore, it will be at once seen how disappointing it must be if, on looking over a shoot on a morning, expecting to be able to disbud that shoot, to find that the plant had received a visit from an earwig during the night, and the point of the shoot has been eaten clean away. They have already appeared on the plants, and must be diligently sought after, as I am firmly of opinion that they do injury to the plants before they reach the flower-bud stage. Turning to Mr. Burbidge's book on the Chrysanthemum, second edition, p. 51, he says there, "Later in the summer the earwigs make their appearance, *feeding by night on the tender foliage,*" &c., in which I fully concur. I have oftentimes—and, in fact, this morning—in looking over a plant, found the stem of the shoot, close to the point, partly eat away and the point slightly curled round, and on looking over the shoot next to it, found an earwig making itself nice and comfortable in its hiding place, awaiting the night to have another feed.

They are easily trapped by putting some dry hay or moss in a small pot, and inverting that pot on a stick. Several of these traps should be placed along the rows of plants, and they should be carefully looked over every morning, and any earwigs found should be killed. —*W. E. Boyce, Archway Road, Highgate.*

CULTURAL NOTES ON VIOLAS.

Apropos of your editorial remarks on p. 743 respecting our bedding Violas, we beg to give you the system adopted by us in their culture, with the two-fold desire that their cultivation (which is now somewhat restricted) may be extended to the masses of the gardening world; and, secondly, that those who take them in hand may have a few sound practical hints as to their special requirements. As pointed out by you, it has become quite a general remark that Violas *cannot* be successfully grown in the south, and especially so in the vicinity of London. We have, however, proved the contrary, and with pleasure give your readers the benefit of our experience. According to the generally-accepted theory of "shade and moisture and a cool climate," our nurseries at Hampton were in no way fitted for the cultivation of Violas, notwithstanding which, however, we were impressed (with what we now regard as facts) that with a little care and generous treatment we might obtain a certain amount of success, and which has far exceeded our most sanguine expectations. The one great point in Viola culture is the planting season; too often are Violas and Pansies planted in May and June, with the result that they miserably fail in consequence of there being insufficient time to establish themselves ere the hot weather is upon them.

The proper time to plant to ensure success is from October to the end of February; in fact, as soon as the summer beds are cleared of their occupants, plant your beds with Tulips, Hyacinths, Crocus, and so forth, with Violas on the surface, having previously made the soil rich with good manure; in the earliest spring-time you will have some most enjoyable beds, which will continue away into the summer. Confining ourselves, however, more strictly to the subject, we strongly advise the month of October for planting, by which time an abundance of strong rooted cuttings will be ready. These we prefer to dividing the old plants, since they make an immediate start at rooting into the fresh soil, and in a few weeks their bases will be bristling with young shoots. That settles the primary point—*i.e.*, planting—next to which we must take the soil.

At our Hampton Nurseries we have an average depth of 15 ins. of good soil as far as fibre goes, in other respects it is poor; beneath the surface soil is a splendid bed of gravel 5 ft. deep, so that in ordinary weather our soil becomes dust-dry 2 in. or 3 in. deep. As manure, we employ cow-manure from a farm near by; this we employ freely for two reasons—first, on account of its cooling nature, and secondly, on account of the great amount of moisture it contains, so valuable in both cases as keeping the soil about the roots uniformly cool, and with something to feed upon. In exceptionally dry weather we mulch the beds with decayed foliage of Narcissi or similar light material, which stays evaporation, and also saves labour in constant watering during excessive heat. We endeavour to supply the wants of such plants as these, and at the same time dispense with the water-pot as much as possible; when water is given they should receive a thorough soaking.

Treated as above, our collection of these charming flowers has been one continuous display of blossoms, and throughout the recent hot weather received only two soakings of water, and the vigour of which they are possessed, coupled with the myriads of flowers they have borne, afford sufficient testimony of their adaptability for summer beds. In conclusion, we cannot lay too much stress on early planting, and the liberal use of wet cow-manure for all soils of a light sandy or gravelly nature.—*Collins Bros. & Gabriel, 39, Waterloo Road, London, S.E.*

SCOTTISH GARDENING.

Herbaceous Borders.—Where these are valued—and I suppose this is general everywhere—some attention must be given to plants which have flowered, except where seed is to be saved. The flower-stems should be cut off as soon as the flowers have faded, and where the plants may be overgrowing their fellows they may be trimmed-in a little to keep them in their own quarters. Staking those which have to flower must have timely attention, and the plants not made to look unnatural; Phloxes, Delphiniums, Pyrethrums, &c., which are valued so much, are among the first to suffer from neglect. Absence of dead leaves, weeds, and flower-stems is very conducive to order and interest of herbaceous beds and borders at this season; mutilation of healthy-growing foliage at this season is against the preparation of flowers for next year.

Dahlias and Hollyhocks now require close attention; where excellence of flowers is to be attained, liquid manure may be given freely. Staking and tieing are matters of detail which often want seeing to; in exposed positions this requires extra care. Pansies which have done an extra amount of flowering may be trimmed-in, seed-pods picked off, surface stirred, and manure-water administered. Kinds from which seed are to be saved may have a stake put to each to mark them, and the seeding flowers tied up. The same care is necessary for such plants as Carnations and Picotees. The layering of these is generally completed early during this month—the earlier the better—so that there may be plenty of strong roots to stand the winter. In low-lying, damp positions the layers should be well elevated. In the floral department much requires attention at this season preparatory for winter. Plants to be forced in pots early should now be kept well exposed to the sun. Deutzias, Kalmias, Azaleas, Lilacs, and others in pots must be well advanced in their ripening stages now if they are to be forced for early winter supplies of flowers. The further north and colder the district be, are these hints proportionately important. The potting of early-flowering bulbs, such as Roman Hyacinths and others, will soon claim attention. The earlier they are potted the less difficulty is experienced in forcing them.

Vegetable Sowing.—No one can fix a date which might be termed the exact day when certain kinds of vegetables should be sown; soils, aspects, altitudes, and other influences have always some command over sowing. The warmth of the ground when the work is done in some measure affects germination of seed. It may be safely affirmed that before the middle of August in most of the northern counties of England, and throughout the greater part of Scotland, the following seeds should be sown, and more than usual care taken with the work, as sun warmth is decreasing, and radiation at night is generally very marked during the harvest weeks; the growth of seedlings is sometimes slow and not vigorous. Cold rains too help to stunt growth; therefore, it is all the more necessary to make the conditions under our control as conducive to healthy growth as we can.

Well prepared ground and careful covering with fine soil is of moment. Spinach is a very important crop with many, and when sown after any of the brassica class of vegetables, grubs often are very troublesome; after Potatos, Peas, or Strawberries the crop is more safe, a good dusting of soot with the seed, and the same to be followed up when the crop is coming through the soil wards off grubs and slugs; ashes mixed with lime and soot is about the best and most effectual dressing over surfaces we have tried for crawling vermin. Brussels Sprouts, Curled Kale, Cabbage, Cauliflower, Lettuce, and Savoy, for sowing through the winter on a sheltered border, or similar position, may be sown at once. When the plants can be easily handled, they are pricked into nursery beds to keep them dwarf and hardy. The great quantity of these grown by rural nurserymen in Scotland for cottagers orders, as well as those in other circumstances, show that the demand is great. Bath Cos Lettuce, Hardy Hammersmith, Hick's Hardy, All the Year Round, and Brown Dutch do well in most parts. Turnips, Carrots (these can be protected by a frame) and Onions may yet be sown, also Radishes, and small salads in general. If the ground is dry, the drills may be watered before the seed is sown, and nicely covered in afterwards.—*M. T.*

LONDON GARDENING.—IV.

THE LAST LIONS IN THE PATH.

I. Intractable Soil.—In the north and north-west of London the soil is clay, and of the uncompromising kind known as London Clay,—stiff and fathomless, with an ominous tinge of indigo in its complexion. The only thing to be done with this is to take it out to the depth of a couple of feet, and replace it with a judicious mixture of crumbly loam, rotten manure and leaf mould, kept open by a liberal handful here and there, of sharp (not soft) sand. "But surely clay is good for Roses," I hear someone object, "and the stiffer the better!" In the abstract, yes; but there is often danger in the application of abstract doctrines to particular cases, and if you are a London gardener this is one of the forms of flattering unction which you must not lay to your individual soul. Roses do like clay, but clay alone cannot sustain them; no flowers are more fastidious than they about the air they breathe. Outside the smoke of large towns indeed "London clay" may, by a little judicious manipulation, be made to suit them well, but in alliance with our invincible enemy, Impure Air, its embrace is little short of deadly. Nor are Roses impatient of *bad* air alone; quantity as well as quality must be provided if the grower wishes to succeed, and few indeed are the London gardens airy enough to make this possible. Not that I have not seen standards blooming in the clayey ground north of the Park, but they were regularly doctored by the gardener,—the vitiated soil about their roots often replaced by spadefuls of fresh manure, their stems washed and dressed, and every form of artificial culture, short of glass, lavished upon them Such Rose trees, however, are like patients kept alive on brandy, and even so their propped up lives were very short, it was admitted, as well as precarious while they lasted.

In the south and south-west districts the London soil is largely gravelly, and I speak from experience when I say that this is less easy to deal with than the clay: the top of that you remove, to make way for something better, but what remains below is serviceable in this way, that it provides a cool bottom, and it preserves the goodness of the good soil above it. Of course all gardens, and especially clayey ones, must be drained, but if this is properly done the sides of the walks act as conduits for storm-water, and the borders are not seriously damaged by abnormally heavy rain; and the value of the "holding" properties of clay, especially in summer, when a hot sun and drought prevail, is often under-estimated. I know how cold and damp it is in winter, but where a proper depth of it has been removed, the chill below will not strike upwards so far as the roots of ordinary-sized plants. The gravelly London soil, on the other hand, I have found preternaturally dry, and exhausted in an incredibly short time. Probably the cause is to be found in the network of drain-pipes of one kind and another which underlies the surface, and the gravel of the subsoil is in many parts of a very loose and open sort; still, only experience could have convinced me of the extraordinarily rapid effect of this subterranean suction. To meet the difficulty there must be recourse to enrichments on the surface; one load of thoroughly-decayed manure suffices in my own case to cover the border 3 ins. deep, and this, laid on in late September, is gently washed in by the winter rains to the soil enwrapping the roots of the plants. The dose must be repeated yearly.

From the disappointing dryness of the light division of London soil, we should pass naturally to the consideration of all that is thwarting in the London water supply, regarded, of course, strictly from the floricultural point of view! But before I have quite done with the soil, I must warn all tyros in London gardening not to neglect an initial precaution rather like the solemn search, on the eve of the session, in the cellars under the Houses of Parliament for a Guy Fawkes and all his sinister paraphernalia. Like, and yet unlike, for in my gardening friend's case the strong probability will be that Gunpowder Plots by the dozen will be revealed, so that her time will not have been wasted in a fruitless investigation. The place she must search, with fork and spade, will be the borders, and the object of her search, brickbats. It appears to be the practice of wall builders to bury all *débris* on the scene of their labours, presumably to escape the trouble of carting them away. And verily it is a sowing of dragon's teeth, only the armed warriors that result do not spring up and show themselves, or do anything half so manly; children of darkness that they are, they prefer the Guy Fawkes stamp of warfare, and skulk and crawl out of sight, in seven cases out of ten, perhaps, never unearthed or even suspected at all. Excepting decayed wood, the gardener can scarcely have a more mischievous form of subterranean store than masses of porous and half-baked brick. Dislodge one of these fragments, after energetic digging, and you will find it a lodging-house of the least exclusive and most objectionable type; it will instantly become a question whether you shall first address yourself to the dangerous characters embedded in the structure itself or to the colony of casual vagrants exposed by its upheaval. Drab, brown, slate-coloured and white—curly, wrinkled, furry, clammy, or lad in a coat of mail—centipedes in all sizes, slugs, earwigs, beetles, and a host of nameless "organisms"—creatures with long bodies and no visible legs, creatures with long legs and next to no visible bodies, scuttling, crawling, wriggling, as their hereditament determines,—there they go, burrowing in the soil or sneaking into their legion cells in the brickwork,—or here they come, up your sleeve, into your pocket, down your neck if that road seems to them good,—ugh! let the curtain drop! But do not forget to search your cellars before you deposit your precious plants overhead; otherwise their juicy roots may be delicate morsels for the murderous, devouring traitors below. And have a tub of scalding water at your elbow, in which every brickbat, with its assortment of malignant beings, can be bodily and promptly accommodated. In one border, 25 ft. long, I have brought to light three barrowloads of them! *Experto crede.*

And now for a few words about London Water. They need be but few, for this is one of the grievances that can only be recorded, with no counterpoise to the record in the shape of a way of escape found, tried and trusty. We London flower-growers note with a grim smile, the advice in many a floricultural treatise not to use any but rain-water. Excellent council, and easy to follow in the country, where water-butts of generous circumference, are posted wherever a pipe or a gutter-spout pours forth roof-collected rain, and where all but inexhaustible soft-water tanks express themselves in copious gushings, which a touch of a pump-handle will evoke. But to us Londoners, the injunction is the bough waving outside the grasp of Tantalus. All we can do to solace ourselves is to dwell on the not usually solacing fact that even the rain that falls straight from the clouds is black before it reaches London flowers—(let anyone who questions it put a clean handlight, at midsummer, over a plant just before a shower, and wipe the glass with a clean cloth just after it!)—how agreeable, then, to picture to ourselves the compound blackness that would gather in those water-butts that we have not! as agreeable in fact as the fox of renown found it to reflect on the horrible tartness of the grapes he could not reach.

Let us content ourselves, since we must, with the water that Water Companies supply, and be humbly thankful when there is plenty of it for our plants: let us moreover draw the water some hours before it will be wanted when pot-plants are to be watered, so that they may be spared the shock of a temperature much lower than their own. If the water is exposed to as much sun as is granted to the plants (supposing that there is any to grant to anything), the draught afterwards bestowed will refresh innocently and nutritiously, which many well meant waterings do not.

To complete the case for the *Cons* before opening the case for the *Pros*, it remains to name a few plants which are better excluded, at first at all events, from the London garden of a beginner. Some there are which will grow in no London gardens,—some which will grow in this one but not in that,—and some which will consent to be grown (quite a different thing from growing!) only if their cultivator has qualified herself by a special study of their idiosyncrasies. Roses have already been mentioned, and to them we may add Primroses, Violets, Heartseases, Gentians,—but stay! a more convenient method, it occurs to me, will be to state, as each plant is named, why it does not adapt itself kindly to the conditions of life in a London garden, and, where it is practicable, to point the explanation by reference to a plant of contrasting habit. To be sure, the Cons will mingle with the Pros a little, but what of that? Is it not a relief to everybody when it is announced that such-and-such disputants have agreed to settle their little differences out of court?—*C. A. G.*

AN OLD-FASHIONED PLANT.

REINWARDTIA TETRAGYNE. — A popular plant in British Gardens, somewhere about a century ago, was the subject of this note, then known under the name of Linum tetragynum, but now as Reinwardtia tetragyne. It appears to have been in cultivation for some years, and then disappeared, with many other fine old plants, which we know from the figures in the earlier volumes of *The Botanical Magazine.* For its recent re-introduction into commerce we are indebted to Messrs. James Veitch & Sons, Chelsea, and being a most useful winter-flowering subject, and withal one that is easily managed, there can be little doubt but that it will become popular again. It is a native of India; a tove-flowering shrub, much resembling the well-nown Linum trigynum, but produces more flowers in a truss, and is of a deeper shade of yellow. Unlike Linum trigynum, it is not subject to red spider, and therefore gives little trouble as regards keeping clean. It grows very freely in a mixture of peat, loam and silver sand, and roots freely from cuttings. The accompanying illustration, for the use of which we are indebted to Messrs. Veitch, was prepared from a fine stock of plants which flowered last winter.

THE DEEPDENE, DORKING.

SUCH a princely estate as is comprised in Deepdene, Chart Park, and Betchworth Park, the whole running hard on 5000 acres, we may readily suppose would have a fine garden, although from its situation within a mile of Dorking station on the Brighton line, those who know the country, know that it would be interesting and instructive to the lovers of gardening even without one, for its whole area is a scene of sylvan beauty, with its alternation of hill and dale with verdure clad, or, as in the case of one side of Box Hill, relieved by the appearance of the chalky cliff between the Yews which cling to it; its aged Beeches and Oaks naturally arranged so picturesquely that no landscape gardener could conceive anything so magnificent. However, the Deepdene has a garden, and a very fine and well kept one, and all the more beautiful that the seventy acres occupied by it gave such a beautiful outline for the display of the gardener's art, which has been beautifying and improving it for many years past. In it may be found by the dozen, many rare conifers, and other trees as large as forest trees, and yet as perfect in shape as it is possible for them to be, for in the sandy loam here, the root and top-growth seems to be proportionate, and once a tree gets a hold it is safe.

The carriage-drive through the park studded with fine Oaks and Chestnuts brings us to the gardens, the first evidence of which are some fine conifers with (near the grand squarely-built mansion) a giant Abies Douglasii, some 70 ft. in height and 50 ft. across, well occupying a green nook devoted to it; and further on a stately Larch, with its trunk covered with Ivy, forming, as it were, a second pyramidal tree, which has the advantage of rendering the Larch ornamental after its foliage has been shed, and heightening its beauty whilst in leaf. From the front of the mansion a fine prospect opens on the left, disclosing beyond the high Copper Beech, the varied hues of the different conifers, and the neat surface of the Italian garden, the front ranging over the Rhododendron-crowned knoll in the foreground, away over the hill to the tall Beeches in the back, while on the other side an equally fine view is obtained, the aged Cedars being very conspicuous. At the north front stands a Tulip tree 80 ft. in height, and equally large Copper Beech and evergreen Oaks, with, among other fine groups in the distance, one of great beauty composed of tall trees of Wellingtonia gigantea and Abies lasiocarpa. Near by, too, is a lovely nook enclosed by trees and belted with Rhododendrons, in which a bed of Acer negundo, some clumps of yellow St. John's Wort, and of the tall and graceful flowering Spiræa Lindleyana are very handsome.

At the front of the mansion stand some fine Orange trees in full bloom, which are interesting on account of the treatment they receive, and which ensures such a fine display of bloom every year. In the first week in November they are put into a cave where they get but little light, and, of course, no artificial heat, and there they remain until the first week in April when they are replaced on the terrace. In most gardens Orange trees are shy flowering, because they are always kept in the greenhouse, it would, therefore, be well for the possessors

of unproductive plants to adopt this plan. At the west-end the verandah and house is covered with white and blue Wistaria sinensis, Jasmines, Roses, Clematis, and here is the ornamental conservatory, which is prettily arranged ; a novel feature being introduced by having a balcony high up in the back, which is arranged with Tree Ferns, Dracænas, and flowering plants, baskets and brackets being in front and beside it. Outside and in form following the semicircular front of the conservatory is the flower garden of glowing colours, the terrace behind being prettily festooned with Ivy. On one end of the house Euonymus radicans variegata appears to great advantage as a climber.

Winding round the hill by the private drive, we were struck by the profusion of the Rhododendrons and their great size, not only the newer sorts but the varieties of R. arboreum, R. campanulatum, and R. ponticum, which come up from seed everywhere by the thousand. The Azalea pontica is also represented by great clumps of specimens 8 ft. or 10 ft. high, and beautiful and fragrant in their bloom. By the way, too, we noted many grand examples of Pinus cembra, P. insignis, Abies Menziesii, Cryptomeria japonica, Sciadopitys verticillata, Picea pinsapo, P. Nordmanniana, and other fine trees ranging from 20 ft. to 50 ft., and a good Taxodium sempervirens, over 70 ft. As an undergrowth on the hill-side not only the common Heath, but, also, Erica Mediterranea, mixed with the blue Lithospermum prostratum are very beautiful, and the last named plant has the advantage that rabbits do not eat it. On this side a splendid view over the undulating ground to the tall Beeches and Pines of Glory wood is obtained.

Still upwards through the glade, carpeted with soft green moss, and bedecked with our beautiful Bracken, which is as handsome as any exotic Gleichenia, through Rhododendrons, and beneath tall Beeches and magnificent and fragrant Scotch Firs, the crown of the hill is reached ; looking over the giant Cedars, which are 16 ft. to 20 ft. round the trunks, away to Chart Park, the avenue of Beeches is reached, and the grandeur of the scene in that elevated situation is delightful. Half-way along the stately rows of ancient trees stands a model temple, from the garden side of which an enchanting view is obtained down the steep slope to the Italian garden below, the whole appearing like a well-arranged picture, with its clumps of white Acers, scarlet and white Dahlias, and different coloured foliage plants.

On the descent at the end of the Beech avenue, a grand view is obtained over the dell, on the slope of which a fine effect is produced by a large expanse of rose Willow-herb (Epilobium angustifolium), mingled with Pteris aquilina (Bracken), with, beyond, Spruce and Scotch Firs and Beeches, and in the distance, the town of Reigate and the north Downs ; and still descending, we come upon some splendid Araucaria imbricata, 30 ft. to 40 ft. high, one bearing male flowers, and another six cones ; some fine examples of Abies grandis, and everywhere the banks of Rhododendrons, the face of some of the clumps being enlivened with Harebells, among which, in one place, the Club Moss (Lycopodium clavatum) is growing freely ; and so with regret at leaving so much that is beautiful and interesting, we turn to the more prosy fruit and plant houses.

Fruit and Plant Houses.

In this department utility is the order of the day, the plants are wanted for the conservatory or other decorative purposes, and the fruit houses are required to supply good crops, and consequently the Melons, Cucumbers, Tomatos, Beans, &c., chase each other out of some of them, so as to keep them always in use.

The Vineries are especially well worked, and in one of them which Mr. Burnett, the gardener, planted only fourteen months ago, a fair crop has been cleared. Another mixed house bears a fine crop of Muscats, Madresfield Court, Lady Downe's, West's St. Peters, and a fine Black Hamburgh, which, running the whole length of the house at the ridge, bears over seventy bunches. Others of the Vineries have been cleared, or are in good crop, and all in that sound condition which tells of their endurance for the future. In one of the plant houses, Gardenias, Eucharis, Pancratiums, and Calanthes, are well grown ; others contain Fuchsias, Pelargoniums, Coleus, and the usual run of greenhouse plants, while the warm houses have well-grown Crotons, Dracænas, and some good Orchids, among which in bloom is a fine variety of Epidendrum vitellinum majus, and some well-grown Cœlogyne cristata.

The Kitchen Garden.

In this department great attention is given to secure the best space for the best proved things, and at the same time to give a portion of the room to the trial of new ones in order to keep up with the times. It will, therefore, be of use for us to note the result of the trial of a few things which have proved worthy at The Deepdene. First, with regard to Potatos, Magnum Bonum still holds its own as the main crop, but Sutton's Early Regent, Schoolmaster and Reading Hero are given good space, while of proved excellence are Veitch's Chiswick Favourite, a good Potato and good cropper ; so also are Sutton's Seedling and Sutton's Abundance. Among Peas, Sturdy, Huntingdon and Walker's Perpetual are fine ; French Bean, Ne Plus Ultra, perfect ; and Carter's Hartwell Marrow and The Denbies Cabbage the best liked. The whole of the crops are fine, especially the Carrots and Onions, the never failing success of which is here attributed to digging in a little gas-lime when preparing the ground.

Reinwardtia tetragyne : flowers deep yellow.

The orchard bears a fairly good crop of Apples and Pears ; Waltham Abbey Seedling Apple and Pitmaston Duchess and Marie Louise being heavily laden with fruit. Along the orchard extends the herbaceous borders, gay with the tall spikes of Hyacinthus candicans, Pentstemons, showy clumps of Sedum spectabile, Phloxes, Zinnias, &c., and near at hand are the summer shelters for greenhouse plants, the many fine pots of yellow Tritonia aurea being in capital condition. Also adjoining the orchard is a curious instance of old-fashioned fruit growing, the walls being built parallel at about seven yards apart, and running east and west so as to, it was supposed, give protection ; but rather than go to such an expense for so little gain it would be better to build houses at once.

It is but right that Mr. J. Burnett, who has so long and so ably presided over the Deepdene garden, should have a model gardener's house—a model gardener is worthy of one—and that of Mr. Burnett is literally covered with Wistaria, Jasminum ochroleucum, Roses, &c., and has a pretty little flower garden and showy herbaceous border, as well as some pretty Retinosporas and other neat conifers planted around ; a showily effective plant being the Golden Alder, of which every garden should have a specimen. It and the white

Acers are well grown at The Deepdene, Mr. Burnett's method being to cut them back every year, and that insures an uniform and clean growth.

THE GARDENS AT EDGE HALL.

In my humble opinion there is no gardening like hardy plant gardening, and no hardy plant gardening like that on rockwork and mounds. I have just returned home from a visit to a well-known garden in Cheshire, where rockwork gardening is admirably carried out. Pressing home work keeps me from many pleasant and instructive visits, but being obliged to go to the neighbourhood of Liverpool, and having my son with me, I could not resist the pleasure of a few days at Edge Hall. Much had been done since my last visit; the rockwork with its variety of stone is wonderfully successful, and shows what energy, perseverance and study, assisted by an excellent library, will do in a climate colder and damper than that of our home counties. Many of the plants, some of them difficult ones, grow in such vigour that it shows that the climate suits them; but the sheltering rock and judicious lightening of the soil make others grow, which prefer warmer and drier situations. Campanulas have always been favourites of Mr. Wolley Dod; some of the rarer ones were simply masses of bloom.

A favourite plant of my old friend Mr. Atkins, of Painswick, Onosma taurica, had grown more luxuriantly than I ever before saw it. Arnebia echioides showed itself thoroughly at home, as did many of the rare Saxifrages. I will not attempt to enumerate the different plants which are in great numbers, and many of them rare. I was much interested to find that Mr. Dod, by his broken granite, had arrived at results which we have been attaining by different means, but on the same principle. In his garden beds Lilium pardalinum in all its varieties and L. testaceum were very fine, and in great vigour; and in a rough cold Lily-house L. Parryi, L. Humboldti, L. Washingtonianum, and L. dalmaticum were as fine as I have ever seen them under any treatment. People often speak of gardening as a pleasant amusement; it is, of course, a pleasant occupation, but carried out as it is at Edge Hall it is as much a study and a science as any of the more recognised sciences. In conclusion, I would advise anyone with plants, especially Alpines, which they cannot master, to send some to the Rev. C. Wolley Dod, Edge Hall, Malpas, Cheshire, and I shall be surprised if he does not discover how to make them grow.—*George F. Wilson, Heatherbank, Weybridge.*

WINDOW, TABLE, AND INDOOR PLANTS.

Among plants of recent introduction, none bid fairer to be of great service for all the purposes for which plants are required indoors, than the species of feathery Asparagus from South Africa, which are now plentiful enough to warrant my recommending them. I have tried them indoors and find that they all do well as window plants, although A. plumosus nanus is, perhaps, the most manageable, as it is the most beautiful of them. The original trailing variety of A. plumosus, too, is a very beautiful plant for running over a screen, or round the edge of a jardinier, and it forms a beautiful object grown in a basket. Those who can accommodate these plants with room in the conservatory, will find them great acquisitions, and if care is taken to divide up the sorts from time to time, a good and useful stock for indoors may soon be got. Few plants are easier multiplied in this way than these Asparagus, as their tuberous roots render them self-supporting, until re-established, without the protection of the cutting case.

Everywhere, one now sees in great beauty, in windows, both indoors and out, our common Toad Flax (Linaria cymbalaria), and the Creeping Jenny (Lisimachia nummularia). In suitable positions these are two of our best hanging plants, and well worthy of attention; they may also be trained up trellises. In some of the window boxes they are superb. Also showing up well in window boxes are the double Ivy-leaf Pelargoniums, which are great acquisitions for such work, and destined to be largely used; some of them are literally covered with blooms. Whoever grows them in this way, should, on removing the boxes in the autumn, carefully pot up the double Ivy-leaf Pelargoniums, and winter them for use next year, as they improve in size and beauty every year, and should not be allowed to remain out until killed by frost.—*M. A., Camb.*

FRUITS, FLOWERS & VEGETABLES.

Earwigs and Chrysanthemums.—Having read the remarks which have appeared in your columns upon this subject, I should like to express my opinion that earwigs do injure the plants during the present month, and up till, and in fact after, the plants are housed. Of the two great enemies of the Chrysanthemum, viz., green fly and earwigs, I think I would rather have to deal with the former, as that can be kept well under by dusting with tobacco powder; but when the earwigs make their appearance, they very frequently do what one does not wish done this month, viz., stop a shoot by eating the very point out, and thereby cause that shoot to break again when it should be growing on so as to produce the flower buds this month.—*W. Martin, The Cedars, Woodberry Downs.*

Hardy Plants in Flower.—At p. 673 your correspondent "Con" seems rather in confusion about the Lychnises there mentioned. L. vespertina plena, and L. dioica alba plena, are synonymous, but according to the manner in which they are cited they may be regarded as two; would your correspondent also be good enough to describe the plant which he gives as L. coccinea flore plena, as I am not aware of any species bearing the name "coccinea," and, but for the fact that the double form of L. chalcedonica having preceded it, I should have concluded that was the kind meant? Has your correspondent the true L. viscaria rubra plena? If so, I should be pleased to get it. I have abundance of L. viscaria splendens plena, which though a very fine plant does not equal the pyramidal and dense spike of the first named, nor is it so deep in colour. I would also be pleased to exchange other plants for one or two named by "Con"; my address may be had of the Editor of this paper upon application.—*E. Jenkins.*

Tomatos in the Open Air.—A neighbour of mine, in the market gardening line, has about two acres of Tomatos in the open air. The variety he grows is a selection of the ordinary large red, dwarf in growth, and remarkably free in fruiting. The seeds are sown in a little warmth, and the plants are grown on in pots until they are in pairs or singly in large sixty and forty-eight sized pots, and they are planted out in the open as soon as possible. In this particular case they followed Coleworts. The plants are about 2½ ft. apart, and they have in some cases two, in others three, main stems, and the fruit is already half grown. When the plants are about 18 in. or so in height, they are well mulched with long manure, and now workmen are going through them picking off all lateral growths, so that air and light may reach the rapidly swelling fruit; none of the plants are staked, and they do not rise much beyond 2 ft. The Tomatos are growing in light stony ground, and they produce quick, heavy and remunerative crops of fruit.—*R. D.*

Carnations and Picotees Planted Out.—I think amateur lovers of these brilliant and, as a rule, sweet-scented flowers should express to you their acknowledgements for the articles and woodcuts recently published in The Gardening World in reference to their favourite flowers. Now is the time to take notes and compare results, when they are at the zenith of their bloom and beauty, and I would ask you to allow every amateur, even the neophyte, provided always he is a *correct observer*, to give their experience. One of the points we want more information about is, what class and what varieties succeed best in the open air? When you noted the "Border Carnations" at Messrs. Veitch's did you mean that they were wholly grown in the open border or beds, and *not* lifted in winter and taken under glass? [No.] Among "self" colours you deservedly particularise of the whites W. P. Milner and The Bride; but planted out in as mild a climate, and with soil and aspect as good as any round London, one has twice perished with me, not in the winter, but in the spring, and the other has barely lingered on, the intermittent frosts and moisture seeming to do them most injury. Mary Morris, a rich rose pink, seems much more robust, and would produce one hundred blooms to the stool if not thinned out. We want some one to come forward with some years' experience of *named* varieties that they found always doing uniformly well planted out. One year's experience is nothing. James Douglas, one of the best purple flakes, came this year uniformly purple; so of Andromeda, that often comes flaked, has so far been uniformly crimson-maroon, and ranks as a "fancy." Even on the same plant the colours sometime run fantastically, and seem for a season to lose their character. We want, therefore, to find more such as Mary Morris, with strong robust constitutions, and that no season affects. As I mentioned whites, The Governor (Cross) seems better suited to the open air than any other I know; and so of that fine variety, Pride of Penshurst, the best of the yellows. In my beds and borders at present I have types of every section, named and seedlings; rather curious with me as elsewhere. Invariably visitors and the ordinary public stop to admire large 3-in. seedling selfs—crimson, scarlet, purple, pink, rose or white, or shades of these, a box of specimens in bloom now of which I send you—and never look at Arthur Medhurst or Rembrandt, scarlet bizarre; Harrison Weir or Sir Garnet Wolseley (this came self purple), pink bizarre; E. S. Dodwell or Rifleman, crimson bizarre; Master Richard or Harry Cannell (two died in spring), scarlet flake; Miss Wemyss or Rose of Stapleford (robust), rose flake. You will also observe some seedlings with the calyx too strong and leathery to permit the petals to open, others with the calyx too short—both fatal defects. The fancy varieties and selfs, where only one colour, come in for their share of admiration. Of those named and several others, especially yellow and buff grounds, I am anxious to increase. I have layered a number in the borders, now would some reader who has tried those superior kinds for any number of years outdoors say when I may safely remove the layers, or would layers (rooted) and plants be safe there through the winter and spring?—*W. J. Murphy, Clonmel.*

The Amsden Peach.—I have this day, July, 29th, gathered the first fruit of this remarkable early Peach. The colour, which at Covent Garden is "nine points of the law," is truly splendid. It is not a Royal George in flavour, nor yet a Sea Eagle in size, but it has borne me four thorough good crops the last four years. I can recommend it as prolific, hardy, and a truly useful variety. On the same wall I have fruiting Princess Beatrice and Hale's Early, neither of which will be ripe for at least a fortnight. I also possess those two fashionable early Peaches, Alexandra and Waterloo, but not in bearing trees, and should be interested to hear from any of your correspondents if they are earlier than the variety under notice. I may add that the tree of Amsden which I possess came direct from America, and was presented to me by my excellent friend, Mr. Laxton.—*R. Gilbert, Burghley.* [We have received a couple of fruits of this valuable early American variety, which are of medium size, very heavy, rich crimson on the sunny side, melting, and more than passable in flavour.—Ed.]

Strawberry, Marechal MacMahon.—This is a Strawberry which I would strongly recommend to anyone desirous of possessing a variety of a profitable character, and combining at once the qualities of size, flavour, and heavy cropping. For light soils it is especially suitable, as we have well tested during several years, and of all the sorts which I have tried here, and many of which have been discarded, it stands, all things considered, as *the* best; indeed, grown alongside of President, I am inclined to consider it even superior to that highly esteemed sort. In season it is a little behind that variety in ripening, but this year has turned out somewhat exceptional, as with half-a-dozen sorts on the same square, viz., Vicomtesse Hericart de Thury, President, Dr. Hogg, Keen's Seedling, James Veitch, and Maréchal MacMahon, all are ripening together, still I hope to have some of this on a border to pick in September. The foliage is much dwarfer than any of the other sorts named, being also of a stiff and leathery texture, so that should it travel as well as President, it is certain when better known to become a formidable rival to the latter; so highly is it esteemed here, that I am now growing nearly as much of it as of all others combined. We grow our Strawberries on a different system to that generally followed, and which for several reasons we find to suit us the best. The runners are taken off about the beginning of this month, and planted in nursery lines about 6 ins. apart, from which they are taken as soon as weather permits in spring; they are then planted in 4 ft. beds on the quarter allotted, three lines on a bed, and the plants at 18 ins. apart both ways. During the whole of their growth the runners are constantly cut off, and they are mulched with short manure at the end of autumn, which is not removed, but left on the beds to afford good material for the roots which spring from the collars of the plants. We do not expect much fruit

the season after planting, although we sometimes get a good picking; but by planting in spring we avoid serious trouble and inconvenience through the plants being thrown out by hard frosts. The ground is not trodden at planting, and nothing is afterwards done beyond mulching, weeding, and keeping off runners. For young plants we always depend on a small number planted on a border clear of all others, so that we generally succeed in keeping them pure; we allow them to bear for four or five seasons by this treatment, after which time they generally deteriorate when a change becomes necessary. I prefer the system of planting in beds, as no disturbance of the roots by digging or otherwise takes place, and there is no treading and often damaging the fruit as when they are planted in lines; a 2 ft. alley is left between each bed, and the whole of the work necessary is done there. I have never actually determined, but judging only by optical experience, I think the results of this system are quite equal to planting in single lines at greater distances.—*R. Stevens, Paston, Northumberland.* [Mr. Stevens has favoured us with a small box of fruits of Maréchal MacMahon, which came through the parcel post in admirable condition, and much impressed us with their fine quality, the fruits being large, bright red in colour, and of excellent flavour.—Ed.]

Leeks for Market Purposes.—I find that one of my neighbours who grows a good patch of Leeks every year for market, this season adopted the practice of sowing the seeds in drills in the open ground, just as he does Onions. The inclement spring was somewhat against the successful germination of early sown seeds, but the plants came fairly well, and a good many were drawn out of the lines and used for filling up vacancies. The earliest plants are now very forward, in fact they are much better than they were at the end of September last year, for owing to the dry character of the season they made but little growth, and many were useless for market purposes. Now, an early and remunerative crop will reward the labours of the tiller. Young plants from the seed-beds of Leeks sown in the ordinary way are now being put out, and the ground being moist and showers falling, they will soon draw root and make a good start. The growth of Leeks for market, as well as that of Tomatos, appears to be rapidly extending.—*R. D.*

Ivy-leaved Pelargoniums.—Anyone in want of two good double-flowered Ivy-leaved Pelargoniums, can scarcely do better than try Eurydice and Emile Lemoine. They are quite distinct, the one pink and the other red, and both are good growers and very free. They belong to the trailing class, and are highly recommendable.—*Con.*

FLORAL FASHIONS IN AMERICA.

At a private luncheon given July 4th at Seabright, the table-cloth was of pale pink satin—all that was seen of it—which was a band 8 ins. wide for the plates. The entire centre of the table was covered with the gray Gypsophila, that has an exquisitely misty effect. In this was laid Baroness and American Beauty Roses, so as to shade from the lighter to the deeper colour. A Peach-blow vase stood at each cover, containing a Rose of each of the two varieties. The grassy Gypsophila is not costly, and its elegance in combination is unmistakeable. It is used in the most expensive arrangements.

A funeral wreath made, as is now fashionable, in crescent shape, brought together at the small ends by ribbons and a trailing cluster of flowers, was arranged lately of a cluster of white Pea blossoms, and then a mass of white Corn Flowers. In the satin sash which finished it were long-stemmed Niphetos buds of great size. Another wreath 6 ft. in diameter was made for a memorial piece which was sent to Guatemala. The mammoth circle was composed of the choicest flowers obtained from private greenhouses. Inside the wreath were seven white doves, each one holding in his beak a wreath of Lily of the Valley. The cost of the material of this design was $300. I do not know what was paid for it.

The "Lily pillow" is a piece original with Fred Gordon, which is ordered freely just now. It is a pillow 23 ins. long. It is made up with longiflorum, candidum, amazonica, Callas, and Water Lilies; it is festooned between these flowers with fanciful mosses and grasses, and is fringed with Ferns and Lily of the Valley.

The ornamentation of fans with natural flowers is so much done that each morning a collection of all sizes and shapes are seen in the floral stores, awaiting the cluster or knot of blossoms. As a rule, a ribbon bow is combined with the bunch, which is placed near the handle. Feather fans look exquisite trimmed with Fern fronds. Small ones are selected and laid like a Vine around the edge. Ordinary Palm-leaf fans are susceptible of beautiful decorations.

A new design for a souvenir is a panel easel composed of Faust Pansies. In its centre is a plaque with curled edges, such as is seen in costly plates. The plaque is composed of blue Daisies, and the under edges curled over are of Forget-me-nots. In the centre of the plaque is an exquisite cluster of Laurel bloom. An hour-glass work-table has been successfully made of flowers. It was an engagement gift. The body of the table was composed of double white Hollyhocks, the top of crimson button Daisies. There were outside pockets of Hibiscus sinensis, and at the centre of the hour-glass a crimson satin ribbon to presumably draw in the middle, the same as when this piece is made of cretonne. The "old oaken bucket" was made for a stag party collation given at the Monmouth Beach Casino this week. It was worked out in mosses and stood on a bed of Water Lilies and Ferns. The bucket was of natural size, and had rusty bands of iron.—*American Florist.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The show and fancy Pelargoniums which have been out of doors for the past fortnight are now quite ready for pruning back. Let this be thoroughly done, or leggy and straggling plants will follow. After pruning is completed, let the pots be laid on their sides until the cuts are quite healed, when they should be removed into pits or frames, admitting very little air. Keep the plants freely syringed, but avoid giving water until growth commences. Shut up early in the afternoon, so as to secure as many breaks as possible from the stools. This is of the greatest consequence with the early-flowering section, because stopping of these cannot be practised, that is if the plants are required to be in flower in February and March. With the general batch a stopping is, as a rule, made in February, previous to the plants receiving their final potting. As soon as the cuttings which were lately put in have struck root, let them be potted off singly into small 60's, and encourage them to make as rapid a growth as possible, stopping as desired.

The stock of zonales for winter-flowering must also be well attended to. Some prefer to keep them under glass all through the summer, and where a very airy, light structure can be afforded, it is, perhaps, as well. For our part, we always keep them out of doors on an ash border fully exposed, and the plants make a firm, stocky growth, so necessary if bloom is to be expected. Keep all the trusses pinched-out as they may appear, and if the plants are well rooted and require very frequent waterings, an occasional dose of liquid manure may be given, say, once a week, always taking care that it is perfectly clear.

The layering of Cloves and Carnations must now be looked to carefully; clean off any dead "grass" from the base of the cuttings, and place a good layer of prepared soil round the stools, into which the layers must be pegged after being properly cut; they will quickly callous, and may be relied upon to give an abundance of flowers next season, which will be altogether finer and of better quality than those from the old plants. Where the different kinds of Pinks are grown in beds they may be divided later on, and planted in small tufts on prepared beds, root readily, and are much less trouble than if propagated by pipings. The varieties "Lord Lyon" and "Hybrid Rose," are hardly amenable to dividing, and must therefore be propagated in the usual way; the last named is particularly free-flowering, and most useful early in the season.

THE FRUIT HOUSES.

It will be advisable where lifting or planting of the earliest Peach trees is contemplated, to prepare compost for the purpose, throwing into a heap which should be turned once or twice before use, particularly noting as the work proceeds if there any wire-worms in the loam. They may be easily trapped by placing slices of Carrots here and there around the heap, which must be looked to morning and evening; by this means much annoyance is avoided. With the early trees lifting may be done at once; that is, if the trees are too gross they will then receive a check which will cause them to be more fruitful, but if not healthy I would advise that they be left until later on, when the sun has less power than at present, or they will hardly survive the operation; shading for a time in any case is absolutely necessary, and the trees should be freely syringed three or four times a day to keep the foliage as fresh as possible, and so get the roots into action in the new soil, or forcing next season will be quite out of the question.

We have given the Lady Downes and Muscat vinery borders inside, a good soaking of water, and which in the case of the latter will last for a long time, as we shall mulch the border with straw, to prevent evaporation, and also help to do away with frequent dampings, which is necessary if good colour is desired. Let the Vineries now be all freely ventilated, keeping them open until quite late in the evening: no good purpose can now be secured by early closing, except in the front of the Muscat house. If by any means, as is frequently the case, spiders infest the clusters of fruit, they may be readily dislodged by a light fumigation of an evening, the man employed in the operation moving about the house, and killing them as they lower themselves towards the borders; a second application generally clears them out.

THE KITCHEN GARDEN.

Take a final look through the different squares of winter Greens, removing any that may have grown club-hearted or blind, and re-plant from those in the seed-beds. This is necessary, particularly with some kinds of Cauliflowers, which, in a dry season, are very disappointing in this respect. The ground which has been occupied by the seed-beds should then be cleared, a dressing of any thoroughly decomposed manure be given, and be dug ready for the sowing of winter Spinach, or pricking-out of Lettuce or Endive. The ground must also be prepared, if not already done, for a sowing of Lettuce, Onions, Cauliflower, and Cabbage; it is next to useless to sow at this season on recently-dug ground. We are making use of a warm border from which early Potatos were dug, and which is in good condition.

Shallots were lifted as advised, and are now quite ready for storing: they are a good sound lot. Garlic should be treated in the same way, but keeps better if bunched and hung up in some airy loft. Keep the hoe well at work among all crops, so as to ensure a loose surface and the destruction of any small weeds. Scarlet Runners will be benefitted by a liberal mulching and watering if the weather continues hot and dry. The last sowing of Turnips will shortly be ready for singling; they are a good plant, the stormy weather greatly assisting in the production of a good plant.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Orchid Grower's Calendar.—Many of the deciduous Dendrobes will now be finishing up their growth, and each in their turn, as they show that the growths are fully made up and hardened to the point, should be removed to their resting quarters. Pleiones, too, which have been briskly grown, will now, by the decay of the tips of the leaves, indicate that their resting time has arrived, and they should be put into drier and airier quarters at once, even although the pseudo-bulbs do not seem quite finished, as they will increase in size while the leaves are falling if they have a little water given them now and then.

It is better, where convenient, to assign a cool, airy, light house solely for the resting plants which require drying off, as they can be much better attended to when together, and a little water given to any requiring it to prevent shrivelling, which is always hurtful. Lælias and Cattleyas want well ventilating and light shading, in order to ensure a good well-ripened growth, to pass over the winter. Calanthes of the Veitchii section should now be briskly pushed on in a warm shady house where a little weak liquid manure should be given them until the bulbs are at their largest and the foliage begins to turn. Cœlogyne cristata and its

varieties now require a plentiful supply of water, indeed, this plant frequently gets much less water than it should, and hence the very shrivelled condition into which it often gets after flowering and until the growing time comes round again. This is strictly an evergreen Orchid, and its old roots are active even when the growths are dormant, and they demand a fair supply of water to keep the plant plump.

With regard to the management of Dendrobes and other plants while at rest, it should be said that the drying off is very favourable to the increase of insects, and the plants require watching and cleaning, even although the foliage is soon to fall, otherwise a stock of insect pests will be provided which will cause mischief and trouble afterwards.

The Temperatures for August should be :—Warm or East Indian House, 75° to 85° by day, 70° at night : Cattleya or intermediate house, 70° to 80° by day ; 65° at night ; cool or Odontoglossum house, 60° to 70° by day, 55° at night.—*James O'Brien.*

HORTICULTURAL SOCIETIES.

The Carnation and Picotee Union, Oxford.—*Aug. 3rd.*—Those of us who were privileged to be present at the meeting of the above on the 3rd inst., experienced another most enjoyable day in the company of not a few of the leading raisers and cultivators of these popular flowers. The weather was beautifully fine, the number of flowers competing large, so was the number of exhibitors, these being about twenty-five in all, a number, as Mr. E. S. Dodwell stated at the luncheon, "almost unprecedented" in a gathering of this character. It was pleasant to see so many of the midland and northern growers rallying to the support of the father of the Carnation and Picotee Union ; and another remarkable feature, was the marvellous quality of bloom which characterised the show. Actually, there were few weak flowers, and the task of the judges was by no means a light one. As last year, the competing flowers were arranged under a tent in Mr. Dodwell's garden : in addition, all his frames and houses were full of blooming plants, and they over-flowered on to the sides of the walks. While in the open ground, hundreds of seedlings were extremely gay.

Judging commenced soon after noon, and the awards of the judges were as follows :—Carnations, twelve dissimilar varieties, seven prizes being offered, and six collections competing ; First, Mr. J. Lakin, Temple Cowley, Oxford, with scarlet bizarres, Robert Lord and Arthur Medhurst ; crimson bizarres, Master Fred and Rifleman ; purple flaked, Sarah Payne, Squire Meynell, George Melville, and Squire Whitbourn ; scarlet flaked, Tom Chapman and John Ball ; red flaked, Mrs. Symonds and Rob Roy ; second, Mr. W. L. Walker, Bulmershe Road, Reading, with scarlet bizarres George, Charles Phillips, and Arthur Medhurst ; crimson bizarre, John Laing ; purple-pink bizarres, Sarah Payne and Harrison Weir ; purple flaked, Henry Startup ; scarlet flaked, Henry Cannell and John Whitham ; red flaked, Tim Bobbin and Biddy Malone ; third, Mr. M. Rowan, Manor Street, Chelsea ; fourth, Mr. William Slack, Queen Street, Chesterfield ; fifth, Mr. George Chaundry, Marston Lane, Oxford ; sixth, Mr. W. Wardill, Park Street West, Luton. In the class for six blooms of Carnations, dissimilar, there were twelve competitors, and eight prizes were awarded as follows :—First, Mr. Thomas Bower, Horton Green, Bradford, with crimson bizarres, Dr. Symonds, Rifleman, and J. D. Hextall ; pink flaked, Florence Nightingale ; scarlet flaked, John Ball ; red flaked, Mr. Symonds ; second, Mr. J. S. Hedderly, Swinton, Nottingham, with scarlet bizarres, Mars and Admiral Curzon ; crimson bizarres, Harrison Weir ; pink flaked, Mayor of Nottingham ; scarlet flaked, Sportsman ; and pink flaked, Sybil ; third, Mr. Robert Lord, Hole Bottom, Todmorden ; fourth, Mr. G. Wynne, gardener to Huson Morris, Esq., The Nest, Hayes, Kent ; fifth, Mr. C. Phillips, Earley, Reading ; sixth, Mr. Thomas Anstiss, Brill ; seventh, Mr. T. E. Henwood, Earley, Reading ; eighth, Mr. S. Brown, Crompton Road, Handsworth, Birmingham.

Then followed classes for single blooms of Carnations, five prizes being awarded in each, as follows :—Scarlet bizarres, first Mr. C. Phillips, with Robert Lord ; second, Mr. J. Lakin ; and third, Mr. M. Rowan, with Fred ; fourth, Mr. T. E. Henwood with George ; fifth, Mr. C. Phillips, with Charles Phillips. Crimson bizarres : First Mr. J. Lakin, with Rifleman ; second, Mr. A. R. Brown, Compton Road, Handsworth, Birmingham, with John Laing ; third Mr. Rowan, with Master Fred ; fourth, Mr. J. Lakin, with Samuel Barlow ; fifth, Mr. S. Brown, with Diamond Seedling. Purple-pink bizarres : First and second, Mr. C. Phillips, with Faust ; third and fourth, Mr. H. Startup, with Master Fred and Samuel Barlow ; fifth Mr. W. L. Walker, with Master Fred. Purple flake : First, Mr. Walker, with Henry Startup ; second, Mr. T. E. Henwood, with Sarah Payne ; third and fourth, Mr. Robert Lord, with James Douglas and Dr. Foster ; fifth, Mr. Hedderly, with Mayor of Nottingham. Scarlet flakes ; First, second, third and fourth, Mr. Hedderly, with Sportsman ; fifth, Mr. J. Lakin, with Tom Lord. Rose flakes : First, Mr. J. Lakin, with Mrs. Symonds ; second, Mr. Hedderly, with Sybil ; third, Mr. Rowan, with Dolly Varden ; fourth, Mr. A. R. Brown, with Miss Burton ; fifth, Mr. J. Lakin, with Rob Roy. In all these classes a very large number of flowers competed.

In the class for twelve Picotees, dissimilar, four collections competed, Mr. J. Laken being placed first with red edges : Brunette, Mrs. Dodwell, and William Summers ; purple edges : Purple Prince, Mrs. Niven, Jessie, and Nymph ; rose edges : Constance Heron, Royal Visit, Mrs. Payne, Edith Dombrain, and Favourite (Liddington). Second, Mr. R. Lord, with red edges : Master Norman, Emily, Winnifred Esther ; purple edges : Zerlina, and Clara Penson ; rose edges : Lady Holmesdale, Miss Norman, Royal Visit, and Mrs. Rudd. Third, Mr. M. Rowan ; fourth, Mr. Geo. Chaundry. In the class for six varieties there were fifteen competitors, and the competition was exceedingly keen. Mr. John Payne, Woodstock Cottage, St. Paul's, Oxford, was first, with red edges : Muriel and John Smith ; purple edges : Zerlina and Thomas William ; rose edges : Royal Visit and Mrs. Payne. Second, Mr. T. E. Henwood, with red edges : Brunette and Clara ; purple edges : Purple Prince and Jessie ; rose edges : Royal Visit and Mr. Rudd. Third, Mr. C. Phillips ; fourth, Mr. J. S. Hedderly ; fifth, no name ; sixth, Mr. Thos. Anstiss, Brill, Bucks. ; seventh, Mr. S. Brown ; eighth, no name.

In the classes for single blooms of Picotees there were a great many flowers also, and in the class for heavy reds, Mr. T. Anstiss was first and second with Mary D. Austiss ; third, Mr. Phillips, with John Smith ; fourth, Mr. Henwood, with Mrs. Dodwell ; fifth, Mr. C. Phillips, with Brunette. Light reds : first, Mr. Phillips, with Thomas William ; second, Mr. Lakin, with Mrs. Gordon ; third, Mr. Henwood ; fourth, Mr. Startup, with Thomas William ; and fifth, Mr. C. Phillips, with the same. Heavy purple : first, Mr. Walker, with Purple Prince ; second, Mr. Rowan, with Alliance ; third, Mr. Startup, with Purple Prince ; fourth, Mr. Phillips, with Zerlina ; fifth, Mr. Walker, with Purple Prince. Light purple : first and second, Mr. Hedderly ; third and fourth, Mr. Thos. Anstiss, with Clara Penson ; fifth, Mr. Walker, with Mary. Heavy rose : first, second, and third, Mr. Rowan, with Mrs. Payne ; fourth, Mr. Henwood, with Edith Dombrain ; fifth, Mr. J. Lakin, with Elise. Light rose : first, second, third, and fourth, Mr. Rowan, with Nellie (Rudd), all beautiful blooms ; fifth, Mr. T. Anstiss, with Favourite. Yellow grounds : first, Mr. Hedderly, with Edith ; second, Mr. Lakin, with Midas ; third, Mr. Phillips ; and fourth, Mr. Henwood, with Florence ; fifth, Pride of Penshurst, no exhibitor's name being given.

Selfs, Fancies and Yellow Grounds were so numerously shown in twelves and sixes, that they made a very fine display, and so generally good were all the flowers, that they gave the judges a good deal of trouble. Mr. W. Read, gardener to A. H. Dodwell, Esq., Stanley Road, Oxford, was first, with Huson Morris, Mrs. Mostyn Owen, Eurydice, Janera, William Bacon, Mrs. Morris, Florence and some very fine seedlings. Equal first, Mr. J. Lakin, with Princess Teck, Mrs. W. Musgrave, Janera, Sir B. Seymour, Florence, Emma Lakin, Polly Clark, Black Knight, Pride of Penshurst and seedlings ; third, Mr. Huson Morris ; fourth, no name ; fifth, Mr. T. Anstiss ; sixth, Mr. George Chaundry ; seventh, Mr. H. Hovel, gardener to G. H. Morrell. Esq., Headington Hill, Oxford. In the class for six varieties, Mr. C. Phillips was first, with Mrs. Dodwell, Huson Morris, Muriel, Mark Antony, Cleopatra and Florence ; second, Mr. R. Lord, with George Fawcett, Stanley Hudson, Huntsman and three seedlings ; third, Mr. Walker ; fourth, W. Gawn, Esq., Iffley Road, Oxford ; fifth, Mr. Hedderly ; sixth, no name ; seventh, Mr. Henwood ; eigth, Mr. Slack.

The best specimen bloom of Fancy (all bicoloured flowers being regarded as Fancies) was George Fawcett, from Mr. R. Lord ; second Mr. Lakin, with Huson Morris ; third, Mr. T. Anstiss, with Mrs. Pratt ; fourth, Mr. Lakin, with seedling ; fifth, Mr. T. Austiss, with Delicata. The best Self was Huntsman, from Mr. Lord ; second, Mr. Walker, with Cleopatra ; third, Mr. T. Anstiss, with seedling ; fourth, Mr. Lakin, with seedling ; fifth, Mr. Henwood, with Cleopatra.

The Premier Carnation was S. B. Robert Lord, shown by Mr. J. Lakin. The Premier Picotee, light rose edge, Liddington's Favourite, shown by Mr. J. Lakin. The Premier Fancy or Self, Sir Toby Belch, crimson, flaked with maroon, shown by Mr. R. Lord.

The Royal Southampton Horticultural.—The twenty-fourth summer show of this society was held on July 31st and August 2nd in the society's grounds, Westwood Park. Southampton was *en fête* on Saturday, owing to the visit of Princess Beatrice and Prince Henry of Battenberg, who had consented to open the show. The weather was gloriously fine, and the principal streets were gay with bunting, especially along the route to the park, where their Royal Highnesses were received by the Earl of Carnarvon and Lord Montagu, the president of the society. After declaring the exhibition open, they were conducted round the exhibition tent, and much admired the various exhibits. Princess Beatrice also distributed the prizes of the Hants Beekeepers' Association, of which Her Royal Highness is president.

The show was splendidly arranged, and the day being fine, there was a large attendance of visitors. Westwood Park is a splendid place for an exhibition of this description, and the arrangements reflected great credit upon Major General Lacy, the chairman ; Captain Gibb, the vice-chairman ; and Mr. Fuidge, the energetic secretary, who were ably assisted by a good working committee. The spacious double tent was a grand sight, and we have seldom seen a better lot of plants than were here exhibited. Flowering and foliage plants were exceedingly fine, as were also the groups arranged for effect.

Plants.—Seldom has a finer lot of plants been seen than those exhibited in the following classes :—In Class 1, for twelve stove and greenhouse plants, six foliage and six flowering, open, the first prize, £15, was awarded to B. W. Cleave, Esq., of Crediton (gardener, Mr. Lock), who showed Kentia Belmoreana, Cycas revoluta, Latania borbonica, Encephalartos villosa, Croton Warnerii, Erica ampullacea and Thompsoni, Dipladenia amabilis, Statice Holfordi, Ixora coccinea, and Anthurium Scherzerianum. Mr. Cypher, Cheltenham, was a very close second, the judges having some difficulty in deciding the point ; but Mr. Lock's foliage plants had the weight in his favour. Mr. Cypher's plants were Statice Gilbertii, two good Ericas, Ixora amabilis, Stephanotis floribunda, Phænocoma prolifera, very fine, 6 ft. through, and well flowered ; Cycas circinale, Latania borbonica, Croton Johannis and majesticus, and Kentia Fosteriana and australis ; third, Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, who showed in his well-known style. In the corresponding class for nurserymen, Mr. Mould, Pewsey, came in first, and Mr. James second. These collections were good, but not so fine as in the open classes. For twelve plants, six foliage and six flowering, open to gardeners only, Mr. Wills, gardener to Mrs. Pearce, was first with a group consisting of a good Statice, Phænocoma, Bougainvillea, Clerodendron, Erica, and Stephanotis, Croton Queen Victoria, Verschaffeltia splendida, Cycas revoluta, Latania borbonica, Kentia Fosteriana, and Areca lutescens, a good well-grown lot of plants. Second, the Hon. Mrs. York (gardener, Mr. Amys), who showed well ; and third, Mr. Blandford, gardener to Mrs. Hazelfoot. For nine miscellaneous plants, three to be in flower, Mr. Molyneaux, gardener to W. H. Myers, Esq., Swanmore Park, came in first, showing Trachelium cœruleum, a good old plant too much neglected, about 3 ft. through, very fine and fresh ; Allamanda Hendersoni, Bougainvillea glabra, Areca lutescens, Seaforthia, Latania borbonica, Alocasia macrorhiza, Croton Queen Victoria and variegatus, a good, creditable lot. Second, Col. H. Crichton, Netley (gardener, Mr. Reynolds). There were seven competitors with groups of miscellaneous plants arranged for effect, and they made a fine display, but in most cases were far too heavy. It is a great pity that this should far too often be the case, as many good plants are lost by overcrowding, and one would think from previous advice that has been given to many of the old competitors that they would at least try to remedy their system of blocking together. The first prize was awarded to Mr. James, who had a decent arrangement containing many Orchids ; second, Mr. J. C. H. Rawson ; third, Col. H. Crichton ; fourth, Mr. Wills, gardener to Mrs. Pearce ; fifth, the Hon. Mrs. York. These groups made a very fine display, and were a great feature in the exhibition.

Orchids.—For a collection of Orchids Mr. Osman, gardener to H. J. Buchan, Esq., was first, showing a neat lot of plants, including many novelties, such as Cattleya crispa, C. Schofieldiana, very fine, C. Gaskelliana, C. Eldorado ; Dendrobium Dearei ; Odontoglossums vexillarium, vitellinum, Uro Skinneri, Hastilabium ; Oncidium Lanceanum with over 50 flowers. The best single specimen Orchid came from Mr. Budd, gardener to F. G. Dalgety, Esq., a good Æride quinquevulnerum ; second, Mr. Osman, with Calanthe verratifolia, very fine ; and third, Mr. Blandford, who showed Dendrobium moschatum, a superb plant.

Begonias were shown fairly well as also were Gloxinias, Coleus, Fuchsias, and Celosias ; these last would look much better if not so formally staked. Mignonette was good as also were Cockscombs. Six Ferns : First, Mr. Wills, who showed a good half-dozen ; second, B. W. Cleave, Esq. ; third, Hon. Mrs. York ; the whole lot were very good. For four Ferns, Col. H. Crichton was first. Hardy Ferns were well to the fore, the first prize going to Mr. Wills for a good distinct half-dozen. For a single specimen Erica : First, Mr. Cypher, with a good fresh E. retorta major, Mr. Amys was first for a single specimen flowering plant, with a good Allamanda Hendersoni, well flowered. Pelargoniums were shown in quantity, first prize going to Mr. J. C. H. Ramson. The amateurs showed well in their various classes, many well grown plants being exhibited, and reflecting great credit upon the various contributors.

Table Decorations and Cut Flowers.—For table decorations, in the open class, Mr. Cypher was a very

easy first, showing in his well-known style; second, Mr. Trowlands. For table arranged by ladies, first, Miss Flight, who showed very good taste in her arrangement; second, Miss Stratton. For the best arranged epergne, Mr. Cypher was again first. For a basket of flowers, first, Miss Flight. For a basket of wild flowers and grasses the entries were very numerous, and after some difficulty in judging, Miss Hobley carried off the palm. For ball and wedding bouquets, Mr. Cypher was easily first in both classes, and Mr. Rodgers second in both.

Roses were poor, nothing near so good as those lately seen in the north. The first prize for twenty-four went to Messrs. Keynes, Williams & Co.; second, F. W. Flight, Esq.; third, Dr. Leach; fourth, Mr. Warden, gardener to Sir F. Bathurst, Clarendon Park, Salisbury. For twelve blooms, first, Mr. Warden; second, F. W. Flight, Esq. For twelve bunches of cut flowers, a good lot from Mr. Budd, the Gardens, Lockerby Hall, was first; second, Mr. Evans, Milchet Court; third, Mr. James. For twelve bunches hardy flowers, first, Mr. Molyneau, for a grand lot well put up. Picotees, Zonal Pelargoniums, and Dahlias were fairly well exhibited, and with the last named, Messrs. Keynes, Williams & Co., Salisbury, carried off the first prize.

Fruit.—Seldom have we seen better fruit here. The Grapes were very fine and highly finished, the entries numerous, and the competition very keen; this making the leading classes very interesting. For a collection of eight distinct varieties, Mr. Ward, gardener to the Earl of Radnor, maintained his old position as first; second, Mr. Evans, gardener to Lady Louisa Ashburton. For three bunches of black Grapes, Mr. Pratt, The Gardens, Longleat, was first with well-coloured, highly finished bunches; second, Mr. Molyneaux; third, Mr. Warden. For three bunches of white Grapes, Mr. Pratt was again first; second, Mr. Budd; third, Mr. Wildsmith, gardener to Lord Eversley. For two bunches of black Grapes, first, J. Wylie, Esq.; second, C. M. Shiply, Esq.; third, J. Baily, Esq. For two bunches of white, first, J. Baily, Esq.; second, J. Earl, Esq.; third, Dr. Norton. For a single bunch of black, good Hamburghs from J. Wylie, Esq. grained the first prize; while the first for white went to Mr. Budd. Pines were poor, but of Melons, both scarlet and green flesh were well shown. In the scarlet class, Mr. Drover was first, while Mr. Earl was first for green. Outdoor fruits were well shown; for a collection of six dishes of hardy fruits, Mr. Budd was first with a good lot; second, J. R. Wigram, Esq.; third, Mr. J. Earl.

Vegetables.—These were very fine indeed, the collections being good and well put up. Potatos and Onions were very fine indeed. For the collection of twelve distinct varieties, R. R. Wynham, Esq., was first; second, the Earl of Normanton; third, Mr. J. Earl; while the first for nine varieties went to Mr. Molyneaux, and the first for amateurs to Mr. H. Guillam. The whole of these were A 1, seldom do we see a finer lot so well staged.

Cottagers.—Great credit is due to the exhibitors in this class, both for plants, fruit, and vegetables; some very creditable things were exhibited, showing that when inducements are offered, it encourages these to go into well, which the various exhibits testify some good fruit and vegetables when exhibited.

Miscellaneous.—Messrs. John Laing & Co., Forest Hill, showed blooms of Hollyhock, and of their world renowned Begonias, which were greatly admired. Messrs. Keynes, Williams, & Co., contributed boxes of Dahlias, Verbenas, and Gladiolus, not for competition; and Mr. W. H. Rodger's, of Southampton, showed a fine collection of hardy ornamental trees and shrubs well arranged. Mr. Webber, Tunbridge, showed a fine bouquet of Carnation Pride of Penshurst, the best yellow, which was greatly admired by the ladies. It is gratifying to be able to state that the decision of the judges gave the greatest satisfaction, although in many instances it required very close scrutiny to decide upon the most meritorious points in several classes.

Preston and District.—The promoters of the Preston and District Cottagers' and Amateurs' Floral Society are to be congratulated upon the eminent success of their third annual exhibition held on Saturday and Monday, at the Pleasure Gardens, Preston. In connection with the inauguration of the society, a somewhat singular incident happened, which, perhaps, has tended to its progress more than anything else. The borough, although eminently situated in many respects, is notable as having one of the highest, if not the highest, death rate of the large towns, and in spite of the exertions of the sanitary committee it fails to be materially reduced. Many experiments have been tried in attempts to find out the cause of the existing lamentable state of things. One of these was an effort to remove greenhouses from backyards in order to afford more air space. The passing of a resolution to this effect by the Town Council raised quite a storm, and at the following November election one or more members lost their seats. Those interested in the culture of plants and flowers in opposing the carrying into effect of the determination of the authority, argued that the pursuit was not only a healthful one, but it acted as a counter-action to the public-house, as well as fostered habits of thrift, tended to cleanliness, and was in every respect a thoroughly interesting, beneficial and useful occupation. The opposition the society thus experienced in its first year has proved of immense benefit, for in 1884 the exhibits did not number 300, in 1885 they were less than 400, whilst on Saturday the total was 510. Not only were there more plants, &c., staged, but the exhibitors had increased by nine. The proceedings are managed entirely by working men, all of whom are deserving of the highest praise for the success hitherto achieved in a matter outside the duties upon which their livelihood depends.

An inspection of the show proved conclusively, that the exhibitors had a wonderful knowledge with regard to the culture of plants, flowers, fruit, and vegetables, the respective departments containing specimens worthy of a place in the conservatories of the gentry of the neighbourhood. It was astonishing in going the rounds to come across those whose living is earned by the cultivation of nature's choicest products, inspecting and passing the highest eulogiums upon the result of the efforts of those who labour under many disadvantages. Some of the plants staged proved a surprise to everybody, considering the circumstances under which they are grown, for they were in a thoroughly healthy condition, well developed, and rich in bloom. One exhibitor, who carried off several prizes, has as his forcing house and "conservatory" combined, a sort of old stable. The divisions exclusively for those who have glass frames or greenhouses in their backyards, were well represented. The plants in pots were in numerous instances, marvels of success. To look at some of them it seemed scarcely credible that they were raised in the way named. There were several exceptionally good specimen Fuchsias; and Mr. James Ashworth, who carried off the first prize with two zonal Pelargoniums, is to be complimented upon the general excellence of his plants. The two Begonias that came in first were out of flower, but the foliage was satisfactory; they belonged to William Morris. There were nice collections of Cockscombs, British Ferns, and Exotic Ferns. The competition of Musks in bloom, was strong, and the prize-takers, both Common and Harrison, were of great merit. In each class J. Ashworth secured the chief position, and Richard Magmon, second. The Lilium staged by John Woodruffe attracted much attention, it being a well-developed plant in full bloom. The best specimen plant consisted of a Begonia of splendid foliage, the cultivation of William Morris. For the collection of three miscellaneous plants, Charles Parker received the principal award, with a nice Ixora Williamsii, Adiantum cuneatum, and Anthurium crystallinum. There were several groups of plants staged for effect, occupying not more than 20 ft. square, and those belonging to R. Magmon, looked exceedingly pretty, the background being made up of a tall flower-bearing Fuchsia, whilst in front were pots of Isolepsis gracilis, &c. The window-plant department contained some remarkable specimens, Pelargoniums, Petunias, and Begonias, being of a very high order of merit. With reference to cut-flowers, Roses came out well considering the inclement weather recently experienced. Petunia blooms, single and double, were exceptionally good; those shown by John Grimshaw being such, that if placed in competition with those produced by professional gardeners would have secured a high position. They were closely followed by examples sent by John Woodruffe. There was a keen contest in bouquets of home-grown flowers. For First Prize for bouquets, wild flowers for children under thirteen years, to be made in the Pavilion, there were only two entries. They, however, were praiseworthily arranged, especially considering that they were made up in the presence of the committee and a large number of visitors. The premiums were secured respectively by Ann S. Colleral, aged ten, and M. A. Magmon, nine.

Turning to the divisions open to amateurs, it was at once evident that within the district are those capable of bringing to great perfection some of the choicest plants, flowers, fruits, and vegetables. Passing from Roses, three zonal Pelargoniums shone out conspicuously, and they were about the best plants in the exhibition. They were well developed, the flowers stood well up from the foliage, and they were uncommonly clean. They belonged to Thos. Shaples, and naturally came in first. Those succeeding them, owned by James Sanderson, were much smaller. For the award for three Petunias, the prizetakers were good plants. James Cumpstey, of Penwortham, staged three splendid Fuchsias, they being admirably grown and full of flowers. Jas. Sanderson came second with far less plants, whilst John Jenkinson followed with specimens neither so well developed nor bearing so many blooms. John Knight entered three beautiful and distinctly marked Coleus, with which he carried off the first prize. Those coming next, belonging to Thos. Sharples, were larger but not so distinct in their marking. The Begonias included some that were well grown, the foliage and bloom being excellent. John Grimshaw's exotic Ferns showed up well; and three Balsams sent by Jas. Cumpstey were of exceptional quality. The Lobelias of Thos. Whitwell were good plants and nicely in flower. The group of plants, arranged for effect on not more than 40 square ft., owned by the same exhibitor, deservedly carried off the chief premium; those occupying not more than 30 ft., belonging to John Duncan, came first; and those on not more than 20 ft., sent by John Magmon, gained the highest award.

The departments for fruit and vegetables were fairly well represented. There were some nice plates of Gooseberries and Currants. The principal prizetakers were Jas. Cumpstey, Penwortham; Richd. Bamford, Preston; and Peter Barron, Leyland. So far as vegetables were concerned, Potatos, Cabbages, Cucumbers, and Celery stood to the fore, and in these classes also the majority of the awards were secured by Messrs. Cumpstey, Bamford, and Barron. The judges, who performed their duties with great satisfaction, were Mr. Wm. Swan, Howick House Gardens, and Mr. John Newton, Longton.

At the opening ceremony there was a large attendance.

Mr. Tomlinson, M.P., who was warmly received, expressed the gratification he experienced in having the privilege of declaring the show open. He referred in eulogistic terms to the excellence of the various exhibits, and said the show throughout was a surprisingly beautiful one. He hoped the awards of the judges would give satisfaction, certainly looking at the display from a purely amateur point of view, and as an admirer of beautiful things in general and plants in particular, he thought the prizes had been rightly distributed. He could not but notice the Liliums; in fact, at all the shows he had visited, in London and elsewhere, there seemed to be a spontaneous movement in the culture of that exceedingly pretty plant. Beside the splendid plants he observed, there were some very nice cut flowers. He had been greatly pleased with the groups of plants, in connection with which, among other elements, there was the qualification of cleanliness and neatness in the places where they were grown. These characteristics were most important; pests and insects were in every house, and it was the duty of cultivators to eradicate these to the greatest possible extent. In this they had succeeded. A society that promoted such a healthful and interesting pursuit was worthy of recognition, and therefore he was glad theirs was progressing. From what he saw they seemed already to have attained a creditable position, and he was sure those who had grown plants for that exhibition would come again to secure some of the prizes; he congratulated those who had received prizes. Displays like that clearly showed that floral and horticultural success was within the reach of the most humble, they demonstrated that it did not require very large space to bring about creditable and beautiful results, but rather care, attention and knowledge of plant life. He congratulated the officers of the society on the success attending their efforts.

Wilts Horticultural.—*July 29th.*—The hon. secretary (Mr. W. H. Williams) and the influential committee of management, composed of some of the leading citizens of the Wiltshire capital, and having the mayor of the city (W. M. Hammick, Esq.) as chairman, are to be congratulated upon the excellent show of plants, fruits, flowers, and vegetables, which was held by permission of the Lord Bishop of the diocese, in the palace grounds, Salisbury, on the above date. It would be hard to find such a suitable place in the vicinity of a populous town, and in the midst of beautiful trees, spreading shrubs, and flower beds, resplendent with a variety of well arranged colours, and the strains of enchanting music—it would, we repeat, be hard to find, not to say secure, a more suitable place for the holding of such an exhibition of grand plants, &c., as that which it is our pleasure to chronicle to-day, though consequent upon the weather in the afternoon having been somewhat showery, the takings at the gates were slightly less than they were last year. The plants of Messrs. Lock, Cypher, Rann, and Mould, were in excellent condition, and made quite a show in themselves. Messrs. Iggulden, Ward, Pratt, Warden, Evans, and Budd were the chief exhibitors of fruit.

Two collections of twelve stove and greenhouse flowering plants, distinct, were staged, and very meritorious collections they were too Mr. Cypher, Cheltenham was first, and Mr. Rann, Handcross Park, Crawley, a good second. Mr. Cypher's collection contained a grand plant of Phænocoma prolifera Barnesii 5 ft. through, and profusely flowered; Ixora amabilis, bright and grandly flowered; I. Pilgrimii, having large trusses of bright flowers; Allamanda nobilis; Stephanotis floribunda, well flowered; Erica æmula, E. Irbyana, E. retorta major, Allamanda Hendersoni, &c. Mr. Rann's best plants were Erica Williamsii, large and superbly flowered; Statice Gilbertii, and Allamanda Wardleana.

In the class for a like number of variegated and fine foliaged stove and greenhouse plants there were four contestants, and the collections staged were very close to each other in point of merit. First, Mr. Lock, gardener to W. B. Cleave, Esq., Newcombe House, Crediton, showing a grand lot of plants, his best being Gleichenia speluncæ, 12 ft. over; Croton Warrenii, a truly grand specimen; C. Johannis, C. Disraelii, a very good plant; C. Williamsi, all highly coloured; Dasylirion acrostrichum, Cycas revoluta, and a grand plant of Cocos Weddeliana. Equal second, Messrs. Cypher and Rann, both showing in grand form; second, Mr. Cypher; third, Mr. Rann. Mr. Mould, Pewsey, was awarded an extra prize.

In the class for six stove and greenhouse flowering plants there were two entries, Messrs. Lock & Monld, who took first and second prizes in that order with well-flowered plants; and Mr. Lock was again first for six fine foliage plants; and Mr. F. Smith, gardener to the Lord Bishop of Salisbury, second.

In the class for nine exotic Ferns and Mosses, Messrs. Lock & Smith occupied the same positions, and Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, was first for six pots of Lilinms, showing well-flowered plants. Dr. F. W. Coates, Salisbnry, who is a keen horticnlturist, was a capital first for six plants of tuberous-rooted Begonias, showing fresh well-flowered plants. Mr. E. Thornton, gardener to Mrs. Greenwood, Hornham Cliff, Salisbury, was second. Mr. J. Wilkens, gardener to Lady Theodore Guest, Inwood House, Shaftesbury, had the best nine plants of Gloxinias, Mr. Lock the second best, and Dr. Coates the third best, all showing well.

Mr. J. Curray, gardener to Col. Pepper, Elm Grove, Salisbnry, was first in the amateurs class for six stove and greenhonse plants, distinct; and Mr. Lovibond, St. Anne's Street, Salisbury, was a good seeond, both showing creditably grown plants. Mr. J. Curray was again first for a like nnmber of Ferns; Mr. Gregory, The Mill, Salisbnry, being a good secoud; and Mr. Lovibond, a good third. Fonr lots of six Coleus, distinct, were staged; and the class for six zonal Pelargoniums, distinct, was fairly well contested.

Fruit.—There were three eollcctions of good fruit staged, the "tug of war" being between Mr. William Iggulden, gardener, Marston House, Frome, and Mr. W. H. Ward—the first prize went to Mr. Iggulden for a good collection, including Black Hamburgh and Foster's Seedling Grapes, a neat Queeu Pine, a good frnit of Blenheim Orange Melon, well coloured Grosse Mignonne Peaches, and large Victoria Nectarines, Brown Turkey Figs, and Moorpark Apricots; Mr. Ward's best dishes were Black Hambnrgh and Mnscat of Alexandria Grapes, Pine, Apricots, his weakest dish being River's Orange Nectarines; third, Mr. J. Evans, gardener to Lady Ashburton, Melchet Court, Romsey. Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, was first out of seven lots of three bunches of Muscats, showing large and fairly well coloured bunches; second, Mr. J. Budd, gardener to F. G. Dalgety, Esq., Lockerly Hall, Romsey; third, Mr. Thomas Northeast, gardener to Mrs. Torrencc, Norton House, Heytesbury. Mr. Pratt was a good first in the Black Hamburgh class, showing three large well-coloured bunches; and Mr. Charles Warden, gardener to Sir F. H. Bathurst, Bart, Clarendon Park, Salisbnry, was a good second, and Mr. Iggulden a good third. Mr. H. W. Ward had the best three bunches of "any other white," and Mr. Warden the second best, both showing well-ripened bunches of Buckland Sweetwater, Mr. Bndd being third, with large but rather green bunches of Mrs. Pearson. The last-named exhibitor was first with "any other black Grape than Hamburgh;" Mr. Warden seeond, both showing fairly good Madresfield Court; Mr. Ward third, with neat bunehes of Black Prince. Mr. Ward had the best Pine Apple, and Mr. Evans the second best, both showing medium-sized Qneens. Mr. Pratt and Mr. Iggnlden secnred the prizes for Melons, in the order named, with well-flavonred Longleat Perfcction; and out of several lots of Peaches, Mr. Evans secnred first place with large highly coloured fruits of Royal George. Mr. Budd was a good first for Nectarines, showing large grandly coloured frnits of Elruge. Mr. H. G. Gregory and Mr. John Curry, among amateurs, took first and second prize in that order, for a collectiou of six kinds of frnits, both showing well. Mr. Lovibond and Mr. Gregory took first and second prize, in the order named, for two bnnches of black Grapes, showing very creditable produce; and in the corresponding class for a like nnmber of bnnches of white Grapes, the prizes went to Mr. Gregory and Mr. Curry, in that order. Mr. Gregory had the best Melon, and Mr. E. L. Browu the best dish of Peaches.

There was only one open class provided iu the schedule for vegetables, and that for a collection of twelve kinds, which drew forth a good competition, though the awards in the case of the first and second prize collections, in the opinions of many gardeners present, should have been reversed. First, Mr. T. Wilkens; second, Mr. Haines, gardener to the Earl of Radnor, Coleshill Honse, Highworth. These two collections, as hinted above, were very close in point of merit, Mr. Haines being weak in one dish (Beet), whilst his opponent was very weak in Artichokes and Cucnmbers. Mr. A Miller, gardener to W. H. Long, Esq., Rood Ashton Park, Trowbridge, was a good third. Among amatenrs, Messrs. John Rockett and John Curry were respectively first and second for a collection of nine kinds of vegetables, both showing good prodnce, and Mr. T. S. Fulcher, was the only exhibitor of a collection of six kinds, and he was awarded first prize.

Roses were shown extensively, and well for the season. T. W. Girdlestone, Esq., Sunningdale, Berks, was first for thirty-six single trnsses, distinct varieties; Mr. George Campbell, gardener to Dr. Budd, Batb, a very close second; and Mr. H. J. Gibbs, third. For twenty-four trebles, distinct varieties, Mr. G. Campbell and T. W. Girdlestone, Esq., exchanged places, Mr. Charles Warden being a very good third.

For twenty-fonr single trnsses, Mr. Marlow, gardener to Mrs. Pigott, Chalderton House, Salisbury, was a capital first, showing an even fresh lot of blooms; Mr. F. W. Flight, Twyford, Winchester, a good second; and Mr. Fred Smith, Palace Gardens, Salisbury, a capital third, all showing well. Mr. Evans had the best stand of twelve spikes of Gladiolns, and Mr. Budd had the best eighteen bunches of flowers. Among amateurs residing within twelve miles of Salisbnry, Mr. H. J. Gibbs was a good first for eighteen distinct varieties of Roses; Mr. F. Hatch, Salisbury, second; and Captain Napier, Elm Grove, Salisbnry, third, all three showing well.

An arrangement of Roses and other cut flowers, and a variety of snitable decorative plants having a jet of water playing upon them, at the npper end of the tent in which the flowers and plants were arranged in the centre, and the fruits and vegetables on raised stages on either side, were very much admired and reflected great credit on the famons firm of Keynes Williams & Co., who set them up with such excellent taste. Stands of Roses and decorative plants, tastefnlly set up in the marquee containing the grand plants of Messrs. Lock, Cypher & Rann in the centre, and the cut flowers on the side stages also, were greatly admired, and redonnded to the credit of the firm of Messrs. Britton & Son, The Waterloo Nursery, Salisbury, by whom they were contribnted.

St. Peter's, Hammersmith and District Horticultural and Cottage Garden.—*July 29th.*—This is quite a young society, with its headquarters at St. Peter's School Room, in King Street, West Hammersmith, near to the Broadway. It commeuced last year with a small Chrysauthemnm show, and now it has gone on to a summer one. Not a large one by any means, but yet as a beginning quietly and carefully, with many hopes that it may grow into something of greater importance. The hon. sec. is Mr. F. W. Finch, Mnlberry Cottage, West End, Hammersmith, a capital worker; and several of the principal residents support the show. There is in conneetion with it a gardeners' mntual improvement society, that it is believed will prove a very nseful adjunct to the flower shows.

Mr. Davey, the master of the National School of St. Peter's, lives in the School Honse, at the entrance to the school-yard, and has done so for years. There is a strip of garden ground on either side, and it is remarkable what in the course of the nnmber of years Mr. Davey has resided there, he has got together in the way of hardy plants, and, as he observed, beginning with Scillas and Crocuses, and ending np with Chrysanthemums, he has something in flower all the year round, and quite a town garden too. He has a little greenhouse, and it is really surprising what he rears and grows there. He exhibited some tuberons-rooted Begonias raised from seed that does him the greatest credit.

Taking the schedule consecutively, the first class was for a brace of Cucnmbers, the leading prize being given by Mr. Dowell, Potter, West End, Hammersmith. This went to Mr. G. Lampard, gardener to W. T. Sich, Esq., Chiswick, with a good brace of Carter's Model; Mr. W. Stanton, gardener to H. Smith, Esq., Chiswick, being second. Then came a class for three Fuchsias, Mr. E. Worsfold, gardener to J. J. Mason, Esq., Albion House, St. Peter's Square, being first; and Mr. Lewis, Woodhouse, 43, St. Peter's Grove, Hammersmith, being second.

The best group of plants arranged for effect, came from Mr. G. Lampard; Mr. Stanton was second; and Mr. Worsfold, third. In the class for a collection of vegetables, six distinct sorts, Mr. Lampard was first, and Mr. Stanton was second. They were both remarkably good. All the foregoing classes were open to gardeners.

The following classes were for amatenrs:—Three window plants, first, Mr. Jas. Hillier, Carpenter's Arms, Hammersmith, who had Begonia Rex, and Ivy-leaf Pelargoninms, and a double pink zonal; second, Mr. W. Phillips, 24, Beavor Lane, Hammersmith. The next class was for a decorative plant, the first prize being two volumes of The Gardening World, given by Mr. Hillier; Mr. Farrow giving a volnme as a second prize. Mr. F. Nelson, 3, St. Peter's Road, Hammersmith, was first, and Mr. W. Phillips, second. Mr. Woodhouse had the best three Fuehsias; Mr. Phillips being second. Mr. Woodhouse had the best three Lycopodiums also; Mr. Nelson being second. The best dish of French Beans came from Mr. A. Jones, 23, St. Peter's Grove, Hammersmith; Mr. H. Wakeman, 28, Black Lion Lane, being second. Mr. W. Thomson was first for boiled Potatos; Mr. H. Wakeman being second. Mr. Davey, St. Peter's School House, had the best group of plants; Mr. Woodhouse second; and Mr. Nelson, third.

A special prize for twelve cut Roses, open to gardeners, was takeu by Mr. Stanton, who was the only exhibitor. Then there were open class prizes for six British Ferns, bnt some of questionable British origiu were shown. These prizes giveu by Dr. Good, bronght a remarkably good competition. Mr. Thos. Finch, Mulberry Cottage, West End, Hammersmith, being first; Mr. G. Lampard was made equal first also; the first and secoud prizes being eqnally divided between them; Mr. J. Hillier being placed third.

The following subjects sent, not for competition, were highly commended:—J. O. Swaile, Esq., Cromwell House, Hammersmith, for a collection of flowers, fruit, and vegetables; Mrs. Smith, 215, King Street, Hammersmith, Fnchsias, Ferns, &c.; Mrs. Lydall, St. Peter's Square, Hammersmith, fruit and plants; Mr. Davey, St. Peter's School House, for some excellent Begonias; and Mr. S. French, for Ferns, &c. Later in the day the prizes were presented to the successful competitors by the Vicar of Hammersmith.

QUESTIONS AND ANSWERS.

Pansies.—What are the characteristics of Show and Fancy Pansies respectively?—*H. G. Lancaster.* [Show Pansies are those which are either self coloured, selfs with a blotch, yellow or white grounds with a blotch or blotch and margin combined; aud the following varieties may be instanced as types:—Alexander Watt is a purple self, classed as a dark self; White Perfection is a white self, with a deep blue blotch; Robert Pollock is a yellow ground, with a large blotch and shining maroon margin; and James Grieve is a white ground, with a purple margin and dense black blotch. The Fancy Pansies are those in which bright and varied colours exist in various combinations, and in which there is no well defined ground colour.]

Names of Plants.—*W Robinson:* 1, Oncidium Janeirense; 2, Gongora maculata. *J. B. K.:* 1, Galega officinalis; 2, Œnothera Drummondii; 3, Geranium sanguineum; 4, Alyssum saxatile; 5, Lythrum salicaria; 6, Rhipsalis salicornioides. *Cosmopolitan:* 1, Polypodium vulgare; 2, Cystopteris fragilis; Polypodium calcareum; 4, Polystichum aculeatum; 5, Polypodium phymatodes; 6, Adiantum setulosum. *M. B. G.:* Funkia lancifolia var. albo-marginata. *T. Gray:* 1, Dendrobium chrysanthum; 2, Oncidium flexuosum.

Book.—*Young Gardener: The Epitome of Gardening*, published by A. & C. Black, Ediuburgh. We do not know the price, but only a few shillings

Communications Received.—A. E.—W. E.—C. P.—P. B. O'K.—W. N. (thanks).—J. L.—Charles & Co.—W. R. T.—D. J. N.—J. P.—J. B., Port Elizabeth.

LONDON SEED TRADE.

August 4th, 1886.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady demand at full prices for agricultural Mnstard. Rape is neglected and prices low, notwithstanding the short yield of the New English crop which is now being marketed. New Trifolium meets little attention, and is being sold here at lower figures than in France. White Clover is in request, a speculative demaud having set iu now that the new crop is proved to be short. Bird seeds remain unchanged.

COVENT GARDEN MARKET.

August 5th.

Fruit.—Averaoe Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0		Peaches, per doz.	2 0	12 0
Cherries, ½ sieve	3 0	8 0	Pine-apples, St. Michaels, each	2 6	8 0
Currants, ½ sieve	2 0	3 0	Pine-apples, Eng., lb.	2 0	3 0
Grapes.....per lb.	1 0	3 0	Strawberries ..per lb.	0 6	1 6
Melons, ...each	1 0	2 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ....per doz.	2 0	2 6	Onions, per bushel ..	4 0	6 0
Carrots, per bunch ..	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch....	0 2	0 4	New Turnips, per bun.	0 9	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Averaoe Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen blooms	0 3	0 6	Liliums in variety, dozen bunches	12 0	24 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun...	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun...	1 0	3 0
Campanula .. 12 bun.	4 0	9 0	Pansies, 12 bunches..	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, per 12 sprays	0 9	1 0
Carnations .. 12 bun.	3 0	6 0	— scarlet, 12 sprays..	0 3	0 6
Cornflower ..12 bun.	1 6	3 0	Pinks, various, 12 bun.	2 0	4 0
Delphinium ..12 bun.	3 0	6 0	Primula, double, bun.	0 6	1 0
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	6 0
Eucharis, per dozen..	2 6	4 0	Roses ....12 bunches	2 0	6 0
Forget-me-not or Myosotis, 12 bunches ..	2 0	4 0	Roses (coloured)	2 0	4 0
Gardenias, 12 blooms.	2 6	4 0	Roses, Moss..12 bun.		
Gladioli .. 12 sprays	1 0	2 0	Roses, Tea per dozen	0 9	2 0
Heliotropes, 12 sprays	0 6	1 0	Stephanotis, 12 sprays	1 6	3 0
Lapageria, red, 12 blms.	1 0	2 0	Sweet Peas, doz. bch.	1 6	3 0
Lavender, 12 bunches	4 0	6 0	Sweet Sultan, 12 bun.	3 0	4 0
Lilium longiflorum, 12 blooms	4 0	6 0	Tropæolums	1 0	2 0
			Tuberoses, per dozen.	0 4	0 9
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Fuchsia, per doz.	3 0	8 0
Balsams .... per doz.	3 0	6 0	Hydrangea ..per doz.	6 0	12 0
Begonias, per dozen..	6 0	12 0	Liliums .... per doz.	12 0	30 0
Calceolaria, per dozen	4 0	8 0	Lobelia, per dozen ..	3 0	4 0
Cockscombs, per doz.	3 0	6 0	Marguerites, per doz.	6 0	9 0
Cyperus, per dozeu ..	4 0	12 0	Mignonette, per doz.	4 0	6 0
Dracæna term., doz..	30 0	60 0	Musk, per dozen	2 0	4 0
— viridis, per dozeu	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, doz .	6 0	18 0
Ferns, in var., doz. ..	4 0	18 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Ficus elastica, each..	1 6	7 0	Petunias, per doz. ...	2 0	6 0
Foliage Plants, various, each.....	0 10	6 2	Rhodanthe, per dozen	6 0	9 0
			Spiræa, per dozen....		

CRYSTAL PALACE ANNUAL FRUIT EXHIBITION AND GRAND NATIONAL DAHLIA SHOW, September 3rd and 4th. Schedules on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 14, 1886.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.—We have before us a copy of the new catalogue of Chrysanthemums, just issued by the National Chrysanthemum Society, and coming as it does when the Autumn Queen is making such rapid strides in public favour, it will, without doubt, soon find its way into the hands of every enthusiastic Chrysanthemum grower, more especially as the price is within the reach of all. It is certainly the most complete list of Chrysanthemums that has yet been published, and contains the names of upwards of 1,100 varieties, each with a short description. We are not going to pretend that it is a complete list of every variety grown, or, to do the gentlemen who are responsible for its appearance the honour of saying, that it is absolutely without a fault; but it is an excellent list and a valuable addition to the very meagre stock of Chrysanthemum literature, and, we venture to think, of much greater use than some of the very misleading pamphlets upon this grand flower that have found their way into print. The catalogue is divided into ten sections, each section arranged in lexicographical order, except, by the bye, in section 4, where we notice that Faustine has in some way stepped out of its place and taken up its quarters with the M's. With this exception the work is turned out in a very creditable way, the names of the flowers being in bold type, and in such a style as to catch the eye without much difficulty.

Section 1 is a list of incurved varieties, and section 2 comprises "incurved, not so generally cultivated as the preceding"; but we think it would have been less confusing if there had been but one list of these varieties; the same remarks apply to the Japanese, which are also divided into two sections. We are surprised to find that the catalogue has no date to it, but it is, we believe, brought down to 1885, and does not include the varieties which have been received from the raisers last spring, and these alone number upwards of 200. These have been omitted advisedly, as we do not know until the flowers expand how many may prove to be synonymous with varieties already grown. Take for example, Souvenir de Haarlem, received from France, in the spring of 1885, which has turned out to be Rosea superba, introduced some years previously; and if we are to be subject to this kind of mistake on the part of the raisers, it is best that we should bloom all new varieties before including them in our catalogues. One great feature in this catalogue is the synonyms which are introduced in the list, with cross references, the correct name having the description of the flower following it; this will materially aid the Chrysanthemum grower in tracing the plants over which he may have any doubt. The name of the raiser is also introduced in a great many instances, and in some cases, where there are two or three plants of the same name, the year of introduction is also added.

Section 3 is a list of Japanese varieties, and section 4, the committee tell us, are Japanese Chrysanthemums not so generally cultivated as the preceding. A great deal has been written and said, by some of the leading members of the National Chrysanthemum Society, about the abominable practice of renaming, altering the names, or varying the spelling of the new introductions, and we are not a little surprised at, and certainly cannot agree with the alteration on p. 20, "Messrs. Thibaut et Keteleer." Délaux, in 1885, sent us over this new variety, which is a very good velvety crimson, and when more known is likely to prove a favorite. In his catalogue it is printed, "M. M. Thibaut et Keteleer"; now we are all aware that M. M. means Messrs., as much as Mdme. means Madame, and we fail to see the necessity for making the alteration in the new catalogue. It is a trifling one, we will admit, but it is nevertheless open to objection; some people might even go further, and say, why not translate the et, and make it Messrs. Thibaut and Keteleer? there is just as much excuse for doing the one as the other.

Section 5 contains a very good list of reflexed flowers, amongst which will be found the universal favourite, Cullingfordii, and few will dispute that this is the correct section for this charming flower. Sections 6 and 7 are devoted to large Anemone Chrysanthemums, but why section 7 should be headed "large hybrid Anemone varieties," instead of Japanese Anemones, we fail to see, for this particular class has, since the introduction into this country, been known by the latter name; and now the National Chrysanthemum Society take upon themselves to christen them hybrid Anemones. Section 8 gives a list of Anemone pompons, here again was an opportunity for the committee to make a separate list of hybrids, for it has been suggested that such flowers as Regulus and Rose Marguerite belong to the latter class. Section 9 are pompons, and section 10 closes the catalogue with a good list of summer and early autumn-flowering varieties.

Great credit is undoubtedly due to the select committee who prepared this catalogue, and, although their names do not appear, we know that both Mr. C. Harman Payne, who acted as hon. secretary to the committee, and Mr. N. Davis devoted much valuable time and attention to the preparation of the lists, and we are sure the Chrysanthemum world will agree with us that they have done their work well. As we have before said, it is impossible to produce a catalogue of this kind that would be absolutely free from errors, yet all will admit that it is a great improvement, and is not to be compared with the first catalogue of the National Chrysanthemum Society. We have now a good authentic list, and we venture to hope that another year the committee will see their way to give us, as far as practicable, in addition to the raiser's names, the year of introduction of the plants; and, we might also suggest, that an alphabetical list of all the varieties contained in the catalogue should be printed at the end, with a reference to the page upon which the description of the flower is to be found, for, at present, those not well versed in Chrysanthemum lore, have to wade through the different sections before they can ascertain to which group any new variety, to them, may belong.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday.*—Bilston Horticultural Society's Show (two days). *Wednesday.*—Shropshire Floral and Horticultural Society's Annual Show, in the Quarry, Shrewsbury (two days). *Thursday.*—Maidenhead Horticultural Society's Annual Show. Basingstoke Horticultural Society's Show. *Friday and Saturday.*—Cheadle (Cheshire) Floral Society's Nineteenth Annual Exhibition.

A New Hybrid Orchid.—Messrs. James Veitch & Sons Nursery at Chelsea, has during the past week or ten days proved a strong point of attraction for Orchid lovers, the object of interest being a plant in flower raised by crossing Sophronitis grandiflora with Cattleya intermedia. The plant is five years old, yet barely 3 ins. high, and bore one bloom 2¼ ins. across, rose-coloured with a delicate suffusion of purple. The sepals and petals distinctly resemble those of Sophronitis, but the lip is that of a diminutive Cattleya intermedia. This latest addition to the small list of bigeneric hybrids, is a plant of great interest, and we hope in our next to give its portrait.

Royal Botanic Society.—The annual meeting of the Fellows of this Society was held, on Tuesday afternoon, at the house of the Society, Inner Circle, Regent's Park. The forty-seventh annual report of the Council stated that although the number of new subscribers was specially small, the Council believed this to be but a temporary lull. The total receipts of the year had been £6,038 18*s.*, as against £6,487 17*s.* 10*d.* in the previous year. The number of artists and students on the books was 729. The Chairman moved the adoption of the report, which was seconded by Dr. Mivart, and, after some discussion, adopted.

Lapageria rosea in the Open Air.—We have received from Mr. Malcolm McLean, gardener to J. Watney, Esq., Vinters Park, Maidstone, some beautiful blooms of a good mottled variety of Lapageria rosea, cut from a plant growing against the wall of a Cucumber-house, west aspect, which has been planted out two years, and withstood the rigours of last winter without suffering any injury. The blooms before us are as large and as fine as any we have seen grown under glass.

The Late York Gala.—At a general meeting of guarantors and life members of the grand Yorkshire Gala and Floral Exhibition held recently, it was decided to give to the charities of York out of this year's profits the sum of £40, and to add a further sum of £25 to their invested capital. Votes of thanks were passed to the officers, including Mr. John Wilson, who has been secretary of the society from its formation, twenty-eight years since, and to whose untiring interest so much of the success is due. £1,370 was taken on the three days of the last show, and the Committee have an invested fund of £1,700. June 15th, 16th, and 17th, 1887, have been fixed as the date of next year's exhibition.

Grand National Dahlia Show.—Will you kindly allow me space to invite the attention of exhibitors and others to three points in connection with this attractive autumn show, namely:—(1) that the show will be held this year on September 3rd and 4th, the place being, as usual, the Crystal Palace, Sydenham; (2) that exhibitors' entries should be sent to me at Chelsea on or before August 27th; (3) that the Turner Memorial Prize, a silver cup value £10, for twelve show and six fancy Dahlias, is open to further competition on this occasion. I may add that contributions to the prize fund will be very opportune.—*Thos. Moore, Botanic Gardens, Chelsea, London, S. W.*

Sulphide of Potassium.—This remedy for mildew has now been extensively used by a large number of our leading gardeners, and as I have been mainly instrumental in getting its merits tested by some of our best men, I am glad to be able to report that the anticipations of the discoverer of its value as a remedy for mildew has been fully realised. As it is a remedy at once cheap and effectual, I am anxious to make its merits as widely known as possible among my fellow amateurs and gardeners generally. I shall be glad to receive a line from all who have tried the sulphide detailing their experience, with a view to publishing the results for the benefit of the gardening community. As mildew is very prevalent this season, I hope everyone who is troubled with this pest will test the sulphide and report whether it proves successful or not.—*Edward W. Badger, Moseley, near Birmingham, Aug.* 11, 1886.

Death of Dr. Hance.—The death is reported on June 22nd of Dr. H. F. Hance at Amoy, at which place he was Her Majesty's Consul. Although no independent work bears Dr. Hance's name, he has done more than any other man to make us acquainted with the flora of China, both of the empire and of the British colonies. His contributions to botanical literature are to be found in periodicals, very largely in Trimen's *Journal of Botany*, and the number of species described by him for the first time is very great. He was a contributor to the herbaria at the British Museum and at Kew. It is to be hoped that his herbarium will be brought to London and deposited where it can be consulted, and his types readily compared with those of other authors.—*Nature.*

NOTES ON VIOLAS.

So far as I have seen, Countess of Hopetoun seems to me to be one of the finest of white Violas. Mrs. Gray has smaller and rather purer flowers, but are a little more flimsy. We have gone through many variations in white Violas, from cornuta alba upwards, all more or less good, but still all wanting something, and even now we are a long way off from having anything really first class. The Countess of Hopetoun seems to have the true Viola habit, and its blooms are almost veiuless. It is also dwarf and compact in habit, and blooms freely. For a fancy bedder I think none can excel Countess of Kintore; but it is interesting to note how this kind varies. In some cases the white hue largely predominates in the flowers, and in others the blue does. I think it exceedingly striking and effective, although it has a somewhat leggy habit, especially in young plants.

Archie Grant is a grand purplish blue Viola, and one of the finest we have. Even for the production of flowers for gathering both that and Countess of Kintore are invaluable, as the bloom-stems are so long and the bloom so distinct and handsome. The bluest Pansy for bedding seems still to be Blue Beard, but it is not quite so free as the old Blue King, which seems still to be the market blue self Pansy. Of plum or purple kinds so-called, I do not find anything richer, of better habit, or more constant than Mulberry; the finest true Viola of this colour yet raised, as far as my observation has gone. Old plants of this kind specially are very fine and effective.

For first early bedding the small-flowered Yellow Boy does not seem beaten, but a true stock of Sovereign is beautiful for summer use; and of Pansies either George Rudd, pale yellow, or New Guinea, orange-yellow, are first rate. In the south it is of the first importance that the plants should be put out where they are to bloom in the preceding autumn.—*A. D.*

NOTES ON FUCHSIAS.

Although a vast number of varieties have been raised and distributed, how few, comparatively speaking, have been retained in collections as special favourites, or have found a foremost place on the exhibition table. Those exhibited, as a rule, are old sorts with which we have for a long time been familiar. What an immense amount of eulogy has been lavished on "Miss Lucy Finnis," but oh! where, and oh! where, has this young lady been seen? certainly, neither in the market or at floral gatherings. I knew a friend to purchase this variety for market purposes at the time it was sent out, but no sooner had he flowered it, than it was discarded and consigned to the rubbish heap as being a bad market variety, the fact being that there is wanting a uniformity of growth, the habit of the plant not being sufficiently robust to support the monster flowers produced, which renders the plants bad travellers, and for showing, not so readily grown into large specimens. There is a variety sent out this season that seems to be an improvement in this respect, viz., "Mrs. Short." This is of the Lucy Finnis type, but apparently of a better habit, and a stronger grower; consequently preferable if a well-formed specimen plant be the object.

Large handsomely grown Fuchsias are no mean objects when nicely arranged in the exhibition tent, in fact, I have always noticed that such are sure to attract the special attention of the visitors, but it must of necessity be admitted, that there are some of our grandest varieties, taking the size and colour of the flowers into consideration, which are never seen on the exhibition table, the habit of the plants precluding the possibility of their being placed in competition with such huge plants as is the custom generally now to exhibit; and I may, perhaps, here be allowed to offer a suggestion to those in whom is vested the management of shows, and who have the arrangement of the schedules, that it would be of considerable interest, also advantage, to raisers and growers of the Fuchsia were they to class and offer prizes in a more detailed and comprehensive form, the varieties being so very dissimilar in habit and character. Plants of easy growth and of a free-flowering tendency are properly selected as fit subjects to attract the eye and adorn the exhibition table, and consummate as has been the success of exhibitors as regards the grandeur of the plants exhibited, it appears to me that there are very many varieties of a dwarfer habit, producing, perhaps, vastly finer flowers, both as to size and colour, which are never brought to the front; consequently, the development of their character and worth is thus by no means facilitated or even encouraged.

I maintain expressed views and opinions on the subject, and have no hesitation in reiterating them—viz., that we have now numerous first-class dwarf varieties of a distinct and uniform character, which, under liberal treatment, would grace any collection of plants, although not so imposing in the majesty of greatness as regards size. I have for years been in the practice of raising seedlings, many of a dwarf strain. Sowing the seed in February, I have nice, compact, free-flowering plants in about five or six months, and cuttings struck in autumn or early spring cannot fail to make good plants in equally quick time under ordinary conditions. Prizes offered specially for Fuchsias of, I may say, annual growth would, I should imagine, be a boon by offering facilities and affording encouragement to very many of limited means with reference to glass houses, as the plants, after they have done flowering, might be dispensed with altogether, having previously secured a young stock for the subsequent season.

As an example of one of what may be designated dwarf varieties, I herewith enclose blooms of one of the Fuchsias raised by me—viz., "Miss Lizzie Vidler," which, perhaps, for colour and contour has, if equalled, never been surpassed.—*George Fry, Lewisham.* [The flowers are very fine.—Ed.]

"THE NURSERYMAN."

In an address to the American Association of Nurserymen, President Colman said, that "The Nurseryman is engaged in a useful and most honourable calling, and one most venerable for its antiquity. It is the primitive calling of man. In the account of Creation given us in the Bible, trees are the first thing spoken of after the earth took its present shape. They preceded man, as the necessary means of preparing the earth to be inhabited by him. They were necessary in order to make its atmosphere respirable, by absorbing its superabundance of carbolic acid. Neither man, nor beast, nor bird could have lived on the earth until the trees had thus prepared it for them.

When we consider the place which the trees hold in connection with human life, how closely they are interwoven with it in all its stages of development, we see the dignity and importance of the calling of the Nurseryman. That calling dates back to the earliest history of man. Then man found himself born into a tree world, a world of luxuriant forests, growing under the original law of species by which each should 'bring forth fruit after its kind.', under that law of abiding order and harmony, without which all human life would have been a chaos of confusion."

Speaking of the Nurseryman he said: "He needs to be a man of large intelligence; he needs to cultivate himself as his trees; he needs to cultivate himself in order that he may properly and successfully cultivate them; he should be a careful student of the laws of plant life; he should be an experimenter, indeed, he should put all theories that have any show of value, to the test of experiment. But he should be also a man of wide reading, at least in the line of his own profession, and knowing thus what has been proven by others, save himself the expenditure of time and labour involved in going over the same ground again. He should be foremost in all public improvement in which trees bear a part. His knowledge fits him to be such, and it is comparatively easy for him to start a movement for planting trees along the street borders or on some neglected ground which might thus be transformed into a beautiful park, a source of perpetual pleasure. Such things are not simply pleasant to the sight, they have an influence upon character. The children who grow up among beautiful trees, who walk under them as they go to and from school, or play under their shade, will grow up to be different and better men and women than if they had not lived in this fellowship.

Within a short time we have become aware not only that our land-owners need at the hands of the nurserymen a supply of fruit trees for the orchard, and trees for shade or ornament around the dwelling and along the street, but that the problem is before us how to preserve our great forests from absolute destruction, and how to establish forests where now there are none, or only semblance of any. Our existing forests are falling before the axe and the forest fire, at the rate of not less than 60,000 acres every day. This rapid destruction needs to be checked and regulated, or our agriculture and industries will suffer almost beyond our power to estimate. Where we have been planting trees by the hundreds or thousands, the call is now for trees by the million."

GOODRICH COURT.

Goodrich Court, near Ross, in the county of Hereford, is the seat of Harold C. Moffatt, Esq., and is situated on a hill overlooking the beautiful valley of the river Wye, and commands some of the best scenery in the county. On July 28th I, in company with a few friends, paid a short visit to this place. Having only time enough just to look through the glass structures, which are filled with fruit and miscellaneous well-grown plants, together with Orchids, my remarks will be confined chiefly to them, although much of an historical interest might be written about the mansion and its surroundings. Mr. Spencer, who has charge of the gardens and home farm, kindly received us, and did all he could in the short time at our disposal to enlighten us upon any subject we asked about.

The first house we entered contained Cattleyas and Lælias, making good growths; L. Lindleyana, which is by no means plentiful, being amongst them. Another scarce plant, which I did not recognise, was Lycaste leucantha, said to be very beautiful. There were also some fine masses of Sophronites grandiflora, with something like twenty-four breaks upon them, growing upon blocks and lying flat upon the stage. Mr. Spencer said he found that they did better in that position than hung up close to the glass. I think that may be accounted for by the fact of there being a more even state of moisture and temperature in the former place than in the latter. These little gems from the Organ Mountains give capital returns for good culture, and I am sure that any hints as to the way in which they may be grown best will be acceptable to your readers. I do not know how Mr. Spencer treats his Sophronites throughout the year, but I should allow them to remain in their present position until they showed flower buds, then hang them up close to the glass in a cool house to finish and mature or ripen all the new growths, and next year, after a period of rest, put them back into their growing quarters. Should these plants at Goodrich Court give an adequate number of flowers to growths, they will be worth going a few miles to see.

The next house we entered contained stove plants, Ferns, and a few Orchids. Dipladenia amabilis and D. Brearleyana, in flower, were remarkably well grown, clean, and healthy; so, also, were Allamanda nobilis and A. grandiflora. The same may be said of some of the choice and newer kinds of Ferns, which have been grown into specimens from very small pots in a short time. Anthurium Andreanum had an unusual number of flowers upon it, open at one and the same time. We were next shown into a late Vinery containing Muscats, Lady Downes, Alicante, and Gros Colmar. The latter, we were informed, coloured better and was better flavoured than most people had it. This was attributed to poorness of soil; consequently, the Vine made less rank or sappy growth, the wood in this case being of a firmer and better quality. Another Vinery contained splendid examples of the Eastnor Castle variety of Black Hamburgh, also Madresfield Court, which were very fine in bunch and berry, and free from cracking; Buckland Sweetwater was also in fair condition. Another well-built span-roofed house was gay with zonal Pelargoniums, some fine things amongst them; Begonias (tuberous), were also a fine feature in

this house, the colours varying from a pure white to the deepest crimson. Of Statice profusa and S. Holfordi numbers of plants were in rude health and finely flowered.

In a well arranged Peach-house were some good crops just beginning to colour. Here we noticed some first-rate Tomatos, the true form of Trophy, large, perfect in shape, and splendidly coloured. Mr. Spencer first of all obtained his seed from some American source, and now saves his own from the best-looking fruit the plants produce—a hint worth noting.

Yet another little structure has to be named, in the shape of a two-light frame, containing a varied lot of cool Orchids, and they certainly looked very well—Masdevallias, Odontoglossums, Oncidiums, and Cypripediums. Who need be without a few Orchids when they can be grown in such a place?

The last house I have to name is a fruiting Pine stove—by the way, a favourite fruit with the owner of Goodrich Court. This contained, in addition to the proper inmates, a nice lot of East Indian Orchids suspended in baskets at the back of the house under a hip-roof, where they were not shaded. A smarter plant of Saccolabium giganteum I have not seen. Aërides crispum was also very clean, and well furnished with leaves. Several others—Aërides, Saccolabiums, and Vandas—were evidently at home. In concluding these remarks, I must not forget to name two very meritorious Oncidiums in flower, which were O. Lanceanum, with leaves more like Cabbages in size, and O. divaricatum, which had a spike of 230 blooms upon it. Great credit is due to Mr. Spencer for the management of this place, considering that he has additional duties to attend to apart from the garden. I ought also to say how kindly and hospitably we were entertained by Mr. Spencer, whose sole aim was to make us thoroughly welcome.—*Thos. Simcoe.*

NOTES ON LILIUMS—II.

Continuing my remarks on this noble family of plants, I will, in the order in which they flower, first call attention to

Lilium croceum, the orange Lily of gardens, a valuable species, inasmuch as it is everybody's plant, and one which all can succeed with. It is also one of the most showy of the coloured Lilies in the middle of June, growing about 2½ ft. high or another 6 ins. as the maximum. The colour is orange and freely spotted with black; the flowers are arranged in large umbels, and it may be regarded as among the best of the early flowering Lilies. It belongs to the Isolirion group which are distinguished by having erect or bell-shaped flowers. The species now under notice succeeds well in any good garden soil, made fairly rich, and to this I may add that it is one of the cheapest Lilies grown, a fact which should favour its greater cultivation; in habit it is sturdy and erect. In the same group, and flowering at the same time, come many fine forms of

Lilium davuricum. I need not enlarge upon their cultural requirements as this is needless. Plant in good loamy soil, fairly rich, and you will have success with all the forms contained under this head, which also represents those generally sold as fulgens, umbellatum, and so on. Among the finer of the davuricum group, there may be mentioned Incomparabile, having intense rich crimson, black spotted flowers; this is one of the best, growing about 2 ft. high and strikingly handsome; Erectum, scarlet shaded with yellow, 2½ ft.; Sappho, scarlet shading to orange, 2 ft.; and Don Juan, bright rose shading to scarlet, 2½ ft. Then we have the numerous forms of

Lilium elegans or thunbergianum, all delightful Lilies, and many of them specially adapted for pot culture; in height they vary from 1 ft. to 4 ft., and in colour they embrace many lovely and pleasing shades. The dwarf growing forms too have equally as large flowers as any, and when seen in small groups are most desirable garden ornaments; the dwarf growers should be planted at not more than 3 ins. deep, that is from the apex of the bulb; the taller kinds, such for example as L. elegans Batemanæ, which grows 4 ft. high when established, may be safely planted 6 ins. deep. I will only briefly cite the best of the early kinds at present, among which the variety, alutaceum, which grows only 1 ft. high, holds a prominent position; in colour it is a lovely rich apricot and very distinct; it is specially suited for pot culture owing to its dwarf habit and pleasing flowers. A variety very similar to it is Prince of Orange, with light clear orange flowers, and of similar height to the first named; then we have L. elegans sanguineum, with conspicuous reddish blood-crimson flowers, slightly shaded with orange, one of the largest, and, at the same time, earliest flowering in this group; and L. elegans fulgens, rich crimson, mottled and stained with yellow. Next comes L. elegans bicolor, one of the loveliest of this section, the flowers are large and abundant, and of a rich Apricot-orange, flamed with scarlet and lilac; most beautiful for pots or the border; height 1½ ft. Besides those I have named in this section there are many more equally good and distinct, and possessing points of merit which commend them to all who desire effective and fragrant flowers. The next Lily to which I shall refer is the well known

Lilium candidum, the common white Lily of gardens, and the Madonna Lily of the Italians, but what fresh can be said of such a well known and highly meritorious plant? Far and wide it is known to hold an almost unique position in this truly noble genus; it is known too by every cottager, and most universally, and, at the same time, deservingly admired; it is, in fact, one of the most valuable of all Lilies, inasmuch as it will endure forcing, which if judiciously applied is calculated to produce most satisfactory results, and in the hands of the floral decorator and the market grower it well repays generous treatment; to enable it to withstand forcing, it is needful that it should be prepared accordingly, and those who would wish for success should have their bulbs lifted at once and potted. It is one of the most handsome of all Lilies throughout the

Lilium candidum.

greater part of June, and when gradually brought on in heated structures it will come much earlier in the season; hence its value. Now here comes the noteworthy point in its culture, as soon as the flowering stems show signs of decay they may be lifted and transplanted with safety; it is at this time that they commence to emit fresh roots, therefore, for their future welfare it is essential that these should be preserved intact; by the arrival of winter they will have made plenty of roots, and be in condition for introducing into heat as desired. It is better, perhaps, after potting to plunge them in ashes or cocoa-fibre, or, better still, by standing them close together, cover them 2 ins. or 3 ins. deep; short litter from the stable will answer the same purpose, and, at the same time, will save watering—a thing to be desired—since constant waterings are not beneficial to the soil in the case of newly potted subjects. The mulching or covering should be removed as soon as the leaves appear, for with these there will be roots also. So much, then, in respect to pot culture, and I need hardly add a word in respect to its general usefulness in the border. During the time of its flowering it carries the sway in the border, and all eyes will invariably turn to the peerless purity of this lovely and fragrant Lily. When seen in established clumps, it is extremely effective and everywhere a favourite. It is one of the oldest inhabitants of our gardens, to which it was introduced nearly three centuries ago from the Levant; and judging by its usefulness in a cut state, it will, with the ever-increasing rage for flowers, long continue among the most popular of hardy plants. Strangely enough, the departures from the typical species are anything but numerous, and in no case do they equal in general beauty that of the original plant. Those varieties which are marked as differing from the type is its double form (also called monstrosum), and speciosum, a variety smaller than the type in its flowers, and somewhat earlier in bloom, and having snow-white flowers. Beyond these there are one or two variegated forms, apart from which characteristic no particular beauty attaches. This Lily delights in a deep, rich, loamy soil, and when planted should be placed at least 6 ins. below the surface. To many it will have been apparent that the flowers soon become bespattered with the golden pollen which abounds on the anthers, and which is discharged at a certain stage of maturity, not unfrequently disfiguring the blossoms in the earliest days of their existence. To avoid this it has become a general practice to remove the pollen-cases on the flowers first expanding, and by so doing their purity and beauty remains unimpaired—at any rate, from the standpoint of the florist. Another chaste and lovely Lily, flowering at the same time as the one just mentioned, is to be found in

Lilium testaceum (syn. excelsum).—It is in all respects a first-rate Lily, and one whose cultural requirements are of the simplest nature. In height and its flower-stems it is not unlike the Madonna Lily; in all other respects it is widely different. When well established, it will attain 4 ft. and even 5 ft. high, is of robust constitution, and produces pendulous Apricot-coloured flowers, which are extremely fragrant. It is a delicious bit of colour, such as few are possessed of, and should find a place in all good collections of hardy plants. It is at home in any well-enriched garden soil, and from its height adapted for association with the taller subjects in the border, and forms an excellent companion for the common white Lily. L. testaceum belongs to the Martagon group, which is distinguished by the divisions of the perianth being distinctly recurved.—*J.*

WEEDS.

Are these an unmitigated nuisance and a curse as popularly assumed? According to theologians they are one result of the primeval curse which condemned man to eat bread earned by the sweat of his brow, but we, who take a more exalted view of the dealing of a beneficent Creator towards his creature man, take a view of the subject somewhat different from that which we imbibed at our mother's knee in infancy, and see in weeds a provision to compel man who might become indolent to exert himself, for were it not for them one-half of the labour incident to the cultivation of the soil would be spared. The mistake about them is not in the dealings of the Creator with man, but with man for man there are some among us who get more than a fair share of the work in keeping them down alloted to us. The subject of land tenure will ultimately be largely affected by the view which the populace, as a whole, take of weeds. As our rural populations are now to a large extent enfranchised, the views they take on the proper cultivation of the soil must ultimately affect legislation, and the day will come when those who from neglect or indifference allow their holdings to be overrun with weeds to the detriment of the State at large, and loss and annoyance of their more immediate neighbours, will render themselves liable to an action for damages, for why should anyone be allowed to poison a whole district with weeds any more than endanger the health of a district with noisome smells.

In the fore part of the season we had an abnormally low temperature, which kept some of our crops in check; but not the weeds. These, if successful culture is to be obtained, must be kept down at all cost, and those who keep their ground the cleanest will be rewarded with the best returns. Crops cannot flourish choked up with rubbish. There are a few simple plans which, if followed out, will materially lessen the work of keeping the weeds under. One is to have ground intended for the sowing of small seeds, such as Carrots, Turnips, Onions, &c., dug over some time beforehand, so that the seedling weeds may have time to germinate, and then run the Dutch hoe over the surface, this destroys one crop and effects a great saving in keeping the ground clean. When a large breadth of Potatos are grown, the running of a chain-harrow over the ground before the shaws get too far forward will destroy many of the young weeds, and in dry seasons will save one hoeing.

The mulching of Pea and Bean crops with lawn

mowings, half-decayed manure, or leaves, serves a double purpose in keeping the soil moist and lessening the labour of weeding, &c. ; and the application of salt to Asparagus, whatever may be said for or against it as to its value as manure, keeps the weeds in check. It is still used to a great extent to destroy the weeds on garden paths ; but as more effective applications become better known, they must eventually supersede it, their effect being more lasting. Smith's Weed Killer, for example, is cheaper in the first instance, and where salt will, if the paths have to be kept clean, require using four or five times, one dressing of the Weed Killer will be enough, as neither moss nor weeds will grow for two years where it is put, provided the gravel is quite dry at the time and thoroughly soaked with it. This, of all labour-saving expedients brought out for use in the garden, is the best.—*W. B. G.*

HEATING BY HOT WATER.

On Saturday evening, Mr. Wm. Bardney, of The Gardens, Norris Green, Liverpool, read a paper to the members of the Preston and Fulwood Horticultural Society, on "Heating by Hot-water." There was a good attendance ; the president, E. Garlick, Esq., J.P., occupied the chair. In opening the proceedings, he referred to the importance of the subject, and said it was interesting not only to the lords of the land, but to many cottagers in the crowded streets of towns, for they could now find in many backyards a very pleasant sight, namely, a greenhouse. The pursuit followed therein, he doubted not, gave an amount of happiness to the inhabitants of the closely set streets, which they would not otherwise enjoy.

Mr. Bardney, in an exhaustive paper, spoke of the phenomenon water presented by varied temperature, and then alluded to its circulation. Proceeding, he urged that in the arrangement of a heating apparatus, the first thought must be the consideration of the stoke hole. It should occupy a convenient position, should be easy of access for the reception of fuel, &c., and should be so situated that it could be readily drained. He then dilated upon the arrangement of mains, stating that it must in a great measure be determined by the state of the ground ; if it were level the pipes might be on the same level throughout ; it at the same time being understood that the pipes in the house must be at a higher level than the mains. Pipes so placed would work well. He worked a system that raised 18 ins. or more in 150 ft., and then fell for the same distance, or nearly so, the extreme distanced pipes being only 3 ins. or 4 ins. higher than those leaving the boiler. He did not advocate that principle, for on account of the incline and decline a greater quantity of fuel was used than if there were a gradual raise throughout. It cost twice as much to heat the houses furthest from the boiler. The mains ought to be placed in such a position that they could be got at without much labour when leaks occurred. The system of arranging the pipes on a level was a good one, but where practicable, a slight rise in the pipes was certainly advisable, for thereby better circulation was ensured.

Deep excavations in heating by hot water should be avoided to the utmost extent, as they were not only costly at the outset, but the pipes were difficult to get at in case of breakdowns, which might be expected in the best regulated arrangements. He advocated the principle in which the mains were laid outside the house. The size of mains are important and respecting this subject there was a variety of opinions. In large schemes he advised the use of 6 in. mains for one boiler, say for a distance of 20 ft., then 5 ins. were large enough for the remaining distance the water had to travel. Good chambers should be provided, and those for the flow and return mains should not be less than 18 ins. wide. The bottoms should be bricked, and should be of such a nature that moisture from without could be entirely excluded. If the pipes were capable of drawing in moisture they corroded quickly, and were destroyed in a very few years. In fixing the pipes curves should be avoided to the utmost possible extent.

To arrive at the quantity of pipes for different structures was very difficult. A house fully exposed would require a greater amount of pipes to maintain a given temperature than one otherwise situated ; and it also depended upon whether the pipes were or were not exposed to the atmosphere. In all structures double the quantity of pipes really required should be provided. In this matter the size of a house and the purpose for which it was needed would be sufficient guidance for all practical men. He might say for the benefit of those who did not understand the subject, that if a temperature of 65° at night during winter was wanted, and the house (span roofed) to be warmed was, say, 40 ft. long, 20 ft. wide, 5 ft. 6 ins. high at the eave, and 12 ft. high to the ridge, fully exposed, it should have no less than eight rows of 4-in. pipes, that was four rows on each side and across the ends, with the exception of the doorways. Half the number would have to be very highly heated to be certain of that temperature, and at times it could not be kept up. A house of this description would contain 7,350 cubic ft. of air ; thus the eight rows or 428 ft. of 4-in. pipes were equal to 17½ ft. of piping for every cubic feet of air to maintain a given temperature of 65°. If an intermediate temperature were required, say, 55° in a house of the same size, 14½ ft. per cubic foot of air would be required, or at 45° nearly 12 ft. He clung to the old system of packing joints with iron filings as the best and most durable when properly done. He passed over the supply tank by saying that in large arrangements, as a rule, one was sufficient, but it was well to make provision for a second by placing it in the centre, for where there were 10,000 ft. of piping to be heated from the mains it would take many hours to fill it. He alluded to the position of the flow and return pipes, and remarked that the sluice pipe should be of such a size that the water could rush out with force. There should be a thermometer at the end so that the heat of the water could be ascertained.

Thermometers were of great service to the man on duty, for he could see at a glance whether the water had risen or the reverse, during his absence, according to the weather. Thermometers at the boilers, however, were useless unless outside atmospheric conditions were noticed. He also passed over his system of boilers by remarking that it was of the greatest importance that they should be set right if everything was to prove satisfactory. A great deal depended upon a good stoker as to the quantity of fuel used. When black smoke issued from the chimney it was certain that waste was going on. To be a thoroughly good stoker he must study the peculiarities of the boiler, and the way in which it should be best worked. Unless this was done it was impossible to work it effectually. Success could only be attained in stoking by practice, patience, and observation, and anyone wishing to excel in this might do so by perseverance combined with the exercise of intelligent thought.

An interesting discussion followed, opened by Mr. Swan, Howick House. He expressed his pleasure that such a subject had been introduced, for from experience he could say that some pipes were fixed in a manner that was a disgrace to any engineering firm. It was impossible for a gardener to do credit to himself or the material placed at his command, if the heating apparatus were so arranged that it would not perform its work with any degree of satisfaction. He considered that great attention ought to be devoted to the system of laying pipes. He deprecated the use of those T-shaped. A number of questions were asked and answered, after which a hearty vote of thanks was accorded to Mr. Bardney, on the motion of the chairman, seconded by Mr. Swan, and supported by Mr. Waters. A similar compliment having been paid to the chairman, the meeting terminated.

LILIUM CHALCEDONICUM.

The Lily of the field is not of necessity a Lily of any kind that will correspond to our definitions ; it may be understood as a flower, and that is sufficient. To make a serious botanical study of the purport of the impressive lesson of the Lily in the Sermon on the Mount would be to put our paltry views of Nature on a level with the most homely and searching of Divine admonitions. It must suffice, therefore, to say that the frail flower painted by the creative hand surpasses in glory the greatest works of man, and teaches him the sources of his benefits and his dependence on the bounty of Heaven. But associations have their uses to the mind of man, and it is neither irreverent nor unreasonable to ask if any particular Lily might be associated with the lesson that has sunk deeper perhaps than any into the human heart. There are probably only two species of Lilium common to the Holy Land, at all events only two are mentioned in Dr. Tristram's "Survey of Western Palestine." These are Lilium candidum, seen wild on Lebanon, and L. chalcedonicum marked as not seen, though known to be in the country.

This Lily is known in gardens as the scarlet Martagon. It is, however, quite distinct from Lilium martagon, which is commonly called the Turk's Cap Lily. The last one is of the commonest, but a good border flower for all that, and one that has many forms, as, for example, the pure white and the Dalmatic, the colour of which is blackish purple. The common variety is of a dull purple colour, by no means attractive, nevertheless pleasing and useful.

The scarlet Martagon is not common, although easy to cultivate and resplendent in its beauty. In the later days of July it presents a liberal head of turban-shaped flowers of the most brilliant sealing-wax red colour. It is quite hardy, and thrives in any good soil, but is not happy in a calcareous soil, nor in one that is of a poor, dry nature.

How far east this Lily extends we do not know. It is probably scattered through the temperate parts of Southern Asia, for we meet with one very much like it in Japan, the book name of which is L. calossum, less in growth than chalcedonicum, but serving fairly well as a smallish copy of it. Another nearly related kind is L. carniolicum, of which there are vermilion and yellow varieties.

For the full enjoyment of Lilies a considerable extent of garden is necessary, for when many kinds are planted in proximity their several beauties seem to neutralise each other. In isolated clumps and groups, set off by masses of leafy vegetation, these distinct and striking flowers appear to singular advantage. Most delightful is it in a walk through a woodland scene to come upon great clumps of L. auratum, the golden-rayed Lily of Japan ; or the cream-tinted, sometimes buff-coloured, L. testaceum, also known as L. excelsum ; or, most noble of all, and least of all understood, L. giganteum, that loves a deep damp bed of loam or peat, and needs shelter in the spring from the frosts that are then so destructive.

The cultivation of Lilies in pots is much practised, and with many special advantages. In large gardens, pot Lilies are needed for the conservatory and entrance hall ; in market gardens they are wanted to supply cut flowers in advance of the season for Lilies in the open ground. The amateur who would succeed in growing Lilies in pots must observe a few golden rules. In the first place the potting should be completed at the earliest time possible after the plants have flowered, for immediately the flowering period is over they begin to make new roots. If the bulbs have to be purchased, therefore, orders should be given early, and the potting should be completed immediately they come to hand.

Another golden rule is to ensure perfect drainage by packing the crocks with care before the compost is put in the pots, for unless surplus water can escape readily, the soil will become sour, and the plants will not prosper. As regards the soil, a mellow hazel loam containing abundance of vegetable fibre, such as loam from rotted turf, will suit any Lilies, as will also turfy peat of the best quality. The lovely longiflorum is decidedly partial to peat, but will thrive in loam with the rest. A calcareous soil is not good for any of them. Finally, they all enjoy liberal watering, and abundance of light and air. The common white Lily (L. candidum), and the long-flowered (L. longiflorum), are often forced for Easter flowers.

The most useful of the garden Lilies, and, therefore, those that should be first secured by the amateur who is as yet not rich in Lilies, are the following: L. Browni, with very large trumpet-shaped flowers, white, delicately striped outside with purple. L. auratum, a giant of its race, the flowers expanded, with yellow stripes on white ground. L. candidum, the common white Lily, thriving almost anywhere, and yet a little fastidious. L. chalcedonicum, thriving best in a deep, rich loam. L. croceum, good and cheap, very accommodating. L. elegans, usually orange-red, but variable, and always useful. L. longiflorum, a lovely trumpet-shaped flower of the purest white ; it requires a peaty soil, but it is not very particular. In a cold locality a sheltered spot should be selected for it. L. tigrinum, the Tiger Lily, a very thrifty plant, that is not particular about soil or situation. It is very gay, and some varieties flower late. Hence the Laureate puts it into the autumn garland :

> Heavily hangs the broad Sunflower
> Over its grave in the earth so chilly,
> Heavily hangs the Hollyhock,
> Heavily hangs the Tiger Lily.

—*Familiar Garden Flowers.*

HORTICULTURISTS IN COUNCIL.

On Thursday, the 5th inst., a pleasant social gathering of Yorkshire gardeners took place at Sheffield, on the occasion of the second annual meeting of the Yorkshire Association of Horticultural Societies. The meeting took place in the Church Institute, and the president, the Ven. Archdeacon Blakeney, occupied the chair, supported by the Master Cutler Elect, Mr. G. F. Lockwood. Delegates were present from Barnsley, Leeds, Rotherham, Wakefield, and Sheffield, and the honorary secretary, Mr. E. Austin, having read the minutes of the last meeting, the chairman, as president of the Sheffield branch, offered a hearty welcome to those members of the association who had come from a distance, and remarked that one of the most hopeful signs of the times was the combination which was now taking place among the various classes of people throughout the land. It was a combination for mutual benefit, and as that increased he believed the nation would become stronger and stronger. What they wanted in this great country was more self-reliance. Thank God they had it even now to a very great extent, and there was nothing like men and women depending on their own exertions and the talents which God had given them. When people combined, as that association had combined, he believed it would be for the improvement of the nation in every way. Combination for mutual aid was good, but when used for resistance it was sometimes very mischievous. The combination, however, such as they had brought together could only result in unmixed good. The general public were benefited by their general exertions, and at the same time they were advancing their profession. Of course, every member of that association could not become a Joseph Paxton, but still he thought that they all felt that good must result from an association of that kind. He took a deep interest in all that affected the working classes, because he believed the future of this great country was more or less in their hands, and therefore wished that society every success and blessing.

The Leeds Paxton Society were admitted into the association, after which the hon. sec. read the annual report, which stated that during the eighteen months the association had been in existence it had been a success, and its future prospects were hopeful and encouraging. It was trusted that by the united action of the members generally a deeper interest would be taken in horticulture. The report also suggested that a registry should be opened for gardeners out of employment, and that a library should be formed. The total number of members now on the books of the association is 780. The report was adopted, and after the alteration of certain of the rules had been discussed, it was decided unanimously that the next annual meeting should be held at Barnsley. The officers for the ensuing year were next appointed as follows:—Mr. West (Rotherham) and Mr. Ball (Sheffield) vice presidents, Messrs. Henry Oxley and T. Garnett trustees, Mr. Henshall (Barnsley) treasurer, Mr. Sydney Ballinger (Barnsley) hon. sec. Mr. Ball, in a humorous speech, proposed a vote of thanks to the retiring officers, and spoke particularly of the kindness which the association had received from the president. Mr. G. F. Lockwood seconded the motion, which was carried unanimously. A hearty vote of thanks to the hon. sec. concluded the business.

At the conclusion of the business meeting, the members present partook of luncheon, Archdeacon Blakeney again taking the chair. The usual loyal toasts having been duly honoured, the Rev. A. G. Tweedie, vicar of Ranmoor, proposed the toast, "Success to the Yorkshire Association of Horticultural Societies," and in doing so he apologised for being an amateur in horticulture, and congratulated them upon the work they had done. He was not surprised the clergy took a deep interest in the association, for this reason, that it seemed to him that there was none of God's works which were so beautiful as the flowers which it was their care and work to produce. He was not by any means a Ritualist; but if there was one thing more than another in their churches which he looked upon with favour, it was the introduction of those beautiful flowers which God had given to beautify the earth. Mr. Woodcock, Mr. Cook, and Mr. Wright responded.

In the evening, a lecture on Hardy Herbaceous Flowers, of which there was a grand display of cut blooms, was delivered by the Rev. R. Upcher, who, in the course of an able address, called the attention of the meeting to the nature of herbaceous plants—to the less woody character of their growth, their hardiness, utility, and peculiar charms. He then alluded to the various links in the chain of floral beauty, and explained their individuality and romance. The arrangement of the flowers in borders and shrubberies was, he said, a most important item in lending charm, and involved the study of height, locality, habit, and season of blooming. He warned them against the "jobbing gardener," and, in conclusion, gave some useful hints regarding the cultivation of plants.

A discussion followed, and an unanimous vote of thanks was accorded the lecturer.

SCOTTISH GARDENING.

Mignonette.—This much admired plant, when well grown, seldom receives the treatment which it deserves, and except a few specimens which are seen on exhibition tables at spring shows, it seldom has an important position in private places. The great numbers grown for Covent Garden Market show how much Mignonette is in demand for window and room decoration. The excellence of the small pots, 6 in. or so, full of strong growth and large flowers shows what care and proper attention can accomplish. The question of light and air must always be of moment, and we have no knowledge of any plant which is more impatient of a close stagnant atmosphere than Mignonette. There are several kinds in commerce with some degree of distinction attached to each kind; but for small pot-work none has ever been grown finer, or has flowered more freely than the old kind which everyone is so familiar with.

From this period, early in August, and onward is a suitable time for seed sowing, to grow stock for winter and spring use. The system adapted by market men, one of whom I worked under at Chelsea, when a boy, is to fill up a pit or frame near to the surface with old tan (ashes do very well), making all smooth and firm; pots of the desired size are crocked and filled with good loam to within less than an inch of the brims, the soil is made moderately firm, seed sown, lightly covered with soil, watered and pots stood close together; the lights are put on and a little air is given at first, but abundantly for some time before the plants appear; so important is air considered that the seed itself receives no coddling. When the plants are large enough they are thinned to several inches apart, the surfaces of the pots are kept quite free from weeds, and never allowed to become close or adhesive—the frequent use of a small pointed stick keeps this right; lights are kept off all day, put on at night, only to throw off rain when it may come, they are off again early in the morning—during showery weather they are put on and tilted up front and back, generally with brickbats. It would seem almost to appear inconsistent with truth were I to relate how often these lights, during showery weather, are pushed on and off in one day.

It is a strict rule that the lights must never be on when the state of the weather will allow them to be off, and the tilting up at front and back always follows the immediate covering with the glass lights. The thousands of plants I have seen in December, stiff like quills, and with perhaps not the loss of one pot of plants in the whole of the long ranges of pits, have fixed on my mind the success which attended this simple but very efficient means of growing Mignonette, which many years have not effaced. The watering now is never left to the youths, but always done with the greatest care, it being considered that if a pot becomes sodden it was next to useless. More water was never given than would keep the soil barely moist, especially between October and February, and the grower was always anxious to see dry surfaces, both of pots and structures, after watering had been performed. In course of time, the plants grew up to the glass and required removal to other pits; thinning was also necessary, and the whole stock was re-arranged with great alacrity. The few stakes put round the sides of the pots, with the strip of matting to keep the plants together, is too well known to require description; but this work was done so expeditiously—women being by far the best at the work—that the "smart journeyman" or "good nursery hand," when brought into contact with this work, had new lessons to learn. The fine specimen Mignonette one often sees at Edinburgh spring shows requires a deal of attention to bring them to such perfection, and in our way of thinking, these specimens are among the most creditable exhibits which are tabled. Specimen single plants are got by sowing a few seeds in small pots, then thinned to one plant (the strongest) and potted on, giving small shifts into well-drained pots. The airing business of these must not become any secondary matter.

Stock Growing for Spring Flowers is much on a par with the Mignonette, but Stocks being less amenable to injury, do with less attention, but coddling them is tantamount to failure. Now is a good time to sow for this purpose, and a few dozen well-grown Stocks in pots in private places during early spring and onwards are no mean objects. These can be grown for spring planting in beds, and very effective they are during April and May. The ordinary intermediate Stock is used for this work; East Lothian Stocks, in the various colours, are excellent, and may be grown so that—in the northern and cool districts especially—they can be had in flower from May to October. Our lot are now a mass of bloom. They were sown last August and pricked-out under hand-lights, where they remained during the winter, and were transferred to their flowering quarters during spring. The latest plants can be lifted during October and potted for spring flowering under glass.—*M. T.*

THE AMATEURS' GARDEN.

THE GREENHOUSE.

The majority of the ordinary occupants of this house will now be out-side, such as Azaleas, Heaths, and the more robust species of hard-wooded plants, as previously advised; but they must be very carefully attended in the supply of water, and there will be much less risk of injury if they are plunged in ashes. No plants of tender growth or weakly habit should be exposed in this way, as a cool north house is by far the best place for them, and in submitting them to the same treatment as the others they are often irrecoverably damaged. The principal object of the exposure is to get the growths well matured, and this should be borne in mind, for some seem to think that it is part of the routine to dry the plants, a mistake that is fully perceived at a later date, when the flowers are being expected. For any of these plants it is a great advantage to have a stout canvas blind on rollers running on a skeleton frame, as this can be run over the plants when the weather is either excessively hot or unduly wet, affording them protection of the two extremes that they are likely to feel the most. All extra care given to Azaleas in this way, preventing their becoming too wet or dry at the roots, will be well repaid in the future.

There is not a great variety of plants in flower in the greenhouse just now, but a good display can be provided with such plants as Celosias, which cannot be too highly valued for the purpose at this time of year, their graceful plumes of rosy and yellow flowers having a charming effect arranged with other plants, either on the stage or in groups on the floor of the house. The ordinary Cockscombs are also just now at their best for the same purpose, and where they have been grown in small pots they are very serviceable, owing to their distinct appearance and rich colours. Both these plants require liberal feeding, and supplies of liquid manure will assist them greatly, enlarging their flower-heads and prolonging the period of their attractions. Carnations in pots are also very beautiful in this house now, and though not necessarily of the finest named varieties, they produce equally as effective a display, the principal quality needed being a floriferous habit and bright or clear colours. There are plenty of varieties possessing these characters to select from, and it is only necessary to avoid all formality in securing the flower-stems to stakes, using slight sticks and not too long.

Many stove plants will thrive in the greenhouse at this season, and can be advantageously employed for improving its floral beauty. Amongst these, Gloxinias are particularly useful, and a few tasteful groups with Adiantums are charming, the large rich flowers of the Gloxinias, and the delicate graceful fronds of the Adiantum seem to suit each other admirably.

Seed of Calceolarias, Cinerarias, and Primulas, may still be sown for succession, and the plants from previous sowing should, if they have made good progress, be transferred into 48-size pots if that has not already been done. Still grow them in cool frames, arranging the plants on a base of coal ashes, attend to them regularly with water, and ventilate liberally, all after success with these plants depending upon keeping them in a vigorous thriving condition now.—*Scolytus.*

LONDON GARDENING.—V.

EXPERIENTIA DOCET.

EXPERIENCE does teach, certainly, and it is often taken for granted that all its pupils learn,—but in the great school of this great teacher there are many dunces who remain dunces to the end. So far as gardening, however, is concerned, its lessons are so simple and direct, and the penalties attending their neglect are so impressive, that they cannot well be disregarded. The lesson-books in which experience has taught me have been five; first, an old garden in which I found myself as a child,—then three new gardens made by me, in succession, where never garden had been before,—lastly, the little old London garden which is mine still. And a sixth volume, as yet unopened, awaits me in the shape of a country garden to be made, I hope this autumn, out of an old farm-yard!

Distance I daresay lends some enchantment to the view, but no garden that I ever see looks to me like the first I knew, the big-walled garden in the old country town, the garden of my childhood, my spelling-book of flowers, as it were; no Roses, howsoever globular and grand, seem so sweet as the Moss Rose on my mother's plate, and the Rose de Meaux on mine, which used to be laid there just before breakfast on summer mornings, by my father's hand:—no Pear-blossom looks so snowy as the clusters round the nursery window which the setting sun used to flush in Aprils long ago. I shall reproduce "phrases" of that old garden, as far as I can, in laying out the ex-farmyard; I am bent upon having a Solomon's Seal just where my mother's bushy fellow grew,—not an inch nearer or farther from the path! There must be Everlasting Peas clasping the stem of an Apple tree just as they did there,—and Tree Fuchsias with shade from the north just near enough to keep their blooms back till September, like the big specimens of "gracilis" whose flowers were always wet and heavy with dew on the morning of the 16th, when I used to gather great bunches for my mother on her birthday.

But my business now is neither with the past nor the future, but with the present—the London—garden, and with a few of the plants which will consent to live happily in it. Of the three new gardens, made by me at different times, of which I have cursorily spoken, the first was six, the second ten, the third four miles from London; the first was on gravel, the second on yellow loam with a sub-soil of chalky shingle, the third on London clay. (The sixth or coming garden, I may mention, is on sand pure and simple.) I have thus enjoyed the acquaintance not only of various soils, but also of London smoke at various distances. Ten miles off I just knew it by sight, and that was all,—six miles off I was obliged to acknowledge it as a more than occasional visitor to the neighbourhood,—four miles off we became more intimate than I liked,—and now, in a real London garden, our intimacy has deepened into a familiarity which belies the proverb, unhappily, in that it breeds no contempt! Here it is no visitor, it is a *quasi* bailiff-in-possession, blighting by its offensive presence what does not belong to it, and if out of sight for a brief season it is sure to be here again directly; such officials, I have understood, are warmly disliked by the unfortunate householders on whom they fasten themselves, but as to contempt,—that I should imagine is scarcely the emotion they inspire.

It must not be forgotten that I treat only of what is practicable in the ordinary little oblong London garden, not by any means of gardening possibilities in London at large, including the public Parks and gardens north and south of the river, and the spacious gardens belonging to a few favoured houses—"mansions," as the agents love to call them—here and there. There scarcely any limits need be set, except such as fog and fog's offspring can impose; no frowning houses can rob so wide a space of light, no walls check the flow of ground-currents of reviving air, or provide our friends the cats with the esplanade and staircases which help so handsomely to develop the social side of life as they view it;—the soil can be just what you please when you have a public purse to draw upon, and as to the water,—can the owner of a poor little dry-as-dust garden, which has never in its life had as much water as it could drink, be expected to dwell dispassionately on the quantity always at the service of Park flowers? No; piles of buns are not the things to look at when one is hungry; let us call in all roving glances, and concentrate our attention on the narrow possibilities in the narrow enclosures owned by people of more or less narrow means, and perhaps—if we look close enough, and long enough, and with really wide-open eyes,—these poor little possibilities may widen enough to give us quite a little shock of pleasure.

Suppose, my would-be London gardener, we consider the plants within the radius of your modest ambition in three groups,—Perennials or "Herbaceous" subjects, Bulbs, and Annuals.

The first remark I would make about the Perennials is this: the smooth-leaved sorts are the best for you. I shall have something to say presently about Alpine Auriculas in pots, but I will refer to them passingly here as border plants because they furnish a convenient example of the smooth-leaved tribe. There cannot be a more beautiful flower than the Auricula, and its temper is as sweet as its face; it smiles at all the disadvantages of the London garden and flourishes in spite of them, and for this complaisance the smoothness of its leaves in no small measure accounts. The "blacks" do not cling to a smooth surface,—they are easily washed off, and if the rain that sweeps them away *is* black rain, yet a liquid preparation does not choke the pores of a plant like powder administered dry or moistened into a tenacious paste. Rough-leaved plants are very apt to flag and fail (I do not say die outright) in the London garden, and especially those that flower in the spring. The Hollyhock and Foxglove, and some of the Lychnis family, all rough-leaved summer bloomers, succeed fairly in some parts of London, though not in all; the winter soot-laden rains are succeeded by somewhat cleaner ones as fires and fogs grow fewer and the sun gains power, so that the summer flowerers have time to put forth their strength after they are partly freed from the granular impurity which has inlaid and overlaid them through all the dark days. But Primroses, to take a familiar instance, have no such chance; their rugged leaves catch and keep the blacks as Utrecht velvet would, and then blooming-time comes before washing-time. I have large Primrose-roots in my garden which are now in a most thriving state, the leaves richly green, erect, and healthy, and the whole habit vigorous. But not a single flower did they produce, and when they should have been flowering they were poor miserable looking objects, brown and shrivelled and stunted,—out of heart, in fact, in the not yet relaxed grip of the arch-enemy. In choosing spring-flowering occupants for your garden, then, remember that plants (as well as indoor appointments) *that will wash* are the best for winter wear in London.

Now let us turn to our list, and give the Perennials; we enter upon it the names by which they are most commonly known. I look out of the window to make it:—there they are,—Tree Lupins, Tree Fuchsias, Double and Perennial Sunflowers, Snapdragons, Sweet Williams, Pinks, Sweet Woodruff, Perennial Cornflowers, Lilies of the Valley, Michaelmas Daisies, Potentillas, Saxifragas in variety, Chrysanthemums, Œnotheras, Pentstemons, Funkias, Phloxes, Anemones ("Honorine Jobert"), Hepaticas,—Alpine Auriculas by the dozen, clumps of Arabis, of Yellow Alyssum, of Aubrietia. There is the Globe Ranunculus or "Batchelors' Buttons," and there the little Campanula muralis. Ah! that reminds me:—I must mention a few plants separately from those whose names I have just dotted down in the sweet confusion in which they grow; a few which do not prosper with me here, but ought to prosper, according to the reports of other London experimentalists. Such are Campanulas ("Muralis" excepted), Violets Heartsease, Double Daisies, Wallflowers, Larkspurs, and Carnations. Campanulas yield nothing but a bunch of leaves, Violets refuse to flower, Heartseases dwindle, Daisies—and often Wallflowers—die in the winter, Carnations wither and turn yellow before a bud is ready to open. The failure of Campanulas and Larkspurs (Delphiniums) I cannot explain;—Violets, I am inclined to think, pine for ground-ventilation, for the further they are from a wall the more healthy they look, and we know that their favourite home is a warm slope backed by a hedge, where they are at the same time partly screened and abundantly ventilated; in summer mine are as prodigal of leafy promises as the Primroses, but spring finds them indisposed to waste their purple sweetness on such air as I can get for them. Heartseases are only too apt to degenerate everywhere, and I ascribe their speedy relapse here into barbaric poverty to the dry and rapidly exhausted soil; in my garden on the clay they flourish luxuriantly, and with less attention than they have received in this one. As to Daisies and Wallflowers, popularly considered so easy of culture, all mine succumbed to last winter's frosts, which were the deadlier for the floods of autumn rain that preceded them: such wholesale slaughter surprised me, for I should have thought that in so dry and sheltered a spot the Daisies, at all events, which can bear a good deal of moisture, would have an excellent chance of escape. Doubtless the stagnant air of a very "shut-in" garden, the worst of all my antagonists, is at the bottom of this mischief too; it covertly lowers the "tone" of many plants, and robs them of their power to resist the onslaught of overt foes. Carnations refuse to be wooed here—and indeed Pinks too often make themselves disagreeable—because of this brooding enemy; in more open situations in London, where trees are fewer and walls lower, I have seen very fine specimens, so nobody need be deterred from growing them because I cannot grow them successfully.

After all, the malcontents are but a small group, far too insignificant to be a serious discouragement. Besides, some of them, at least, as I have said, would not be malcontents in London gardens with more favourable *entourages*:—high above my high walls rise my neighbours' trees, and as my garden is at the bottom of a slope, the one behind it is on a considerably higher level, and the shrubs there have a start of 2 ft. or 3 ft., even at the lower end, which converts them into giants from my poor plants' standpoint. My 8 ft. Sunflowers, even on tip-toes, cannot get near enough to their boastful arms to worry them, and we all know how far heads are above arms! So much for the look of things northward; and east and west are two large old Pear trees, both in other people's gardens, which effectually screen the middle of mine from the morning and the evening sun. The house blocks out amenities from the south, excepting a 5 ft. strip at the western side;—but surely I need say no more? If I can grow flowers here successfully enough to give me (and my children) pleasure and healthy employment all the year round, what may not be done by this, that, and the other feminine Londoner, more fortunately circumstanced than I?—*C. A. G.*

DENDROBIUM SUPERBIENS.

THIS beautiful Dendrobe, introduced from Torres Straits in 1877 by Mr. B. S. Williams, is unquestionably one of the best of the many good things sent out from the Victoria and Paradise Nurseries. It is an amateur's Orchid *par excellence*, being always in bloom, and so beautiful withal that no amateur's stove, however small, should be without it. It blooms from old stems as freely as from young ones; and as shown in the accompanying illustration, bears long racemes with from a dozen to twenty-five flowers on each. The sepals are dark purple and beautifully reticulated, the petals longer than the sepals, and of a soft shade of purple, and the lip purple with five keels on the disk. Under good cultivation the stems grow from 2 ft. to 3 ft. high, and are furnished with thick oblong-acute leaves. Mr. Williams grows the plant in pans or baskets suspended from the roof, and an ordinary stove temperature suits it admirably.

BATTERSEA PARK.

THIRTY-THREE years ago there stretched along the south side of the Thames, at Battersea, what might literally be described as a waste and howling wilderness. Most of the howling, by the way, was heard on the day when sober and order-loving people seek rest and quiet, and attend the services of church or chapel. The river, in those days, seemed to have its "own," but not "sweet," way. By the smooth, slimy banks was a wide margin of No Man's Land, dotted here and there with stagnant pools, and furrowed with noisome water-courses, half hidden under rank grasses, reeds, and nettles. Beyond were the shanties and tumble-down cottages of outer Battersea; and then a zone of market gardens, from which, in spring-time, when the south wind blew, came the scent of Wallflowers and blossoming fruit trees. Along the margin of the dismal swamp were the tents of gipsies, the caravans of travelling showmen, the booths of bruisers, and an indiscriminate assemblage of the rascaldom of the greatest city in the world. Hither flocked, on Sunday mornings especially, by road and river, pugilists, pigeon-shooters, gamblers, dog and cock-fighters, and a host

of the swindling fraternity, including the light-fingered professors of various branches of palmistry, from the manipulator of the whirling disk on which the incipient speculator ventured his penny on the sections of red, white, and blue, to the more dangerous and fascinating card-sharper, who invited the onlooker to back his opinion, stake his half-sovereign, and "name the Jack." Thither flocked the people with "brains," and the less fortunate ones with "money" only. Close by, in fitting proximity, was the notorious Red House —the Hurlingham of those days—and on the outskirts of the enclosure hung many poorer brethren of the sporting fraternity, with guns and dogs, on the watch for the pigeons that escaped, fluttering and maimed, from the murderous fire within.

We will not attempt to describe the scenes of indecency, the hooting and clamour, the drunken debauchery, the fiendish cruelty, the coarse brutality, and the blasphemy that characterised these Sunday gatherings in Battersea Fields. For years the respectable inhabitants of the neighbourhood protested in vain, until at last the nuisance became intolerable. Then came, just in the nick of time, one Farrer, a man with an idea, and faith, and persistence enough to force it upon the attention of the public. Bumbledom stood aghast at the notion of laying out a park and gardens for the use and enjoyment of the "common people." "What! flower gardens and park for such folk!" exclaimed the turtle-soupists. "Preposterous! absurd! mischievous! revolutionary! What next? You'll want to eddycate 'em all soon. And then where's our servants to come from? Who's to groom our 'orses? and dig our gardings? and clean our boots? No; let 'em do their dooty in that state of life unto which they is called, and learn to be lowly and reverent to all their betters." But the fiat, nevertheless, went forth, and in less than three years the 250 acres of utter abomination, with the indescribable flotsam and jetsam of the dirty river, and its miasma, physical and social, gave place to one of the prettiest and most picturesque public parks, pleasure grounds, and gardens in all England.

Early in '54 might have been observed from the roof of the Red House, tokens of the impending change. Long lines of barges followed the labouring steam tugs along the restless bosom of the Thames, discharging their huge cargoes of rubbish—the *debris* of great London—by the high water mark. For a time one intolerable nuisance made way for another. Mephitic vapours hung over this Valley of Hennom, concealing the swarms of swart navvies busy with pick and shovel beneath, until the foundations of Battersea Park were laid. Here the surface rose into little hills, there it sank into dells or stretched away in level plains. If the antiquarian contemporaries of Macaulay's New Zealander should happen to excavate there, they will discover, no doubt, numerous fragments of ancient pottery of the once famous willow pattern, a miscellaneous assemblage of antique hardware, and, strange to say, a large number of cylindrical and cubical vessels, in some of which the bones of Australian and New Zealand sheep were discovered. There are vast accumulations of these interesting relics, it will no doubt be observed—sufficient, we may add, to furnish specimens to each town and village museum. As yet the scene is an irregular verdureless waste, except where a few Elms and Poplars and an Ash tree or two dot the sombre expanse. Then came a thick deposit of surface soil, black and unctious, and a garniture of emerald sward, evergreens, flowering shrubs, and trees of quick growth. The shady avenue of Elms was planted then, and, indeed, nearly all the trees and shrubs, beside the aforesaid veterans. Last of all the lakes were filled, and the picture so far was complete. Such was the aspect of the converted Battersea Fields when Farrer was succeeded by Gibson, the originator of the most attractive and interesting feature of the Park—the famous Sub-tropical gardens.

An artist of a colossal sort was this Gibson—his canvas an expanse of two hundred and fifty acres, his material a wealth of glowing colours and subtle tones from fair Flora's palette. Then came the brilliant sequence of floral pictures, each in a setting of dense foliage, a garden of glades and vistas, sloping lawns and rockeries, pools with rafts of Lilies and fringes of flags and silver-plumed reeds, cascades and rustic bridges, cool shady recesses and ferny dells, stately Aloes and Palms, Daturas, Ficuses and Cannas, and a host of choice exotics, masses of brilliant colours and elegant forms bewildering in their variety and richness, delightful to lovers of the picturesque, curious and interesting as specimens of plant life, inspiring and refreshing to wearied workers from the Babel of bricks and mortar beyond. Turn we now for a moment to the social and æsthetic aspect, and the physical advantages conferred by the opportunities for recreation. The metamorphosis from the dismal swamp of Battersea Fields is not more striking and salutary than the change resulting in the improved tastes and diversions of the multitudes who frequent the Park and Gardens. The mere presence of flowers in beautiful and orderly arrangement and disposition is an impressive and effectual lesson even to the most illiterate. The eye turns instinctively over and over again to the chaste and beautiful forms—the floral gems in emerald-foil—as eagerly as the ear listens to songs of birds or harmonies of sweet sounds, until vulgar finery is as distasteful and offensive as discordant noise.

Dendrobium superbiens.

Someone (Paley, we think) describes an incident of the coast. It is a fine day, and the little waves are sparkling in the sunshine, as the silver fringe spreads softly over the dove-coloured sands. A few yards off an apparent mist, or mirage, suddenly covers the water, accompanied by the sound of multitudinous pattering raindrops. It arises from myriads of shrimps at play. We are then asked to imagine the sum total of enjoyment of this mile long strata of humble crustacea. As impossible it would be to reckon the aggregate of delight experienced by the multitudes of happy children with the blue sky above them, green turf beneath, and around them a garniture of bright colours and hosts of twinkling leaves. But it may be said all is so unnatural, so extremely artificial. Yet birds build their nests, and bees and butterflies sip honey here. A few years ago there were nightingales, but even now there are a great number of blackbirds and thrushes that nest

here; and this very spring, for the first time, a pair of wood-pigeons brought up their young on one of the trees by the sub-tropical garden. But Battersea Park is *par excellence* a school for the noble game of cricket. There wide areas, the practice-ground, the match, and the Battersea grounds, comprising probably an area of 150 acres in extent, are devoted to cricket, and occasionally there may be seen sixty games going on simultaneously. No one can fail to observe the superior physique, healthy appearance, and zest with which the young people engage in the games. But the gardens are the especial glory of Battersea Park. They are unique, and, considering the proximity of various manufactures carried on in the immediate neighbourhood, quite surprising results of horticultural skill. Perhaps the tidal movements of the river are conducive to a constant change and purification of the atmosphere. This and the careful watering and syringing of the beds and borders keep the vegetation in fresh and thriving condition. Altogether Battersea Park and Gardens are something of which Londoners may well be proud, and if the ninety-and-nine continue to make such good use of them as they undoubtedly do, we need scarcely trouble ourselves with regrets about the unfortunate "'Arry," who neither enjoys cricket nor can appreciate the "lesson of the flowers."—*Echo.*

NONSUCH PARK, CHEAM.

The Surrey estate, of W. R. G. Farmer, Esq., is noted for objects of interest in its park and garden. In the park the avenue of Elms, one mile in length, running from the Cheam Lodge to the Ewell entrance, is what few estates can boast of, and the old Pollard Elm, from which, the county history tells us, Queen Elizabeth shot deer with the cross-bow, and the many other matters about the place deemed of sufficient age and importance to be noted by the same authority, amply prove that it is not only a very old and fine estate, but that as far back as record goes, a pride was taken by its owner in keeping up its pleasure grounds and gardens, a quality which is maintained by its present possessor, who, by making in his fine park plantations of such things as Araucaria imbricata, Cedrus deodara, and other trees of beauty and recent introduction, is preparing for posterity the wherewithal to change and beautify the prospect in every direction, when in time they get size and become leading features in the scenery. In the garden, although exhibiting has been discontinued, we all know or have heard of Mr. Farmer's triumphs with Orchids, Azaleas, and plants generally, in Carson's time, and although at present the plants do not make their appearance in public, they preserve their health and condition at home, and would cause much uneasiness among prize winners were they to enter the lists again.

From the avenue of Elms in the park to the fine Tudor mansion runs a very fine row of Scotch Firs of great height, and measuring 9 ft. to 10 ft. in the girth of the trunks; these are a noble feature in the place, grand in appearance, and delightfully fragrant in the summer. Beside them is the walled-in flower garden, which is just now a blaze of colour supplied by the scarlet, crimson, pink, and other well-known bedding-plants, for carpet-bedding here, as in most other places, is almost done away with, a bed or two only being so planted for a change. As a vast improvement in the show of summer bedding-plants, those filled with white Marguerites, edged with scarlet Pelargonium and blue Lobelia, and those planted with mixed plants give good examples of a much better means of occupying the beds than giving them over to the labour-demanding carpet bedding-plants; and among those mixed beds a fine example may be noted formed like a Maltese cross, the centre being occupied by a standard covered with purple Clematis Jackmannii, beneath which rise the tall spikes of the scarlet Lobelia cardinalis Queen Victoria, the bed being filled-in with yellow Calceolarias, Pelargoniums of different colours, and other flowering plants, the whole edged with golden Pyrethrums. Something like a pattern is secured, and the necessary contrast obtained by the judicious use of dark-leaved Perilla and a scarlet-flowered white variegated Pelargonium, and on this success depends, for if planted unskilfully mixed beds are very shabby affairs. The entrance to the flower garden has some perfect Arbor vitæ's, 30 ft. in height, and the wall at the side is covered with a rich collection of trailers—Roses, Jasmines, &c., and a phenomenal Wistaria sinensis, with stout, straight branches running nearly 200 ft., and forming a grand sight with its long sprays of blue flowers.

The Pinetum.

This is always a delightful retreat, the different tints and forms of its occupants and their pleasant odour being grateful at all times. That at Nonsuch Park has been planted a long time; the air of newness has passed off, and the rare specimens are of all the greater interest, that time has allowed them to assume their distinctive habits, and thus the resemblance which many of the Pines bear to each other in their young stage has vanished, and their present dissimilarity is such as to cause one to wonder how one could be confounded with the other. Many of the things which we are accustomed to see planted in little specimens as rare trees in newer gardens, are here from 30 ft. to 50 ft. in height, the varieties of Pinus being especially handsome. One specimen of P. excelsa is literally laden with purple cones, and P. Lambertiana, P. cembra, P. Massoni and others, are of noble proportions; Picea pinsapo, P. nobilis and P. Nordmanniana are superb, and Abies cephalonica and A. Douglasii from 50 ft. to 80 ft. in height. At the edge of the Pinetum, too, the weeping Beech and cut-leaved Birch are very effective.

From the terrace in front of the Pinetum, on which stands some very fine Irish Yews and a dozen large vases of flowering plants, a view over the Rose garden and pleasure grounds is obtained, away to the Rose-covered way leading to the flower garden and mansion. From this point a view is obtained, in which comes in some very fine trees, such as Magnolia grandiflora, with a perfectly round head some 25 ft. across, some giant Yews and Chestnut trees, and a noble Cedar of Lebanon. Away to the left is a delightful dell, planted ages ago with Yews, Chestnuts, Walnut and other trees, and more recently with Mock Orange and other flowering shrubs. In this delightful part of the garden stands an immense Oriental Plane, branched to the ground, and measuring over 100 ft. across, which must certainly be one of the first of its kind ever planted in England.

The Glass Department.

The garden under glass consists of a good range, the whole of which is heated by one of the Thames Bank Iron Company's upright tubulars, fitted with one of their improved flue-caps, which is a great improvement. Heat enough and to spare is thus secured in a satisfactory manner. The large span-roofed greenhouse contains the specimen Azaleas in grand order and of elephantine proportions, one fine old white being 8 ft. in height and 7 ft. 6 in. across, and many others nearly as large, and Rhododendron Gibsoni matches well with them. The house is enlivened with Coleus, Begonia Weltoniensis, and Fuchsia Rose of Castile, which, if one of our oldest light Fuchsias, is one of the best either for in or outdoors and for vases and beds outside, in summer especially. The next house has the pyramid specimen Fuchsias, about 6 ft. high, and laden with bloom, the most elegant single red being Charmer. Pelargoniums, Begonias, and other plants also occupy this house; an immense specimen of the fragrant white Jasminum gracillimum, which is noteworthy on account of the special treatment which Mr. T. Sillence, the gardener, gives it, whereby he grows it to that perfection, which he seems to attain with all things which he takes in hand. It is complained of by many that this section of Jasmine often grow too much, and to counteract this tendency, which he had noticed in J. gracillinum, Mr. Sillence grows it well in the stove during winter and until the beginning of May, when it is placed with the Fuchsias in a cool house, where it blooms profusely and continually until early winter, when it is returned to the stove.

In the first stove house Allamanda Hendersoni has been blooming profusely on the roof ever since May, and the carmine Dipladenia Brearleyana is equally lovely; the specimens of Crotons, Acalypha Macafeeana and other foliage plants, were very clean and perfect; the Gardenias well set with buds, and the Tabernæmontana Camassia, which might be called the mock Gardenia, was covered with double white flowers. In this house too, a lovely covering is made for the grotto and wall at the back by the fine violet, green and silver foliage of the rapidly climbing Cissus discolor; the mauve sprays of Bougainvillea, the feathery fronds of Nephrolepis and other Ferns, and the variegated foliages of Dieffenbachias and Tradescantias. The next stove has many fine Orchids, although the collection has been given up some years back; among them Dendrobium chrysanthum, with growths over 4 ft. in length, is in bud, and Lælia crispa, Cœlogyne speciosa and some others are in bloom. Also in bloom are fine specimens of Hedychium coronarium, a lovely and fragrant old plant, the orange-scarlet Rondeletia speciosa, the brilliant scarlet Hibiscus rosa sinensis, Stephanotis grandiflora, and on the end of the house a perfect avalanche of the fragrant white Jasminum grandiflorum, which is almost perpetual blooming; the specimen Eucharis too are in grand order, and the scarlet Anthurium Scherzerianum very showy.

The Frame Ground.

In the frame ground, which is enclosed by a neatly clipped Yew hedge 8 ft. high, are the forcing houses in which Mr. Sillence has been very successful with Melons, getting two crops off each. In the one, the first crop came in on the 20th of May, and the second in the first week in July; and the house is again planted while the second crop in the next house is yet on. On a shelf in the same house a very large and healthy lot of Calanthes are grown, and beneath Maidenhair Ferns. In the cold frames are a large young stock of Poinsettias, and outside are Pelargoniums for winter blooming, and in bloom some specimens of single and double white Brugmansia. The kitchen garden which contains the Vineries is of the old-fashioned kind and well cropped, all the available space which can be spared being devoted to hardy herbaceous perennials for supplying cut flowers, Violets for forcing, &c. The borders along the walks, generally, are planted with such things, and a great profusion and variety of flowers is thus obtained from early spring until winter. The Phloxes, Pentstemons, and other hardy florists' flowers are just now very gay, and so also are the large masses of yellow Harpalium rigidum, Rudbeckia Newmanni; the different varieties of perennial Sunflower, and the silvery clouds of the pretty Gypsophila paniculata; admirable both on account of their own beauty, and from their dissimilarity from the numerous other pretty things which abound in this pleasant garden.

ON THE CULTIVATION OF THE CHRYSANTHEMUM.—XIII.

Continuing my remarks upon insects, one of the worst pests is the green fly, but, with very little trouble, the plants can be kept free from it. During the winter months the houses or frames should occasionally receive a smoking out with tobacco rag, this will soon destroy what insects there may be on the plants. After the plants are stood out-doors, and during the whole of the time they are out-doors, they should be gone over frequently to see that they are perfectly clean. If any signs of green fly appear, the plants should be dusted with tobacco powder while the dew is on the leaves; this will effectually destroy the insects. The fly will be found on the young leaves at the end of each shoot, but when the plants are badly infested (although no grower should allow his plants to become so), they will be found also on the underside of the leaves. The powder can be put on the plants by taking a pinch between the finger and thumb, or a better plan is to procure a powder distributor, which can be had very cheap, and when once filled is always handy to give a plant a puff when required.

Another insect that sometimes infests the plants is the cuckoo spittle. This will generally be found on the plants early in the season, and can be distinguished by a white frothy substance appearing at the axils, and also on the undersides of the leaves. The best remedy is to remove and destroy them as soon as they make their appearance; a little perseverance in this way will keep the plants perfectly clean.

Another insect that does great mischief to the foliage of the plants is a small maggot. When a plant is attacked, the foliage will become marked or "veined" with brown or dark marks. As soon as a leaf is seen to be so affected it should be at once looked at, and there will be observed a small maggot working about in the leaf, and upon slight pressure with the thumb and finger, this maggot can be destroyed. If not looked carefully after at first appearance, the whole plant will soon present an unsightly appearance, and the foliage be destroyed, and this is a serious matter where the plants are intended to be exhibited as specimens.

The plants should be frequently gone over during their whole season of growth to keep them perfectly free from all kinds of insects, as the cleaner they are kept the better they thrive.

If the early-flowering varieties are required for exhibition, they will require to be flowered under glass, or some temporary shelter, such as calico made waterproof, to protect the blooms from wet, and they should be taken under cover when the buds show colour.

The November flowering varieties should be housed about the first week in October. Those varieties required for late blooming should be kept out-doors as long as possible. If a temporary covering can be erected over them on the approach of frost, they will be sufficiently protected till severe weather sets in, when they should be taken into the house.

In all cases when the plants are housed, abundance of air must be admitted both night and day.

When the plants are housed they should be carefully looked over, and, if any signs of mildew appear, they should be dusted with flour of sulphur.

Having now given a general outline of the culture of the Chrysanthemum, if there are any readers of THE GARDENING WORLD who may at any time wish for further information, I am sure the editor will be pleased to insert their queries, when they shall receive due attention.—*W. E. Boyce, Archway Road, Highgate.*

FRUITS, FLOWERS & VEGETABLES.

Mammoth Scarlet Runners.—I was going my rounds the other morning and found an extra fine lot of Scarlet Runner Beans in the kitchen garden. I pulled three off one stalk, each of which measured between 10 in. and 11 in. in length, and quite fit for cooking. The sort is one called Mammoth, recommended by Messrs. J. Veitch & Sons. I have sent you thirteen, which weigh 1 lb. 2 ozs., there has been no extra cultivation given to them, and a row of the old sort, 6 ft. away from the Mammoths, are certainly not so fine or so prolific. Prodigy, a new Pea sent out by the same firm, has turned out a great cropper and of first-rate quality. It is certainly worth growing a second year. I still stick to my old favourite, "Jay's Conqueror," a sort that never fails to give the greatest satisfaction to the kitchen server and to the cook.—*G. B.* [The pods received are very fine, all measuring from 1 in. to 1¼ in. in breadth, and very tender in flesh. A good thing evidently.—ED.]

The Amsden Peach.—This variety is unknown to me, but I am pleased to inform your correspondent, Mr. Gilbert, that Princess Beatrice is the first to ripen here; some seasons it ripens earlier than others. I have gathered it in the second week in July; this season it was about the 20th of July when the first fruit was ready. This tree has borne about twelve dozen of fine fruit for four successive years. This, the second week of August, we have a few left. I may say as to Alexandra, that I gathered fruit in the fourth week of July, equal to Royal George in colour, though not in size, but a fair size for an early Peach. Hale's Early will be ready in a few days; when Beatrice is done Hale's Early is generally ready with me. The latter I consider a grand Peach for colour, size and flavour; our tree carries about eight dozen of grand fruit this season. I may say that I feed very heavily with Clay's Fertiliser and Bone Meal. If the Amsden Peach is so much earlier with Mr. Gilbert than Beatrice, I see no reason why it should not be earlier here. I hope others will give their opinion of this Peach through the columns of THE GARDENING WORLD.—*Robert Smith, The Gardens, Kenward, Yalding, Kent.*

Chrysanthemums and Earwigs.—Having read the interesting and practical notes by Mr. Kidson on the Chrysanthemum, I am led to say that I believe the remarks by Mr. Kidson on the Earwig to be quite sound, as his observations exactly coincide with mine. Last year having had several shoots on my plants eaten just as Mr. Boyce describes in your last issue, I suspected the Earwigs, and having caught several, I put them under a large bell-glass with some young shoots of the Chrysanthemum. I also shook in some hundreds of green-fly along with the shoots, making all secure; the result was that every green-fly was eaten up within thirty hours, and it was not till forty-five hours had passed that the earwigs began to eat the shoots, and then they ate round holes in one of the leaves—all the Earwigs eating at the same leaf. They did not touch the stem of the shoot; indeed the earwigs seemed to relish the fly so much that they ate many of them up while I was looking on in the daytime. From this I think the Earwig will prove more a friend than an enemy to the Chrysanthemum in its growing stage. I am inclined to regard woodlice as the real culprits, or the green caterdillar, as both I have found on my plants.—*J. Waldie.*

Carnations Indoor and Out.—Permit me to acknowledge first the courteous reference to my contributions, in the gardening journals, of "Dianthus," p. 772, and then to add a few observations to my notes, p. 746, that unintentionally seemed to anticipate a few things I would otherwise now remark. "Dianthus" says, "no one who grows Carnations, Picotees, and Pinks to have them in bloom in July, think of growing them within doors." In the previous sentence he described a remark of mine, having special reference to outdoor hardy flowers, and under that heading as "tantalising," and inexplicable. Now I think I may fairly borrow his description of me, and even question its accuracy. As a matter of fact, was there a single Carnation at the last Carnation Show at Kensington, or at the Carnation and Picotee Union at Mr. Dodwell's on the 3rd inst., grown *wholly* in the open air? If there was not, what is the meaning of the sentence quoted? I see from your description of the latter show, p. 780, referring to those grown, and not for competition, by Mr. Dodwell, "all his frames and houses were full of blooming plants." I need not say, nothing I wrote would justify the assumption that I meant to have tree Carnations or forcing Pinks in bloom in the open air in February and March, it is, therefore, purely gratuitous. There is then a petulant remark, that I mean to have a "sly hit" at "the florists, as they are at times contemptuously termed," and then magnanimously claiming for them the liberty to please themselves. This sort of criticism is always easily indulged in, and whether meant or not could do no good, except to produce an unkindly feeling towards me by gentlemen for whom, individually and collectively, I have the most profound admiration. For years my great sin, if so it can be called, has been to recommend the extended culture in the open air, of every florist flower, that will at all bear that treatment, so as to place them within reach of the masses—to give the greatest pleasure to the greatest number. I may err in detail, but I believe the principal is right.—*W. J. Murphy, Clonmel.*

The Fruit Crops.—The crops here, and in this neighbourhood, in some instances, are extremely disappointing to those who noticed how gay the trees were with flower during the spring, but the old adage says, "it is not all gold that glitters," and Apples are a very moderate crop. Pears are a very good crop, Beurré Rance figuring very conspicuously; Cherries on the whole are good, as also Plums, especially Kirk's and Victoria; Filberts and Hazel Nuts are good—while Kent Cobs are fair. Strawberries have not been so plentiful as last year, but Raspberries and red, white, and black Currants are in abundance; Gooseberries are a medium crop; Peaches and Nectarines are very scanty, having suffered severely from the late spring frosts. On the whole, the fruit trees are very free and clean.—*Charles Grant, The Rookery Gardens, Dorking.*

Peas not Germinating.—I had hoped that among your numerous correspondents, some one would have been found to throw more light on Mr. Gilbert's non success with some of his Peas, as recorded in a former issue. In my own experience, I have had what at first sight seemed very surprising things happen, and which have made me very cautious in imputing blame to the seedsman. I believe that among the respectable members of the trade, such a thing as supplying seeds of low germinating power (unless, indeed, the customer is warned that owing to adverse seasons it cannot be avoided) is an event which seldom happens, and yet failures similar to Mr. Gilbert's do occur, and will often puzzle anyone to give a satisfactory explanation of the failure. I once sowed a frame of Carrots, every reasonable care being taken to ensure success, but scarcely a plant made its appearance, and to satisfy myself as to the quality of the seed sown, the remainder of the packet was sown on the same soil, and we had a splendid crop. I never could assign any positive reason for this failure, and similar experiences will no doubt be fresh in the memories of many of your readers. Last autumn we sowed, on the same day, three rows of Peas and two of Seville Long Pod Beans, and finding the Peas were above ground, and the Beans not making their appearance for some time afterwards an examination were made, when the Beans were found to be in a decaying state, while a later sowing from the same sample grew first rate; our explanation is that the frost got at them just as they were germinating, and an alternate thaw and frost checked the growth and ultimately killed them. The Peas being protected with a mulching of Fir leaves, the primary object of which was to keep the birds from them, were protected alike from birds and the severity of the frost. Scotch Fir leaves, or as the country folk call them "pins and needles," are the only protection we use against birds for our Pea crop. Pea guards, string or scarecrows are not wanted where a supply of these are available, however numerous the birds may be, and they are in strong force here; with half an inch of needles scattered along the rows the birds will never molest them. I have lost sowings of Peas occasionally in dry weather, till I took to mulching them immediately they are sown. It will sometimes happen that there is just enough moisture in the soil at sowing time to make the seed germinate, and from the want of further supply from the clouds or the water pot the soil becomes too dry to supply the requirements of the plants at a critical period in their existence, and they succumb for lack of moisture; when, if the whole of the ground had been mulched immediately after sowing, very much of the moisture in the soil would have been retained for the benefit of the crop, instead of being evaporated into the air. Mr. Gilbert's failures occurred so early in the season that at first sight there seems great reason to doubt if they could have come about in this way, though it is quite possible they resulted from a somewhat similar combination of circumstances.—*W. B. G.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

If the directions given in previous calendars have been followed and carried out, there will be somewhat of a lull in this department, notwithstanding, there must be no semblance of neglect, or it will surely make itself felt sooner or later, but at the same time it will allow of a more general survey and re-arranging where necessary being given. More particularly will this be necessary in the intermediate house, where the occupants are growing in the greatest luxuriance, and unless given more room for development, will be spoiled except for grouping. Seedling Begonias are flowering very freely, and where specimens are required for house decoration (and for which they are well adapted if prepared), they must be staged thinly, or better still, if they are placed on inverted pots among the other plants, they will help to relieve the monotony of the "bank," and also be greatly benefitted.

The stock of plants of Hedychium Gardnerianum, in this house, are flowering admirably, giving us spikes of bloom from 1 ft. to 15 ins. in length, and of equally good girth. This is a grand old plant for summer decorative work, but one seldom sees it, and even then, as a rule, in a most unsatisfactory state. We find that, like the Eucharis, it must *not* be dried off; during the summer months it may be grown in any structure where a moderate temperature is maintained, and it will make satisfactory growth and flower quite freely if not too shaded. It quite enjoys and repays the most liberal treatment and attention in the way of an occasional dose of liquid manure water, and during the growing season of an abundance of water to the roots, and the free use of the syringe. Towards September water and syringing must be gradually reduced, and the plants may be subject to a rather lower temperature so as to induce rest, but at no time must they be placed out of sight, such as under a stage, or it will prove fatal to good heads of flowers. Keep them always exposed to the light, a late Vinery is a good place for them, and as they only require an occasional watering they are not at all in the way, and should the foliage become dirty, sponge them; they may be readily placed to look quite refreshing amongst the Grapes, instead of, as may be supposed, an eyesore.

Preparation must now also be made for the propagation of the bedding stuff for next season's use, that is in the way of the boxes in which the cuttings are to be placed being cleaned and crocked, the heap of soil prepared, so that when the work is begun it may be completed as quickly as possible, for it must be remembered that each day brings its work, and therefore dilatoriness must not by any means be countenanced. For the propagating of the Alternantheras, Lobelias, Verbenas,

and other such like subjects, it will be advisable to prepare a mild hot-bed into which the pot cuttings may be plunged; if the frame be kept closed and well shaded, they root quickly, and then they can be thoroughly hardened, and as a matter of course be successfully wintered.

THE FRUIT HOUSES.

Care must now be taken with the late batch of Melons that they do not receive any check at the roots, or it will soon show itself in a distorted and probably dirty growth. The bottom-heat must be kept renewed at intervals, and where this is done heating of the pipes may be altogether dispensed with, and this will allow of the necessary cleaning and repairing of the heating apparatus. Ventilate rather freely during the day, and close in good time in the afternoon, so as to husband all the sun-heat possible. Look over the fruiting batch about mid-day, carefully setting the fruit until three or four are swelling away together on each plant, when it may be discontinued. Train the Vine evenly over the trellis, but during this period do not stop too closely; in fact, it will be far better if some of the shoots are always left growing, that there may be no stagnation. When the fruits attain sufficient size, place the square of wire netting under each fruit, as previously advised, and should fly make its appearance fumigate without delay. Where French Beans are needed in the autumn for venison, a good portion of the heated pits must be devoted to them. In case they are occupied with Cucumbers or such like, crop heavily as they must shortly be removed to make way for the Beans, which are of more value.

THE KITCHEN GARDEN.

The dry weather has favoured us in this department in the destruction of weeds, so that now all is in fairly good order, and more time can be devoted to the watering of such crops as Runner and French Beans, Peas, &c., which stand sadly in need of a good soaking rain. We have pricked-out a good batch of Ellam's Cabbage, shading with Laurel boughs and watering through the rose morning and evening. By this means they will quickly take hold of the soil, when shading will be removed. We are to-day pricking-out a good bed of brown Cos Lettuce, so that should we have a repetition of last autumn's early frosts, we shall hope to be better provided with good salading. We have also had the Dutch hoe run through the Onion-beds to destroy any weeds there might be, after which the crop was laid; they are perfectly healthy and promise a heavy crop. The Celery badly needs rain, which we are waiting for before giving a good earthing, as we are short of water; however, it will not admit of much longer delay. Endive, too, we notice is almost ready for pricking-out, and must receive attention in good time, as this is rather an important crop, and good blanched heads cannot be had unless the plants are of good size before winter; too often they are expected to grow when all else is dormant. Lose no time in preparing the square for the planting of the spring Cabbage, giving a good dressing of manure; it will then have time to settle ready to receive the plants.—*Walter Child, Croome Court.*

ORCHID NOTES AND GLEANINGS.

Cattleya Trianæ Massangeana. — This variety requires the same treatment as the parent species, a subject on which we have often remarked in our previous volumes. We may, however, here state that we have never seen Cattleyas grown as they are in the establishment of M. Massange, who has a span-roofed house filled with various forms of C. Trianæ, C. Mossiæ, C. Mendelii, C. Warneri, and others, which have such vigorous roots that one could safely hold up the plants by their leaves, many of them having retained their roots fresh and sturdy for four or five years. The retention of these roots must prove to be a great support to the plants, and no doubt secures a large amount of vigour in their growth. When we saw them their flower-sheaths were broad and of great length, the flower-spikes were beginning to show their robust buds in the sheath, and since then they have produced some hundreds of flowers. Many of the plants of C. Trianæ were in full bloom, and were most wonderful examples of good cultivation. All the Cattleyas at the Château de Baillonville seem to be treated in the same way. They are grown on stages, not far from the glass, it being a low house in which they are kept. They are allowed a good season of growth during the summer, with a moderate supply of water, but are never kept very wet at any time. When their growth is completed very little moisture may be given, and that only when they are supposed really to require it, and this must be applied with great care. These plants are well drained, and good fibrous material is given them, which consists of the roots of the common Polypodium vulgare, collected from the rocks and hills where it has been growing for ages, the fine material being taken away and only the fibrous part used. We have never seen a more useful material, the good results it produces, not only with Cattleyas, but with Odontoglossums, Oncidiums, Masdevallias, &c., being the best proof of its suitability. We never give advice without good reason for doing so; but we cannot refrain from remarking that anyone desirous of seeing these wonderful plants should go and inspect for themselves. We can assure them of a hearty welcome, as M. Massange is always pleased to see any persons who are interested in Orchid culture.—*Orchid Album.*

Herschelia cœlestis.—This rare South African terrestrial Orchid, which is commonly known as the Blue Disa, and which has beaten so many to flower, has again bloomed in the Royal Botanic Gardens, Glasnevin, Dublin. Its flower stems are as thick as an oat straw, and bear seven or eight flowers, each about 1 in. across, of a beautiful blue, the spur-bearing portion being enlarged and curiously hooded, the fringed labellum is reddish blue, the whole having a charming and elegant appearance. Mr. F. W. Moore, the curator, grows it in a similar manner to his fine Disa grandiflora. He pots the blue one in good peat and sand, and keeps it in a cool house close to the glass, where it is watered freely while growing, the supply of water being lessened as it dies down; the tubers are re-potted in October. Mr. Moore says he only flowers it occasionally, and not regularly as with D. grandiflora. Many would be glad if they could say as much. The curious brown and yellow Grobya Amherstia is also in bloom at Glasvenin.—*J.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*August 10th.*—A very bright and varied show of plants and flowers was got together at South Kensington on Tuesday, the marked features being the revival of the Hollyhocks, which seem to have emerged from the cloud under which they have been of late years, and the great excellence of the hardy plants in flower, which contributed largely to the success of the show. The prizes offered for six distinct Fuchsias were awarded as follows:—First, to A. S. Price, Esq., Parkside House, Ewell, Surrey, for some neat bushes; second, to H. W. Segelcke, Esq., Elfindale Lodge, Herne Hill, who staged standards; and third, to Mr. Edgar Cook, 26, Queensberry Mews, Kensington, who had a very fine flat-trained plant in his lot. For twelve quilled Asters, Mr. W. Archer, gardener to Mrs. Gibson, Saffron Walden, was a long way first with some grand and perfect blooms; second, Major Scott, Wray Park, Reigate; and third, A. S. Price, Esq., Ewell. For twelve Asters, Chrysanthemum-flowered, Mr. A. S. Price was well first, Major Scott second, and J. Rain, Esq., Balham, third. Begonias were well represented; those from Sir E. Saunders, Fairlawn, Wimbledon Common (gardener, Mr. Newell), which took the first prize, were very grand in quality and culture; and the second prize lot, from W. N. Cheesman, Esq., the Hall, Dulwich; and the third from Mr. Henry Little, of Twickenham, were very good. Gloxinias were hardly up to their best: W. H. Segelcke, Esq., took first prize, Mr. J. Waite, second, and W. N. Cheesman, Esq., third.

Among miscellaneous exhibits the large group of Orchids and Maidenhair Ferns from R. J. Measures, Esq., Cambridge Lodge, Camberwell, were a feature in the show, and did credit to his grower, Mr. H. Simpkins. The leading plants were a new Trichopilia, Dendrochilum filiforme, with forty spikes; Aërides odoratum, with twenty-three, grown in a cool-house; several fine Odontoglossums, good specimens of Oncidium Jonesianum, one with twenty flowers; Maxillaria venusta, very well flowered; and many other showy things. Mr. Ware, of Tottenham, had his usual fine display, prominent being the many species of Lilies, Phlox, Pentstemon, Antirrhinum, white Clove Carnation Gloire de Nancy, white, yellow and scarlet Papaver nudicaule, and a grand bunch of the elegant Sparaxis pulcherrima. Messrs. John Laing & Co. displayed a magnificent collection of Begonias—single and double—of grand quality, occupying nearly 50 ft. frontage; Messrs. Kelway & Son an equally large show of Gladiolus; Messrs. Paul & Son, The Old Nurseries, Cheshunt, a very fine display of hardy plants and Roses, prominent being large bunches of the white Œnothera speciosa, the yellow Polemonium flavum, Phloxes, Pentstemons, &c.; Messrs. H. Cannell & Sons exhibited a grand lot of cut Verbenas and tuberous Begonias; Messrs. Jas. Carter & Co., of High Holborn, a stand of their superb Emperor Petunias (illustrated and noted by us at p. 265) and their equally good and varied Challenger Balsams; Mr. William Bull showed in grand form the lovely pink Ceinkowskia Kirkei and the matchless scarlet-crimson Impatiens Hawkerii; and The New Plant & Bulb Co., Colchester, a grand lot of Lilies and hardy bulbs.

A Silver Medal was awarded to R. J. Measures, Esq., for Orchids, a Silver Medal to Mr. T. S. Ware for Pentstemons and Hollyhocks; a Silver-gilt Medal to Messrs. W. Paul & Son, of Waltham Cross, for a grand show of cut Roses; a Silver-gilt Medal to Messrs. Paul & Son, the Old Nurseries, Cheshunt, for a fine display of Roses and hardy flowers; a Silver-gilt Medal to Messrs. Kelway, Langport, for Gladioli; a Bronze Medal to the New Plant & Bulb Co., for Lilies, &c.; and a Bronze Medal to Messrs. Webb & Brand, of Saffron Walden, for some very fine Hollyhocks.

First Class Certificates were awarded to Mr. William Bull, for Miltonia spectabile bicolor; to Mr. George Miles, Victoria Nursery, Brighton, for a fine sulphur Chrysanthemum, Mrs. Burrell; to Mr. Blundell, West Dulwich, for Hollyhocks, Crimson Queen, crimson, Princess of Wales, pink-cerise, Primrose Gem, and Mrs. Shirley Hibberd, a fine red; to Mr. James Douglas, for Carnations, Annie Douglas, a fine yellow, flaked with pink, and Almira, yellow, with a few rose lines; to Mr. J. W. Phillips, Coventry, for a tall and fine Adiantum, named A. cuneatum Phillipsii; to Mr. Owen, of Maidenhead, for a grand Begonia with two sets of petals, named Imperial, a grand fiery crimson; to Messrs. Vilmorin, Paris, for Dianthus chinensis, double brown, a very dull thing; Zinnia, dwarf striped, very fine, and Zinnia pompon; to Mr. Charles Turner, Slough, for a fine Picotee, named Duchess; to Mr. Ware, for Single Dahlia, Squire Gammie, rose, with dark centre; to Messrs. Kelway & Son, for Gladiolus, Clarence, red, flaked purple and violet eye; Lord Salisbury, cerise, slightly flaked, with crimson eye; Sir M. Hicks Beach, pinkish sulphur, flaked scarlet, yellow centre; and Sir P. C. Owen, yellow, tinted salmon; to Mr. Chater, of Cambridge, for a very fine yellow-buff Hollyhock named Revival; and to the Royal Horticultural Society, Chiswick, for Fuchsia triphylla, a pretty and well-known species with large sprays of orange-scarlet flowers.

Mr. Thomas Moore also sent from the Chelsea Botanic Gardens, sprays of Sambucus Californica, a fine plant with rather soft thick leaves and stems, and fine heads of cream coloured and very fragrant flowers.

Messrs. Edward Webb & Sons, Wordsley, offered prizes for the best collections of vegetables, and three competitors entered the lists. That very successful young exhibitor, Mr. C. J. Waite, gardener to Colonel Talbot, Glenhurst, Esher, was a good first with some two dozen varieties; Mr. Beckett, Cole Hatch Farm, second; and Mr. J. Buss, third.

Matlock Bath Floral and Horticultural.—*Aug. 7th.*—This society was established some sixteen years ago, and for a time carried on an exhibition on quite a small scale, filling one small tent mainly with cottager's produce. Then a few classes for amateurs were added, and for a time the society carried on a kind of precarious existence. Some eight years or so ago Mr. A. Clark, the postmaster of Matlock Bath became the hon. secretary of the society, and a little more vigour being thrown into the management, the shows began to increase in importance, and became more popular. A few years since Mr. Edward Speed, for some time manager of the Barborne Nurseries at Worcester came to reside at Matlock Bath, and he was able to render great assistance to the committee. The

opening of the New Pavilion Gardens two years ago gave the promoters of the show an excellent place for their exhibitions, and other attractions being provided, the society appears to have entered upon a season of great prosperity, and on the present occasion—the day being beautifully fine—there was a large attendance, and the sum of just over £181 was taken at the gates, mainly in shilling admissions. Ten years ago £15 to £20 was thought a good gate; now, through engaging a first-class military band from London, and helped by very fine weather, the splendid success above announced has rewarded the committee, and they have now a reserve fund of something like £100—a very satisfactory state of things. Classes are now provided open to all comers, and good money prizes being given, some capital features are thus introduced. The annual show at Matlock Bath bids fair to become one of the most important in the Derbyshire district. The spacious pavilion in the newly formed gardens affords ample space, for the plants, &c., and avoiding the expense of tents, also diminishes the risk of loss should the weather prove to be wet.

Undoubtedly, the prime feature of the exhibition were the groups competing in the division open to all England. Three of them competed in the class for one occupying a space not to exceed 200 ft., and these were arranged in one large circular group in the centre of the pavilion, but so set up as that the dividing lines were made quite clear to the judges. It was a somewhat unusual arrangement to have one large circular group composed of three distinct competing collections arranged in segments, and each showing a difference in the style of arrangement, and yet it was quite in harmony with the building and surroundings. By far the best came from Mr. Geo. Williams, gardener to S. Baerlien, Esq., Didsbury, Manchester, and it displayed that thoroughly artistic design and finish seen in the competing groups at the great Whitsun show at Manchester. From out of a carpet of Maidenhair Fern rose specimen Crotons and Dracænas, the latter including admirably coloured examples of those distinct forms, Goldieana and Lindeni, with bits of Vallotta purpurea, and other diminutive flowering plants worked in at invervals; at the back was an elevated cone formed of Maidenhair Fern, from the summit of which rose an elegant Palm, flanked by other Palms of an equally handsome character. One great value attaching to this arrangement, was that it conveyed to the local gardeners an excellent practical lesson in artistic grouping. Second, Mr. A. Anderson, gardener to W. Walker, Esq., Lea, Matlock Bath, an excellent lot of well grown flowering and foliage plants. Third, Mr. Charles Yates, gardener to R. Wildgoose, Esq., also of Lea. Then came a class for plants to be arranged on an elevated table, 16 ft. by 3 ft. 6 ins. This is too confined a space to enable plants to be grouped to the best advantage, and we think that it would be much better if the committee were to require these groups to be placed upon the floor, and arranged in semi-circles about 12 ft. by 6 ft., against the sides of the building. The best came from Mr. Barlas, gardener to T. C. Arkwright, Esq., Willersley, Cromford, the president of the society, and consisted of nice plants of Crotons, Dracænas, Palms, Ferns, &c., edged with Panicum variegatum hanging down as a fringe over the sides of the table. Second, Mr. John Brown, nurseryman, Matlock Bath, a very bright lot, made up of small flowering plants of zonal Pelargoniums, Petunias, Begonias, Lobelias, &c., of the usual market style. Third, Mr. Fothergill, gardener to Capt. Walker, Rock Horn, Cromford.

Beyond these the plants shown were mainly by cottagers and amateur, and while fairly numerous were not of a character to call for special remark.

The more salient points of the show were to be found in the division open to all England, some excellent prizes being offered. These included a class for twenty-four single blooms of Roses, and fairly good blooms were shown, Mr. John Henson, nurseryman, Derby, being first, and Mr. R. W. Proctor, nurseryman, Chesterfield, being second. If the flowers lacked the size and substance of those we are accustomed to see in the south, it must be remembered we are in the first week of August, between the summer and autumn Rose blooms, but the blooms were fresh and bright. Next came a class for twelve Dahlias, Mr. C. Carrington, Froud, Derby, being first with large flowers, a few of them getting past their best; Mr. John Henson being second. In this stand were two charming flowers of Mrs. Saunders, a yellow fancy tipped with white. The class for twelve bunches of zonal Pelargoniums, three trusses forming a bunch, brought a very keen competition, seven stands being staged, and the leading three very close together. The awarding of the prizes in this class gave the judges a good deal of trouble. Eventually, Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Nottingham, were placed first with a very fine lot, shown in their usual first-class style, Mr. Charrington being second, and Mr. John Henson third. Really, the stands deserved to be placed on an equality in point of merit. But one collection of twelve spikes of Gladioli was shown by Mr. John Henson, and it was deservedly awarded a first prize. Stands of cut flowers in eighteen bunches were a good feature, especially the best, which came from Mr. Henson, being composed mainly of stove and greenhouse subjects; Mr. J. Stevenson, gardener to A. Wathall, Esq., Alton Manor, Matlock, being second. Mr. Henson had the best bouquet, a very nice one, and Mr. Barlas was second. Mr. Henson also had the best bouquet of Roses, Mr. R. W. Proctor, nurseryman, Chesterfield, being second.

Cut flowers were shown by both amateurs and cottagers, and consisted of Roses, Hollyhocks, Dahlias, Marigolds, Pansies, Asters, Stocks, &c.

In the classes open to all some good fruit was shown. The best collection of eight dishes came from Mr. J. H. Goodacre, The Gardens, Elvaston Castle, Derby, who had a very fine Cayenne Pine, Black Hamburgh and Muscat of Alexandria Grapes, Diamond Peaches, Downton Nectarines, Elton Pine Strawberries, Black Circassian Cherries, and Melon; second, Mr. Jos. Ward, gardener to C. H. Oates, Esq., Riddings House, Derbyshire, with a very good lot also. Mr. Barlas had the best six dishes, but the second prize was withheld. Mr. Goodacre was first with four bunches of Grapes, not less than two varieties, staging two very fine bunches each of Madresfield Court and Muscat of Alexandria; second, Mr. Ward, with two capital bunches of Muscat Hamburgh and Muscat of Alexandria; third, Mr. Barlas, with a bunch each of Gros Maroc, Black Hamburgh, Muscat of Alexandria, and Golden Queen. Mr. Goodacre had the best two bunches of white Grapes, Mr. Anderson being second, both staging Muscat of Alexandria. Mr. Goodacre had the best two bunches of black Grapes, staging Hamburghs, Mr. Ward being a good second with the same.

Mr. J. Cothers had the best collection of twelve vegetables, Mr. G. Richards being second. Mr. George Farnsworth had the best collection of six dishes, Mr. G. Richards being second. Vegetables were generally well shown throughout. Prizes were also offered for honey, also for the best stocks of bees, and in addition there was a very interesting exhibit by the British Bee-keepers Association in a separate tent. The chief honours in the competition fell to Mr. A. Clark, the hon. secretary to the society, who has some twenty hives or so in his garden in the Cromford Road, and is very successful in obtaining harvests of honey.

Not for competition.—The exhibits under this heading included several boxes of cut Roses exhibited by Messrs. Dickson & Robinson, Millgate, Manchester, and Messrs. Dickson, Brown, & Tait, Corporation Street, Manchester; and boxes of Carnations and fancy Pansies from Mr. R. W. Proctor, Chesterfield. These were all highly commended.

Clay Cross Horticultural.—*August 10th.*—This prosperous provincial society, which for twenty-nine years has done great and good work in promoting good gardening among a population largely dependent upon the mining industry, and in a district of by no means the most favourable character for horticultural pursuits, held its annual exhibition on Tuesday last, under conditions, as regards the weather, we regret to say, of anything but a cheering character as regards the prospect of a satisfactory "gate," upon which the committee to a great extent have to rely. The Clay Cross people have had many glorious days, and given favourable weather they support their local show with a heartiness that is quite refreshing in these days of failure and stagnation. Jupiter Pluvius did his best, however, to spoil sport on Tuesday, but as the rain somewhat abated towards 3 p.m., we trust the financial results will not be so unsuccessful as was at first anticipated. Be what it may, the Clay Cross committee is composed of men who work well and earnestly together, and with their hardworking and enthusiastic secretary, Mr. Stollard, who has been in office since 1863, will make the best of it.

The exhibition is held in the grounds of Charles Binns, Esq., about a mile from Clay Cross Station, and on this occasion three large tents were filled with excellent garden produce of all kinds. For the most part the competition is confined to residents within six miles of Clay Cross, but a much wider range is permitted in one section, and it is in this class that the leading features of the exhibition are found. From a plant growers point of view, the greatest interest was centred in a competition for groups of plants arranged for effect, and occupying a space of 300 ft., in which the prizes ranged from £18 for the first to £5 for the sixth. There were five competitors, and the groups being arranged down the centre of the largest tent, made a most imposing display. The prizes were awarded, first to Mr. Lyon, gardener to Lady Ossington, whose arrangement displayed the most skill in artistic grouping, all his materials being of a useful size for the purpose, and very bright and fresh, but we should have liked to have seen more flowering plants used, as flowers and not fine foliage should predominate in summer; second, Mr. A. Webb, gardener to J. H. M. Sutton, Esq., Kelham Hall, Newark, for a bold massive group of good plants, showing a fair amount of taste in arrangement; third, Mr. J. Ward, gardener, Riddings House, who relied mostly on a few fine specimens set up in the ordinary way. His Crotons, several, were well furnished and splendidly coloured; he had besides three good Ixoras, a couple of splendidly bloomed Kalosanthes, and three good Palms. In a competition for a dozen, his plants would have done him credit anywhere. Fourth, Mr. A. Anderson, gardener to W. Walton, Esq., Lea Wood, Cromford; and fifth, Mr. W. Haslam, Harstoft. In another competition limited to 150 ft., the awards went to Mr. J. W. Clements, gardener to J. P. Wood, Esq., Brambling House; Chesterfield; Mr. C. Yates, gardener to R. Wildgoose, Esq., The Poplars, Cromford; Mr. J. Lyon, and Mr. A. Webb, in the order named, but none of the arrangements call for a great amount of eulogium.

The classes for stove and greenhouse flowering and fine foliage plants were only of an ordinary character, while the Orchids were poor; Ferns fair; Tuberous Begonias very nice; Fuchsias fair, and Balsams only poor. The cut flower classes were in some cases very good, notably that for eighteen bunches, in which a very nice lot of good quality flowers were staged, and in which Mr. Lyon was first; Mr. Ward, second; and Mr. Webb, third. Messrs. J. R. Pearson & Sons, Chilwell, Nottingham, were highly commended for a stand of superb cut blooms of zonal Pelargoniums, and also took a first prize for bouquets.

The display of fruits grown under glass was not large but good, and better on the whole than previous displays. The class for a collection of eight sorts was a very good one, and here Mr. Edmonds, Bestwood Lodge, Nottingham, again came to the front with very fine Black Hamburgh and Good Muscat Grapes, a good Queen Pine, an Eastnor Castle Melon, very highly coloured Elruge Nectarines, Chancellor Peaches, Figs, and Cherries. The other prizes went in the order named, to Mr. Ward, Mr. Lyon, and Mr. Webb, and all were of a very creditable character. Mr. Lyon had the best single dish of Black Grapes, good well finished bunches of Black Hamburgh; and in the White Grape class, Mr. J. Frith, gardener to J. Jackson, Esq., Stubben Edge Hall, came in first, with a first-rate sample of Muscat of Alexandria. In a nice class of Queen Pines, Mr. A. Webb, was first, and Mr. J. Crawford, gardener to Col. Thorpe, Coddington Hall, Newark, a good second. Hardy fruits were well shown, a very good competition indeed, in which the awards went as named, to Mr. J. Crawford, Mr. Edmonds, Mr. A. Webb, and Mr. Lyon.

The display of vegetables, grown by gardeners, was only moderate in extent, and quite out-distanced by the cottager's produce. For a collection of twelve sorts, Mr. Crawford beat Mr. Ward and Mr. Webb, who took the second and third prize respectively; and for six, Mr. T. Frith was first; Mr. T. Egglestone, gardener to F. Smith, Esq., Wingfield Park, being second; and W. W. Haslam third.

The competition in the various classes, confined to local subscribers, was remarkably good, the number of entries being large, and the quality for the most part of an admirable and altogether most creditable character. The pot plants were very good; cut flowers generally, and some in particular, such as African and French Marigolds, especially fine; but it was in the vegetable classes that perhaps we found most to admire, for here was a grand assortment of Cabbages, Potatos, Celery, Onions, Carrots, Beans, Turnips, Rhubarb, Vegetable Marrows, and Shallots, the latter evidently receiving special attention in the district for we seldom see better. The Apple class was also a good one for the season, and the Gooseberries, Currants, and Raspberries were all of an admirable character. We trust, in the interest of such a useful society, that better weather will favour its next annual show.

St. Neot's Horticultural.—*August 3rd.*—Through pressure of matter we have been compelled to hold over until now, a report of this excellent and most useful society, the annual exhibition of which took place on Bank Holiday in the grounds attached to the residence of George Bower, Esq., St. Neots, quite in the heart of the town, and therefore easy of access. The morning opened wet, but by noon the clouds broke and a brilliant day succeeded, consequently a large company attended. This was the twenty-second exhibition, and during the last thirteen or so, the secretary

has been Mr. William Ratchelous, the manager of Messrs. Wood & Ingram's nursery, St. Neots, and under his excellent management, the society has attained to a high degree of excellence, and it is very popular in the district. The practice adopted here is to add to the usual exhibition of plants, flowers, fruit, and vegetables, classes for market gardener's vegetables, for bunches of ears of Wheat, Barley, and Oats, stalks of Beans, collections of agricultural roots; also for plucked fowls, ducks, eggs, butter, birds of various kinds, rabbits, &c., the result being that a large number of local interests are thereby enlisted on behalf of the show. It is the custom to close the exhibition at seven o'clock, the plants are removed, the public are admitted at eight o'clock by a small payment, when they are treated to dancing and fireworks, and a sum exceeding £30 was taken in addition to the takings for admission to the show.

The leading exhibitors in the open classes were Mr. G. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, St. Neots; Mr. T. Tilbrook, gardener to B. Brown, Esq., Hartfield, Huntingdon; Mr. R. Carter, gardener to Capt. W. H. Drummond, Waresley Park, St. Neots; Mr. R. Petfield, gardener to H. A. Thornhill, Esq., Diddington, Huntingdon; and Mr. H. Williams, gardener to Geo. Bower, Esq., the Shrubbery, St. Neots. The principal amateur exhibitors are Messrs. R. Burgin, Eynesbury; G. Taylor, Eynesbury; M. H. Browning, Eaton Socon; O. R. Wilkinson, Eaton Socon; and J. Howe, St. Neots. The principal exhibitors of market garden produce are Messrs. Isaac Hall, J. Hall, C. Sibley, and Edwards. Two classes were open to all comers, one for twenty-four Roses, single trusses, and here E. B. Lindsell, Esq., Hitchin, was first with a very good lot, consisting of Comtesse d'Oxford, Merveille de Lyon, Etienne Levet, Duke of Edinburgh, La France, A. K. Williams, François Michelon, Star of Waltham, Comte Rainband, Cheshunt Hybrid, Barouess Rothschild, Alfred Colomb, Marie Cointett, Annie Wood, Maurice Bernardin, Ulrich Brunner, Niphetos, Le Havre, Prince Arthur, E. Y. Teas, Louis van Houtte, Souvenir d'un Ami, and Horace Vernet; second, the Rev. E. L. Fellowes, Wimpole Rectory, Royston, with smaller but nice and fresh blooms. Also for twenty-four bunches of cut flowers, shown in bunches; here Mr. G. Redman was a good first, having capital bunches of Habrothamus elegans, Dipladenia profusa, Clerodendron fallax, Oncidium flexuosum, Bougainvillea glabra, Anthurium Andreanum, Franciscea calycina major, Tuberose, Rondeletia speciosa major, &c. Second, Messrs. Wood & Ingram, Nurserymen, Huntingdon, who had a collection of very fine bunches of hardy flowers, including Yucca gloriosa, Hyacinthus candicans, Gladiolus Brenchleyensis, Carnations, in variety, Scarlet Martagon Lily, Cassia corymbosa, &c.

In the open classes, from which nurserymen are excluded, Mr. Redman was a leading exhibitor, he had the best six Fuchsias, staging remarkably good plants of Alexandra, Mrs. Marshall, Daniel Lambert, Lustre, White Perfection, and Rose of Castille; second, Mr. H. Williams, also with good plants. Some good Fuchsias were also shown, in threes, in the amateurs' division. Mr. Redman was the only exhibitor of six plants in bloom, staging capital specimens of Bougainvillea glabra, Clerodendrum fallax, Erica, Œmula, Stephanotis floribunda, Ixora javanica, and Statice floribunda. He was also the only exhibitor of six ornamental foliaged plants, having Croton Andreanum, C. majesticus, Latania borbonica, Dracæna Baptistii, and Caladium Beethoven. Mr. Redman had the best six Zonal Pelargoniums, Mr. Williams being second. Variegated Pelargoniums were fairly well shown. Mr. Tilbrook had the best four stove and greenhouse Ferns, having fine plants of Adriantum Farleyense, A. concinnum, A. concinnum latum, and A. Williamsii; second, Mr. Redman, with Platycerium alcicorne, Adiantum formosum, A. cuneatum, and A. gracillimum. Mr. Pitfield had the best ten plants for dinner table decoration, Mr. Redman being second. Mr. Redman and Mr. Williams were placed equal first with four Coleus, both showing well grown and coloured plants. Begonias of the tuberous-rooted section were well shown also; Mr. Williams was first, and Mr. Redman was second. The best specimen plant in bloom was Anthurium Scherzerianum from Mr. Redman, Mr. Williams being second with Bougainvillea glabra. The best ornamental foliaged plant was Latania borbonica, Alocasia metallica being third. Mr. Redman had the best specimen Fern, in a finely grown piece of Adiantum Farleyense; Mr. Tilbrook coming second with a large and rough Platycerium alcicorne. Plants shown by amateurs were highly commendable.

Cut Flowers.—The best twelve tea-scented Roses came from E. B. Lindsell, Esq., who had good blooms of Comtesse de Nadaillac, Souvenir d'un Ami, Jean Ducher, Rubens, Solfaterre, Maréchal Niel, Madame Charles, Marie Van Houtte, Edith Gifford, Madame Lombard, Innocenta Pirola, and Grace Darling; second, the Rev. E. L. Fellowes, with Bouquet d'Or, Catherine Mermet, Madame Lombard, Belle Lyonnaise, Maréchal Niel, Souvenir d'Elise, Innocenta Pirola, &c. Mr. Lindsell also had the best twelve Roses, setting up excellent blooms of La France, Duke of Edinburgh, Madame Victor Verdier, Comtesse d'Oxford, Merveille de Lyon, Alfred Colomb, François Michelon, Charles Lefebvre, Le Havre, A. K. Williams, Prince Arthur, and Ulrich Brunner; second, Rev. E. L. Fellowes. Mr. Petfield had the best twelve Dahlias, showing capital blooms of Princess of Prussia, William Rawlings, Mr. Saunders, John Wyatt, Egyptian Prince, Ethel Britton, Mrs. Shirley Hibberd, Shirley Hibberd, Mrs. Langtry, Vice President, Mrs. Gladstone, and Henry Walker. Mr. Redman had the best twelve Victoria Asters, Mr. Petfield being second. Mr. Tilbrook had the best twelve African Marigolds, Mr. Myers, gardener to the Earl of Sandwich, being second. Mr. Petfield had the best twelve bunches of hardy flowers, Mr. Redman being second. Mr. Bingen had the best six Carnations, Mr. M. A. Browning being second. The Rev. E. L. Fellowes had the best six Picotees, Mr. Bingen being second. Hollyhocks were well shown both in spikes and cut blooms, but we failed to get the exhibitors names. Cut flowers were also nicely shown by amateurs.

A very excellent lot of cut blooms of Carnations and Picotees were shown by Messrs. Wood & Ingram, of Huntingdon, who are large growers of these popular flowers. The former included such varieties as Thomas Moore, John Hines, Mars, Queen Victoria, Lovely Aun, Ajax, Mrs. Barlow, Robert Lord, Jessica, Flirt and Unexpected. Picotees: Jessie, Thomas Williams, Clara Penson, Mr. J. W. Ingram, Woodhams, Queen Adelaide, Mrs. A. Chancellor, and Mrs. Fuller May. These were highly commended.

Fruit and Vegetables must be passed over. They were good, the latter especially, a very keen competition taking place in all the classes. The produce shown by farmers, and also by market-gardeners, were full of interest also, but the space at our disposal forbids more particular allusion. At the conclusion of the judging, those officials were entertained at luncheon by the committee, and prosperity to the society, coupled with the name of the excellent secretary, Mr. Ratchelous, was drank with all honours. It may be added that the annual Chrysanthemum Show takes place at St. Neots, on November 9th, and it is held in the Corn Exchange.

Woodside Horticultural Society's Show.—The sixth annual exhibition of the Woodside (near Aberdeen) Horticultural Society was held in the Town Hall, Woodside, on Saturday, 7th inst. The exhibition, which was open to the parishes of Oldmachar and Newhills, was in every way as successful as in former years; true, the number of exhibits was less than those of last year, the entries this year being 627, while last year there were 756 entries, but the quality of the exhibits was superior to that of last year, and fully made up for the deficiency in the number of entries. There was only one division this year for professionals and amateurs, instead of forming two divisions as they did last year, and the second division was for the working classes.

Although there were not so many entries, the amateurs held their own with the professionals, and to one not acquainted with the points which go to form a good flower, not much difference could be noticed, the strength of stem and abundance of blossom in all the exhibits in the division for professionals and amateurs being admirable. This division was constituted chiefly of plants in pots, some beautiful Tree Ferns, Pelargoniums, Geraniums, Fuchsias, Petunias, Lycopods, Begonias, Myrtles, &c., being also exhibited. For pot plants, Mr. S. Maitland, Woodside, carried off the principal honours, having premier position for greenhouse and Cape Heath Ferns, Pelargoniums, Tricolor Geraniums, and various other flowers. Among the other prize winners in this class were Messrs. J. Menzie, D. Fraser and J. Yule.

In the section for cut flowers, which were a capital display, comprising Rose blooms, single cut trusses of Zonale Geraniums, double Geraniums, Stocks, Pansies, Dahlias, Asters, &c. Mr. Maitland again occupied a number of the first places in this division. The working class division was highly interesting, and reflected great credit on the exhibitors. In both divisions the vegetables were a highly creditable display. The Raspberries, Blackberries, Strawberries, Gooseberries, &c., were also in point of size and extent of maturity exceedingly fine. A large and enthusiastic committee carried out the arrangements.

Penwortham Floral and Horticultural.—The annual exhibition of plants, flowers, fruit, and vegetables, was held on Saturday in Middleforth School, kindly placed at the disposal of the committee by the vice-president, the Rev. Canon Rawstorne. The society has at its head as patrons the *élite* of the locality, as well as a committee consisting of a hard working body of men. The district embraces Penwortham and four adjoining townships—Farington, Longton, Hutton, and Howick; and the prizes are open for competition for three classes of exhibitors—gentlemen and their gardeners, and farmers; amateur florists and cottage gardeners employing artificial heat beside the ordinary hot-beds eight weeks before the show; and cottagers with no means but their own cottage windows. This year the exhibits numbered 350, and they included some excellent plants. The best in the show was a Lilium speciosum rubrum in splendid condition, and well flowered. The chief feature, however, was the baskets of flowers, which were composed of choice stove and greenhouse blooms exquisitely arranged. Another department in which more than ordinary interest was manifested was the competition for bouquets of wild flowers, limited to children. There were eleven entries, and the prize winners were beautiful, the execution being all that could be desired. An inspection of the exhibits proved exceedingly creditable to amateurs for their property compared most favourably with that forwarded by those whose appliances are in every respect superior in character. The plants indicated, care, attention, and knowledge in the art of cultivation. The stands of Roses were remarkable for their size and excellence of colour. There were several plates of fine black white, and red Currants, and Gooseberries. Affixed to the wall was a portion of a Gooseberry bush, laden in a manner that spoke of this year's very heavy crop. The judges were Mr. Loose, gardener to Lord Winmarleigh; and Mr. Edward Swift, Southport. The principal prize winners in the gentlemen's class were T. Edelston, Esq., and T. Dodd, Esq., whilst those in the cottagers were Messrs. W. Crook, Lawrenson, Cumpstey, Sanderson, James Morgan, William Dewhurst, R. Robinson, and J. Yates.

Obituary.

Lovers of the Carnation will hear with pain of the death of Mr. Tom Chapman, of Leicester, who passed away on the 1st inst., after three weeks of grievous suffering from sunstroke, at the age of 27. He was a member of the committee of the Oxford Carnation and Picotee Union, and a thorough lover of the flowers. Mr. E. S. Dodwell has named one of his fine scarlet flakes after him. Though young, he had endeared himself to a wide circle of friends by the simplicity of his character, and his ingenuous bearing; and his floricultural brethren have to mourn the loss of a most promising florist.

NOTICES TO CORRESPONDENTS.

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

To save time, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides*. No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor by sending him their Schedules and Catalogues as soon as published.

QUESTIONS AND ANSWERS.

Begonias.—*J. Jeffrey:* Your seedling double-flowered varieties are very fine indeed, most of them very large, almost globular in form, very full, of good substance, and bright scarlet in colour. The strain is a good one, but we do not notice any distinct from what we have already seen in the best named collections.

Adiantum pedatum.—*J. W.:* It is hardy, a native of North America, and quite admissable in a class for "Hardy Ferns."

Names of Plants.—*J. Harding:* 1, Lysimachia species, send when in flower; 2, Adiantum Capillus-Veneris, so far as we can judge from specimen sent; 3, Doodia caudata; 4, Cystopteris bulbifera; 5, Polystichum aculeatum; 6, Lastrea dilatata; 7, Athyrium filix-fœmina. *H. C.:* Viburnum plicatum; it will grow very well in London gardens, but you must feed it while growing. *Adirondack:* 1, Kleinia crassifolia; 2, Pteris tremula; 3, Pteris cretica var.; 4, Pteris cretica albo-lineata; 5, Nephrolepis tuberosa; 6, Polystichum aculeatum. *C. C.:* 1, Cratægus pyracantha; 2, Pittosporum Tobiri; 3, a shoot of Calycanthus and flowers of a Campanula; 4, Forsythia viridissima; 5, Punica granata, double scarlet variety; 6, Cercis siliquastrum.

Names of Fruits.—*W. R. T.:* 1, Red Astrachan; 2, Irish Peach; 3, Red Juneating.

Communications Received.—J. H.—A. O.—W. P. R.—W. H.—J. P.—G. N.—F. C.—A. McL.—H. J. F.—E. A.—D. C. U.—W. S.—A. O.—D. J. K. & Co.

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FLOWER SHOWS.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory, on TUESDAY next, AUGUST 24th.
COTTAGERS' AND ARTIZANS' SHOW OF FRUIT AND VEGETABLES.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

CRYSTAL PALACE ANNUAL FRUIT EXHIBITION AND GRAND NATIONAL DAHLIA SHOW, September 3rd and 4th. Schedules on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

BLACKPOOL WINTER GARDENS and PAVILION.
GRAND FLOWER and FRUIT SHOW, THURSDAY, FRIDAY, and SATURDAY, September 9, 10, 11. Schedules now ready, which may be had of Winter Gardens, Blackpool. MR. BINNS, Manager.

National Chrysanthemum Society, Royal Aquarium, Westminster,
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 21, 1886.

FLOWER SHOW AFFINITIES.—How far the committee of management of a horticultural society may, with all proper regard to the undoubted respect due to horticulture, depart from the specific objects and purposes of their association and its floral exhibitions in associating these with certain elements of amusement, in no way pertaining to horticulture, is a topic that has often been discussed in the past, and is likely to be discussed till flower shows are no more. Without doubt the genuine gardener, no matter what section of horticulture he may most practice in, or admire, has little soul for the trivialities and tomfooleries which to so many others are the only sources of enjoyment. When gardening is loved it begets love, and, even more, it begets higher thoughts and aspirations in the human mind. Naturally such votaries of horticulture as these see with sadness, if not with disgust, flower shows converted into rowdy fêtes, and the pure delights of gardening levelled down to the associations of Punch and Judy and music hall absurdities.

It is true that we find associations of this sort with flower shows far from common at present, and for so much we are thankful. Still we cannot ignore the signs of the times, or be oblivious of the fact that while there are numbers of societies holding flower shows only, or in association as they certainly always should be with high-class music, and depending on these attractions only to draw crowds within their gates, have the greatest difficulty in making both ends meet, while the few who have introduced the objectionable features we deplore are in a flourishing financial condition. Regret it as we may, flower shows pure and simple do not draw as they used to do, especially in large towns, and many a committee recognises the fact, much as they may personally dislike it, that other attractions must be provided if the gate has to be depended upon to furnish the sinews of war.

But what should those attractions be? Of course committees have the fullest liberty to do as they like in this matter. Some are content to provide indifferent music, others show more appreciation for quality and furnish music of the best description, and this seems to be always a safe card to play. A Guard's band is an immense attraction everywhere—stay, perhaps we ought not to include Liverpool, where one recently played a whole afternoon to empty chairs! but that was an exception to prove the rule. Other committees have given their patrons some vocal music, and, if good of its kind, always with excellent results. Glees, part-songs, and choruses rendered by a good choir in the open air, and especially on calm summer evenings, allied to good instrumental music, certainly present associations of which no horticulturists could be ashamed, whilst they are essentially elevating and productive of the highest enjoyment. Others again have permitted dancing, and here they have not erred either, because we have always found dancing by a mixed company of people in public to be conducted with entire propriety. Not less proper has been the association of some athletic sports with flower shows, as these, if well conducted, afford pleasure to all who care for the physical welfare of the young.

Formerly, the most pronounced forms of athletic sports were found in ring-fights, single-stick combats, climbing greasy poles, and other rough-and-tumble proceedings neither healthful nor edifying. These things have generally given place to a taste for athletic contests of a higher and far more pleasing order, and these sports are here and there not improperly engrafted upon flower shows; but from pastimes of this kind to wretched buffoonery is a long drop, and the conversion of a flower show into a great speculative fête, in which many of the old elements of Cremorne and Greenwich Hill are found conjoined, is something calculated to invite sharp and caustic criticism.

There seems a curious lack of consistency in claiming refining influences for flower shows with which are associated "popular amusements." In one case especially, which lately came under our notice, a judge, in responding to a toast, praised flower shows for this reason, and yet at this same exhibition, two days later, there were found all the associations which cluster round vulgar entertainments, serving to attract over 20,000 people, very few of which number, it is feared, found in the flower show counteracting influences, but rather sought for and found more congenial forms of amusement. We might imagine that a society which invoked the patronage of royalty would not be anxious to attract the patronage of the rowdy. Still more when it vaunts that it has a roll of 1,200, members, we may well ask are there not some among its patrons to whom this sort of thing is distasteful? Nay, it is grossly inconsistent to have scruples, as some have, against exhibiting at a certain metropolitan place of popular resort, and yet sanction or favour competition at such a gathering as this upon which we are commenting.

Besides, there is danger in bringing together at a flower show very large numbers of the 'Arry class, and those who do this cannot too soon realise the risks they run. In the recent instance the crowd was so large and boisterous that it surged round the platforms upon which the amusements were proceeding, and brought them to an early end. What would be the result to the Society if such a mass of somewhat rough elements were to turn their attention to the contents of the tents and produce a panic? Surely such a thing is possible, especially should 20,000 people, some fête day, find a heavy rainfall driving them to shelter. We sympathise heartily with those flower show committees who, from force of circumstances, may be compelled, as it were, ere long to strengthen their programme by the introduction of extraneous features of attraction; but we would impress upon them at the same time that real, honest, and satisfying enjoyment can and ought to be found apart from "niggers"—always detestable shams—"knock-'em-downs," "Aunt Sally," and music-hall comiques (in name only). Good music, good singing, good sports, and similar enjoyments may always be furnished, and yet the horticultural element never find loss or degradation in the associations.

GARDENING MISCELLANY.

Meetings for Next Week.—*Tuesday:* Meeting of Fruit and Floral Committees at South Kensington, Cottagers Show of Garden Produce. *Wednesday:* Reading, Ludlow, and Brighton Horticultural Society's Summer Show. *Thursday:* Stoke-on-Trent Flower Show. *Friday:* Sandy (Beds.) Horticultural Society's Eigtheenth Annual Show.

Mr. Charles Jolly, vice-president of the National Horticultural Society of France, has just issued a very interesting *brochure* in which he gives an account of his recent visit to "The Colinderies," and to the Royal Horticultural Society's Provincial Show at Liverpool.

Mr. William Ingram, gardener to the Duke of Rutland at Belvoir Castle, Grantham, was presented on the 5th inst. with a piece of plate and a cheque for £90 "in appreciation of the manner in which he originated and developed the spring garden at Belvoir."

New Plants Certificated in Ghent.—At the last meeting of horticulturists held in Ghent certificates of merit were awarded to M. Linden for Pothos nigricans and Labisia Malonana; to M. Louis Desmet for Begonia Madame Louis Desmet; to M. M. Vervaet et Cie for Pescatorea Lehmanni; to M. Louis van Houtte for Cienkowskia Kirki; and to M. Godefroy-Lebeuf, Argenteuil, for Begonia Arthur Mallet.

Tobacco Cultivation as a Field Crop in England.—Messrs. James Carter & Co.'s acreage crop of Tobacco (growing within ten miles of London), in seventeen kinds, is now ready for inspection, and cards to view can be obtained from them, with particulars of the locality in which it is being grown, on application at 237 and 238, High Holborn, W.C. We understand the firm will also be pleased to make special appointments to accompany anyone interested in the subject who may wish them to do so.

Heating by Hot Water.—Mr. Bardney writes from Norris Green, West Derby, Liverpool:—"In the fourth paragraph of your report of the paper I read on this subject at Preston, p. 790, I find there is a slight mistake. It should read, 'A house of this description would contain 7,350 cubic ft. of air; thus eight rows, or 428 ft. of 4-in. piping would be required, or, in other words, 1 ft. of piping will be required to heat 17⅓ cubic ft. of air to 65° Fahr. If a temperature of 55° Fahr. is required, 1 ft. of piping will heat 20 cubic ft. of air, and 1 ft. of piping to 25 cubic ft. of air when the temperature is 45° Fahr.'"

Antirrhinums: a Reminiscence.—In 1849 I observed in one of the London horticultural papers that a person of the name of Pawsey, of Brixton, had shown a remarkably fine-formed, light-veined Antirrhinum at one of the London flower shows, and which was named Model of Perfection. Antirrhinums were very inferior in form in those days, and as I was going to London in the autumn of that year, I determined to find out Mr. Pawsey; so when in London I got on to a Brixton 'bus about 7 p.m., and reached Mr. Pawsey's about 8.30, when I was told that he would not be at home till the next day at 2 p.m. When I returned to the coach office I was told that the last 'bus had left for London that night, so I enquired for an hotel, but found there were none in the place. On stating my case to a person I met on the road, he took me to a gin palace and stated my case to the landlady, who said she could not give me a bed as she had only one room, and that was let to a young postman, who would be home at 10.30, and if I could arrange to sleep with him she had no objection. In due time the postman arrived; I stated my case to him, and he said, "Are you a real Scotchman?" I said I was. He then said, "I shall be glad to do what I can for you, and I should like if you would tell me something about Scotland," to which I agreed. When I got to bed I found there was little sleep in the postman's head, as he plied me with question after question regarding Scotland. At last he gave me two posers that settled the matter; the first was, "Are there any roads in Scotland?" I replied "Plenty of good roads." He said, "Gentlemen go to Scotland to shoot; where I come from is Norfolk, where the gentlemen shoot there there are no roads." He then gave me another, and it was this, "Is Scotland private property?" I pretended not to hear this; he then made a remark to himself, "Oh! gone to sleep." When I awoke in the morning the postman was gone. The above is one of my experiences in procuring a new flower. Well, I waited for Mr. Pawsey, and was well rewarded for my trouble, as it was the best formed and largest flower I had ever seen; he gave me a nice plant of it in a pot. We had a fine crop of seedlings from it the following year, many of them superior to the original. In 1840 the late Mr. Parsons, nurseryman, Brighton, raised Hendersoni, a white flower, striped with carmine bands; this is one of the finest grown, and is still much sought after by competitors. About this time also there came out another flower named Cretia, a very dark self; since then I believe there has been thousands of seedlings raised from this variety, not one of which has beat it yet.—*John Downie, Edinburgh.*

A COTTAGERS' FLOWER SHOW.

After long association with flower shows of the stereotyped pattern, where one sees plants, flowers, and everything else, almost in duplicate with the exhibits of previous years or of elsewhere. It was with a sense of relief I turned into the tents of the bonâ fide cottager's show, which was held at Earley, adjoinging Reading, and in a lovely part of what was once the famous estate of White Knights; and here I must remark that hundreds of bigger shows would have been honoured in having neat beautiful grounds as were those of Foxhill, and in which visitors on this occasion seemed to revel to their hearts content. The morning was certainly an unpleasant one, for it rained off and on up till mid-day, still it did not in the least cool the courage of the committee or exhibitors, and when about eleven o'clock the judges were called into the tents (of which there were a couple), they found them literally crammed with garden products of such very fine quality, that it needed strong persuasion to induce one to believe that all we saw was of genuine cottagers' growth and production.

It is true the Messrs. Sutton & Sons, of Reading, those liberal patrons of similar shows for miles round, occupied one part of a stage with an endless collection of garden flowers, but in most cases these were in good keeping with the purpose of the show, being of such a nature that cottager's as well as professional gardener's might grow them. But so thick were the *bonâ fide* cottagers' productions, that little room was left for other things, indeed, lots of vegetables of the humbler order had to overflow on to the soft green turf, where they looked cool and fresh, at least, if not so dignified as were those products on the tables. The judges were in two couples, and had to face some 100 classes, for division A takes in nine parishes, covering an enormous area, in which there is much good soil, and many capable growers; whilst division B includes the parish of Earley and those resident within one mile of the President's Mansion only. What was remarkable, however, and perhaps shows the special novel feature of the show, was that quite as many entries were made in the limited division as in the great one, all Earley being really entitled to show in both divisions.

Now, in plants, Fuchsias were truly wonderful—beautiful, dense, handsome pyramids, 3 ft. to 4 ft. in height, and literally one mass of bloom, plants which would have put many shown by gardeners to shame. Zonal Pelargoniums—for old world's sake here called Geraniums—were capital and richly flowered, Ferns good, and window-boxes capital. Very good were the mixed collections, whilst nosegays and bunches of garden flowers were very showy. Happily, the bunches of wild flowers were few, but those very good; indeed, some capital. A few of these are endurable; but scores—especially of wretched ones, as seen at some suburban shows—become a horror. Fruits included good Apples, Gooseberries, Currants (of sorts), and Raspberries, all very fresh and good. In one case a dish of Apricots cropped up, and in others some early Plums were almost ripe.

But the great feature of the show was without doubt found in the vegetables. There were no less than four classes for collections of six kinds, with a total of about thirty entries, first-rate quality ranging throughout; lots of classes for Potatos, of which ten were allotted to single dishes, and it was noticeable that whilst in the white kidneys the best seemed to be Ashleaf and International; of coloured ones, Beauty of Hebron and Prizetaker; of white rounds, Schoolmaster and Idabo; the coloured rounds were almost exclusively represented by Vicar of Laleham and Reading Russet. We had to face, in one class alone, some twenty pairs of Marrows, all more or less good. Carrots were wondrous; indeed the first four lots of New Intermediate could not have been excelled; and the same might have been said of Parsnips, they were so white, clean, and handsome. Beet, too, were capital, and Celery wondrously fine, really as good as might have been looked for in October, and it was then but the 10th of August. Peas, Runner and Dwarf Beans, Cabbages, Lettuces, Turnips, and other useful products were in great plenty and all excellent. Better average stuff it would be difficult to find during the month of August at any *bonâ fide* and purely local cottagers' show in the kingdom.

This show was the sixth held, and such is the wealth of good places about Earley, that a fresh one has been found for it each year. The committee have, in Mr. Lees, of The Wilderness, a capital secretary, and in Mr. Turton, of Maiden Erleigh, a good hard-working chairman, hence the gardening element of the locality is well employed in promoting the show, and that, too, most unselfishly. At the close of our labours we sat down to a capital luncheon, over which the Earley vicar, a very genial and amiable parson, presided, with a gallant captain for his *vis-à-vis*. Our party was of that quiet and pleasant order which makes itself at home even in such awful presence; and after the usual complimentary speeches, the inner man being satisfied, our connection with this admirable flower show ceased, leaving good weather behind.

ON THE MANAGEMENT OF THE CHRYSANTHEMUM IN VIEW OF COMPETITION.—VI.

With regard to the treatment of plants which are designed to produce large flowers for cut blooms, I am in favour of one stop when the plants have attained a height of 6 ins. or 8 ins., which causes them to send up three or four stems, each of which will produce one or more flowers; and I am of opinion that if the plants thus treated are carefully attended to through the year, they will, as a rule, produce flowers equal, or even superior, to those which are not stopped at all, and besides, there is not the danger of the plants being so much damaged by high winds, on account of their lower stature. I had plants last year which attained a height of 7 ft., with enormous stems, but when they came to bloom the flowers were no larger than others which were only 3 ft. or 4 ft. high. The kinds which did best on the unstopped principle were Empress of India, Emily Dale, General Bainbrigge, Rubra striata, Elaine, Fair Maid of Guernsey, and a few others; the rest were a complete failure in respect of gigantic flowers, although in many cases they were thinned out to three or four buds. The stamina of the plants had evidently been directed to the production of wood and foliage, two materials which are very well in their proper place, but not at all desirable where nothing more succeeds.

It may now be advisable to give some information as to the selection of kinds best adapted for growing, as it is a well-known fact among growers that certain kinds are far more suitable to cultivate as plants than others, and, as a rule, I may remark that those which are best calculated to produce immense flowers are mainly unsuitable to grow as exhibition plants, either as trained specimens or bush form. Almost any of the reflexed varieties make good plants, being very floriferous. The Pompon also is admirably adapted for this purpose, their natural habit of growth being bushy, and extremely suitable for decorative plants. Many of the incurved varieties are most unsuitable to grow as plants, although there are some in this class which will, with a little care, make very fair bush plants; and there is little doubt but that this method is most in accordance with the flower's nature and disposition.

I will now give the names of those which I have proved to make good specimen plants, viz., Geo. Stevens, Dr. Sharpe, Julie Lagravère, Elaine, White Venus, Venus (peach), Princess Teck, Guernsey Nugget, Lady Selborne, Mrs. Geo. Rundle, Sœur Melaine, Madame Martha, Cedo Nulli, Model of Perfection, and Mrs. Forsyth.

Last season I had plants in the bush form of White Venus, Lady Selborne, Elaine, Christmas Number, and Mrs. Geo. Rundle, which measured 9 ft. in circumference, struck in November or December previous; one plant of which was amply sufficient to furnish an

ordinary bay window, and some of these were in their full beauty at Christmas.

I might have given some directions as to the trimming of cut blooms for the exhibition table, but I feel with the poet, that it would be "throwing words away" to attempt it; everyone must acquire this knowledge by practice, and by watching some adept in the matter. I may, however, say that I do not approve of so much artificial trimming as is generally practised by exhibitors, believing that art seldom improves nature. If you want artificial flowers they may be had without the trouble of growing them, nevertheless, there are little improvements which may be made in most flowers by the tweezers, such, for instance, as the removal of decayed or straggling petals whose absence is certainly no loss; it is when a flower is literally turned inside out, and re-constructed that I would not allow. As a rule, the best flowers when well grown require little trimming to add to their beauty. There is a stiffness about a highly trimmed flower which is not in harmony with the freedom of nature, and which I should not be inclined to encourage were I employed to award the prizes at Chrysanthemum shows.

In drawing these articles to a close, I should like to state that the great secret of success as an exhibitor is in hard work and unremitting attention, which to any but an enthusiast in the matter would be looked upon as slavery. I well remember, some two or three years ago, carrying three or four stones of maiden soil for a particular purpose to a garden a mile distant from my house, and on arriving at my journey's end I threw the load off my back, for the "lamb had become a sheep" during my walk. A fellow gardener expressed his surprise at the trouble I had given myself in order to accomplish so insignificant an object, to which I replied that he was not half a gardener, and that he ought to possess a little of the ardour of the Patriarch Jacob, who, when serving seven years for his favourite wife, confessed that "they seemed as but a few days, for the love he had to her"; and to the true lover of nature, fair Flora possesses attractions quite as powerful as the belle of Padanaram, and her attire has been pronounced by the highest authority to be even more gorgeous than that of the royal philosopher himself. "I say unto you that even Solomon, in all his glory, was not arrayed like one of these."—*Geo. Kidson, Hull.*

NOTES ON LILIUMS.—III.

The species which brought my last chapter to a close brings the date of flowering up to the end of June, allowing, of course, a margin for early or late seasons. Throughout July we have a great multitude of lovely and elegant species and varieties filling the air with their delightful, and, in some cases, overpowering fragrance, and at the same time gracing the borders and beds which are devoted to them by their resplendent forms. Where all are beautiful it is impossible to particularise as to which may be the best, without some further explanation as to what special purpose they may be required. It may be, probably, for pot culture, for effective border planting, for flowering at a given season of the year, for adaptation to some particular soil or soils, or climate, or it may be that brilliancy of colour alone may be meant by the term "best," and as each and all of these require different answers, a separate question should be clearly asked. Foremost among the early July Liliums I must place

Lilium pardalinum, a highly superior species, and at the same time most desirable and attractive. It differs from the majority of those previously mentioned in its cultural requirements by its preference to peaty or bog soil; this remark applies with equal force to all those Lilies which come under the head of superbum or canadense, all of which delight in peat and moisture. They are also benefitted by partial shade, although if an abundant supply of moisture to the roots be forthcoming the shade may be dispensed with. When well suited this Lily will attain 8 ft. to 10 ft. high, and thus seen, it is one of the most beautiful of American Lilies. The predominant colour is rich scarlet, shaded with orange, and freely spotted with purple-brown. It belongs to the Turk's Cap or Martagon group. Though a decided swamp Lily in its native habitat, it may be observed that these conditions are not absolutely essential in English gardens; for example, I have had this very pleasing species flowering well this season grown in light pasture loam, and fully exposed. The bulbs were below the average of what are termed flowering bulbs; still they flowered well, and grew some 3 ft. 6 ins. high, which was rather a surprise to me considering our soil is very dry. Well-flowered examples will average eight or a dozen blooms on a stem, so that a group of them will soon produce a most telling effect. Though this species reaches so great a height, it is generally self-supporting, which is in its favour. There are also some good varieties of it, as Californicum, intense crimson; Bourgæi, crimson-scarlet, and crimson spots, having the largest flowers of this section. Michauxi is also a crimson-scarlet, while Pallidifolium has rose-scarlet flowers. All these forms, it may be well to remark, shade from the predominant colour to either orange or yellow, and all are freely spotted. For associating with the above,

Lilium canadense and its forms are well suited; the cultural requirements are the same, and it ranks among the most elegant of all Lilies. In habit of growth it is somewhat fragile. Its slender stems are, however, no detriment to it; on the other hand, it imparts to it a grace peculiarly its own. Its maximum height is 5 ft. to 6 ft., flowers golden yellow, very freely produced, and heavily spotted. The variety rubrum differs only in the colour of its flowers, which are red with black spots. In passing, I would just remark that the heights here given are such as they attain in established clumps and under the conditions herein laid down; under ordinary treatment, they seldom rise to a greater height than 3 ft. or 4 ft. Before leaving this group, I will briefly allude to the

Lilium chalcedonicum.

Martagons themselves, by which I mean the typical representations of this group. In general aspect they are not so effective as most members of this genus. They are, however, very old inhabitants of our gardens, having been introduced from Germany at the close of the sixteenth century, and the type species is well known among cottagers and amateurs. It will, in common with all its forms, succeed well in any good ordinary vegetable soil, attaining to about 3 ft. 6 ins. high. The colour is purple with black spots; it is a very hardy and robust Lily.

Lilium Martagon album, the white Martagon, is a very fine pure white form, which should find a place in all gardens; while in L. Martagon Dalmaticum we have a most remarkable Lily, the flowers of which are much larger than in any other Martagon, and of an intense blackish purple, in which particular it stands out alone from all else. It is a very fine and most distinct kind, and forms a fitting companion for the two just named. I cannot, however, refrain from mentioning the scarlet Turk's Cap,

Lilium chalcedonicum, to which allusion was made in your last issue. In colour it is an intense fiery scarlet, and in consequence is the most brilliant and effective of all Lilies. Its flowers last throughout the entire month of July, many of which are produced on each stem. In all respects it is a grand and noble species, its vividness of colour rendering it so desirable for association with such kinds as Longiflorum and others, whose pure white trumpets form a striking contrast to the rich scarlet of Chalcedonicum. Large clumps of it are now rare, though in days of yore it may have been seen flowering with its wonted freedom in cottage gardens with little or no care. The last large clump which I had the pleasure to gaze upon, was in a wayside garden in the neighbourhood of Nottingham, and which had the appearance of having occupied the same position for years, in fact it is one of the finest established clumps I have ever seen, and annually it carried some thirty flower stems. Its owner was justly proud of his Lily, and as would many others who are admirers of this genus, if they could but procure such noble examples as this one. And is it not to be regretted that after a lapse of nearly 300 years, this Lily has become scarce, and which once was so common. None will venture to discard such a gem as this, for we have nothing in the whole genus that can well occupy its place in our gardens; its cultivation is very simple for it will thrive well in any ordinary garden soil which is fairly rich, and it deserves any care at our hands. But having gone somewhat fully into those of the Martagon groups, let us now briefly look at some of those contained in the Eulirion group, or that portion of them with trumpet-shaped flowers; these are

Lilium longiflorum, and its forms, than which perhaps we have none better adapted for pot culture. They are all perfectly hardy, growing about 18 ins. to 2 ft. high, with long lanceolate acuminate shining leaves, and pure white and deliciously fragrant flowers; these vary in length considerably, in the type the flowers are about 6 ins. long, in the Eximium the flowers are much larger, and very pure white; both these are admirably adapted for forcing, and for this purpose are grown in quantity. Whether grown in pots or in the border, they rejoice in a rich loam, and when the pots are full of roots they are much assisted with frequent doses of liquid manure. The form of Longiflorum are very nearly allied to evergreen, that is as soon as the flowers fade, and the stems show signs of decay, fresh green shoots may be seen protruding from the soil, and these, if carefully grown on, will in due time develop flowers. The above named forms of Longiflorum may be had very cheap, consequently they should be grown by all. The remainder of this section, some of which require special culture, I will call attention to in my next.—*J.*

FLOWERS AT READING.

It would indeed be a rare occurrence for anyone to visit the Messrs. Sutton & Sons' Reading Nursery and find nothing to write about or to admire. At this season of the year the visitor finds a glorious floral feast to partake of, and whilst the things seen are of the best of their kind, they are displayed with so much good effect and neatness that for the moment it is possible to forget we are in a nursery, and have rather dropped into some well-kept private garden. Just now the great feature under glass is the Begonias. That other considerable growers have grand strains and brilliant exhibitions of these beautiful summer flowers is, of course, admitted; but certainly the Messrs. Sutton & Sons have not merely a glorious display—they have quality in their flowers which cannot be surpassed, and culture which cannot be excelled. Two broad span-roof houses, each 100 ft. long, are cramful of Begonias raised from seed sown so recently as February last. All are coming into bloom, and in a month will be a superb spectacle, especially as by that time, all being in full bloom, the colours will have been massed, and the effect thus produced is even more striking than when seen in mixture. Mere big flowers are not aimed at—rather quality, form, stoutness of petal, brilliancy or variation of colour, and dwarf compact habit allied to exceeding freedom of flower. These, it must be admitted, are points worthy of consideration, and at Reading they are being rapidly utilised. From pure white down to the deepest blood-crimson the colours vary, but we prefer that those interested in Begonias should see for themselves, when also they will find some very beautiful hybrids, especially of Pearcei; and the pretty whitish pink Princess Beatrice, another hybrid, is growing so well and blooming so profusely in the open air as a bedding plant.

Gloxinias may be not inaptly described as greenhouse perpetuals, for here they seem to be always in bloom. The present, which consists of seedlings from a sowing last February, fine robust plants, full of vigour, and blooming superbly. Many show such truly huge and finely formed flowers that we are tempted to ask when will Gloxinias stop. Truly they seem big enough now, and as for colours they are as varied, as the hues in so many are sublime. The pure white kind, of which

there is a big lot, is, indeed a beauty, many of the flowers are simply exquisite, no other adjective can be applied. There are two self-coloured flowers of a rich red hue, having white ground edgings upon which is flung, as it were, small specks of red, and these are truly lovely. But what between second-year bulbs and seedlings it is now perfectly easy to have these glorious Gloxinias in bloom all the year round. Were anyone disposed to pen an essay upon the advance made in horticulture during the past twenty years, they would find ample material for a long chapter on Begonias and Gloxinias alone. What our paters could not have imagined we in our gardens now possess. What our children may enjoy we cannot realise, but simply from analogy imagine.

Outdoors hardier flowers are in wondrous profusion, thus we are privileged to see Hollyhocks in fine form, and raised from seed, and displaying fine quality in the flowers, great variety of colours, and happily entire freedom from fungus. No doubt, constant raising from seed, and shifting the plants from place to place tends to ultimately overcome this old and troublesome pest; certainly the strain at Reading shows us conclusively that we have but to get seed from year to year and sow it, planting out in fresh soil yearly, and thus a fine show of Hollyhocks is ensured. The colours are pure white, lemon, yellow, rose, carmine, red, crimson, maroon, and many others, enough to satisfy the requirements of any garden.

It seems to be a strange leap from the tall Hollyhock to the lowly Portulaca, but it may well be doubted whether in all the kingdom a more lovely display of these charming creeping plants can be seen than is afforded here. Some in bands, or as edgings to the broad carriage way which enters the nursery, sometimes in mixture, sometimes in blotches of colours; they are inexpressibly lovely, and give hues of colours rarely found in other flowers. The soil is first well dug, and fined on the surface, then trodden to ensure a firm base, lest the loose earth should too deeply absorb the seed. A broad and exceedingly shallow drill is marked out, the seed sown thinly, and then covered as thinly with fine sifted old pot-soil. The result as seen the other day was a beautiful sight, such as might have delighted even the rudest and coarsest of cynics.

Dianthuses in great variety, single and double, form a very interesting feature. How beautiful and varied these Indian and Chinese forms of our Sweet William family are, a visit to this nursery will reveal. From pure white to intense maroon may be found intermediate, a score or more hues and markings in all sorts of forms and mixture. Verily a garden is lacking much which has none of the annual Dianthus within its borders. Our old bedding friends, Verbenas, are here, too, in great profusion, not as of old from cuttings, but from seed, for it is the object of the Messrs. Sutton's to show here samples of the produce of seed stocks on the one hand, and on the other to obtain for their own edification, some real test of the merits of each. Thus Verbenas are largely grown in blotches of colour, white, rose, carmine, red, scarlet, blue, purple, crimson, and a beautiful striped form giving such a wealth of bloom. Whether needed to make a bedding display, or furnish cut flowers, they are most useful, and coming true from seed are as easily raised as ordinary tender annuals.

Then we find in big beds of Zinnias flowers of great size and fine form, and in most cases showing wonderfully rich colours; indeed, in this respect the Zinnia stands amongst tender annuals almost unrivalled. Those who remember the single, and not specially beautiful, Zinnias of past days, find in the grand double reflexed flowers of to-day marvellous advance and exceeding beauty. It is very evident from the samples growing at Reading, that in those again the Messrs. Sutton & Sons have superb strains. Balsams planted out are equally fine, and producing huge double flowers. It does seem as if these plants in the open by far excel the best found in pots under glass. Certainly it is a fine outdoor flower, and those who see them at Reading will admit that quality is of the finest.

Summer Stocks are in great abundance, and in wondrous variety too. With Asters they needed a fortnight longer to fully develope, and probably by the time this appears in print, both these very fine tender annuals will be making brilliant shows. Every possible kind seems to be grown here. Mignonettes are varied and interesting, the best seeming to be Brighton White, Giant Red and Golden Queen. Antirrhinums tall and compact, Phlox Drummondis very rich and varied in colour, and many other flowers, with Tobaccos in great variety and grand of foliage; Tomatos of many kinds, and well grown. These and many other things serve to make a visit to the nursery just now one of exceeding interest.

HEATHERBANK AND OAKWOOD, WEYBRIDGE.

In his gardens, now fast becoming notorious, Geo. F. Wilson, Esq., the chairman of the Floral Committee of the Royal Horticultural Society, appears to have realized the dream of the lover of hardy exotic flowers, and by his knowledge of their requirements, no less than by his good fortune to have such a suitable situation to give them as that in which he has arranged his garden in a wood, he has succeeded in establishing a vast number of rare plants of other countries, and so far rendering them at home, that they not only exhibit their greatest beauty in uncurbed luxuriance, but testify of their appreciation of the arrangements made for their comfort by coming up from seeds in some cases by the thousand, and in vigour quite equal to that which they would exhibit in their native American woods, Swiss mountains, or Japan swamps or plains. Thus in that lovely sylvan spot at Oakwood, beneath the Scotch Firs and Oaks, or on the shady banks, we observed thousands of young Lilies, Iris Kæmpferi, Rhododendrons, and other plants coming up in all directions, and even the rare Indian Poppies or Meconopsis preparing a goodly supply of successors, while the Osmunda cinnamomea, and other Ferns, appear in countless numbers. This luxuriance of the young gives the best evidence of the happiness of the more mature, for had not care been taken to plant in proper soil and situation, the second generation would never have appeared even where the old plants continued to struggle on.

The Oakwood Garden at Wisley.

This is a wood in which Mr. Wilson has planted, in suitable situations, thousands of Lilies and hardy, or presumably hardy plants, either in the wood, by the side of the lake, or on the slopes, which are laid out in many mounds and rockeries, or enclosed in various ways by shelters of Trees, Rhododendrons and other suitable plants. Immediately on arriving at that portion of the wood that commands a view of the garden, the success of it is felt, by the fine and unusual appearance which its gaily coloured surface presents. Let us from the entrance pass the eye over the ground and note a few of the great and gorgeously flowered bushes which attract notice, we will then make the tour of inspection and note a few of the more beautiful things at present in flower; more we cannot do, for the variety s so bewildering, and each month brings an entirely new set of beauties.

First then at the gate the eye is greeted by great bushes of the double white and double pink bramble by the glowing scarlet sprays of the Tropæolum speciosum rambling over the hedge, and the rare and pretty Clematis campanulata, with patches of the white Anemone, Honorine Jobert, covering many yards; further on are great bushes of the mauve and white Japanese Rosa rugosa, some in flower and some no less beautiful with their large bunches of scarlet fruits and their numerous progeny coming up around them. Away to the right the eye lights on large clumps of the scarlet and yellow Lilium superbum, and the golden-rayed Lily of Japan, 8 ft. or 9 ft. in height, while showy plants, which may be seen in the distance, are the yellow Harpalium rigidum, taller than a man, the golden Coreopsis lanceolata, the fine cut-leaved Bocconia cordata, Saponaria officinalis fl. pl., with double pink flowers, the large bushes of rose and white Cistus, the white, pink and red Phloxes, the rich blue Salvia patens, the drooping crimson and sulphur Leycesteria formosa, the handsome mauve Rubus spectabilis, the great white heads of the Hydrangea paniculata, and the golden bosses of the Hypericum oblongifolium and H. aureum. These blending with the lesser flowers and stately foliage shrubs, form a picture not easily described or imagined.

At the entrance, under the shade of the trees, are the Fern rockeries, in which many rare species have grown into large specimens; among the finest are the handsome Hypolepis millæfolia, Athyrium filix-fœmina pulcherrimum, A. f.-f. coronans, Allosorus crispus (the Parsley Fern), Osmunda spectabile, O. interrupta and Asplenium viride. The New Zealand tree Fern, Dicksonia antarctica, too, has been successfully wintered at Wisley, and the North American climbing Fern, Lygodium palmatum, has formed itself into a very fine specimen.

Prominent among the many charming things in bloom among the beds and on the rockeries, are Fuchsia Riccartonii and F. pumila; Gentiana ornata; G. asclepiadea, mingled blue and white, as they sowed themselves; G. pneumonantha, and other fine Gentians; Campanula G. F. Wilson, a pretty hybrid between C. carpatica and C. pulla; Plumbago Larpentæ; the crimson Calandrinia umbellata; the white Linum monogynum; the blue Cyananthus lobatus, like large Violets; Abelia rupestris; a fine show of the various Ericas, Menziesias and Andromedas; and in a portion set aside for the purpose, a great number of interesting things collected in Switzerland by Mr. Wilson, jun., who is an able seconder of his father's efforts in his clever gardening operations. Among the great beds of Lilies in bloom, beside the many hundreds of L. auratum, L. speciosum and other plentiful kinds, we were much attracted by the beauty of the L. Scovitzianum, yellow, dotted with crimson; L. Bateman-niæ, all pure reddish orange; L. tigrinum Leopoldii, scarlet, dotted with crimson; L. tigrinum flore pleno, a fine double variety; L. Leitchtlinii, citron-yellow, dotted with black; L. Brownii, large, white, tinged on the outside with purple; L. Krameri, blush-white; L. longiflorum albo-marginatum, with white flowers and white-margined leaves; L. speciosum Kratzerii, a fine fragrant white; and L. giganteum. These are blooming in the most luxuriant manner in more or less quantity in many parts of the woodland garden.

The bridge-spanned lake, which in its season is covered with the sweet Cape pond-weed, Aponogeton distachyon, is now embellished with the flowers of our white Water Lily, Menyanthes trifoliata, and some of the Potamogetons; on its banks the Japan Iris Kæmpferi, in many varieties, is quite at home, as well as the species of Bamboos, Crinum Powelli, C. capense, New Zealand Flax (Phormium tenax), Spiræa palmata, and the many varieties of Iris Germanica; while in the marshy ground of the bog garden, the American Sarracenia purpurea and S. flava, the Fly-trap (Dionæa muscipula), Pinguicula hirtifolia, and other insect-trapping plants are quite at home; and the lovely Gentianella, near by, so strong that one truss of it recently produced 600 of its fine blue flowers, the white, variegated, and other rare forms of it, collected by Mr. Scott Wilson, being planted near it, in the hope that the favourable situation may make like specimens of them.

In the gorse shelters, the Gladioli are very showy; the plants of Sikkim Rhododendrons and other plants, being acclimatised, in good order; and the hugh specimen of Camellia, Duchess d'Orleans, 12 ft. across, in fine health, although not so well set with bloom this year as usual. The filmy Fern, Todea superba, is in grand health with just the protection of a glass to keep it clean and moist; and the bank of Tea Roses, capped by purple Clematis, in unusual vigour, a condition which the tuberous Begonias seem inclined to imitate. Leaving the fine garden at Oakwood, we return to head quarters, at Heatherbank, and find innumerable objects of interest among the plantings in the Scotch Fir wood which bounds it; notable is a provision made for quick-running plants, which when planted among others are apt to smother them, with these Mr. Wilson copes by allowing to each a separate mound some 6 ft. or 7 ft. across, and most of which are now covered and perfectly beautiful. One is a mound of Acæna Novæ Zealandica, another of Fragaria lucida, a third of Polygonium vaccinifolium, a fourth of Viola semperflorens, and many others are clad with different Acænas, Vincas, Potentillas, and instead of causing dread that their luxuriance will be doing mischief, they are fine objects.

Another noteworthy innovation is Mr. Wilson's method of growing such things as Osmanthus, Euonymus, Azalea, Ledum, Pernettyas, Skimmeas, &c., among roughly formed rooteries, in which they thrive much better than in beds. In the wood is a repetition of the grand culture of Lilies found at Wisley, and around on every hand is a great profusion of bright flowers on the many species of herbaceous perennial growth. The whole of the garden, except the portion immediately around the house, is kept as near to nature as possible, and although unlimited judgment and labour must be expended on it, as little of the evidence of gardening as possible is allowed to appear in a formal manner; patterns and regularly shaped

beds in all cases being avoided, and such care exercised in planting, that plants soon take up their quarters as though in a wild state.

The glass department at Heatherbank is as interesting as the outdoors, a great number of rare plants, including bulbs and Orchids, being there grown. Among the Orchids in bloom are some good specimens of Cymbidium elegans, Maxillaria venusta, Odontoglossum Phalænopsis, Cypripedium niveum, Govenia fasciata, Peristeria elata (The Dove Plant), Masdevallias, &c. In the conservatories are a bright display of tuberous Begonias, Pelargoniums, and Fuchsias, with Tacsonia Exoniensis and mingled red and white Lapagerias on the roof, the white one especially being found to do best in the very coldest house. In the other houses, all of which are kept cool, we noted among many other objects of interest some grand Montbretias in flower, viz., M. Pottsii, scarlet; M. roseum, rose; M. Gerbe d'Or, yellow; M. Bouquet parfait, yellow, with scarlet tips; M. Etoile de Feu, scarlet; these all do well in an unheated house, and the two first are even better in the open ground at Wisley. Other fine plants are Cypripedium spectabile, which has borne over twenty spikes; Diospyros Kaki (The Japanese Persimmon), covered with fruits soon to turn scarlet; a blue Lactuca from the Himalayas, altitude 7—9,000 ft.; a fine specimen of our Bog Myrtle growing in the rock in the tank with other good plants, and the dark-flowered Apios tuberosa, which is also grown in the open at Oakwood. The Plums and Pears in pots, we do not ever remember having seen equal to those at Heatherbank, which, although only grown in 12 in. or 14 in. pots, have large heads covered with from fifty to one hundred fruits of unusual size and quality, the whole collection of finely fruited bushes being a sight worth seeing. Of course it is needless to say that a judicious course of feeding when making growth and fruit is pursued with these.

As the last object we can now note in Mr. Wilson's novel garden, we must mention a novel cheap house formed by placing a four-light span frame (such as Halliday or Messenger supplies) over a pit dug to form the body of the house, a portion being left for staging; to this a sloping walk is cut as an entrance, and many rare bulbs, Lilies, Filmy Ferns, terrestrial and other Orchids, may be grown in such a contrivance placed in a sheltered spot, better than in one of the hot-houses they are often placed in.

Scottish Gardening.

The Vegetable Garden.—In the latest districts such roots as Shallots, Potato Onions, autumn sown Onions, and Garlic, in most parts will be ready for removal, and it is well to have them out of the ground as soon as their state of maturation will allow. A wet time causes a second growth, and after this their keeping properties are at an end. In many districts cottagers and gardeners alike have much difficulty in raising good Onions—grubs and other vermin destroying the crops in their early stages—notwithstanding that ordinary lime, gas-lime, soot, and other things have been used as antidotes. Shallots seldom suffer in this form, and take the place of the more popular bulb. "Potato" Onions are excellent as substitutes for autumn-sown bulb, as in many soils it is almost impossible to keep them from "bolting" to seed. We already notice that quantities of the above kinds of bulbs are pulled, and hung up in front of dwelling houses in the sun. It is a mistake to pull them up before they are fully developed in growth, as instead of keeping late they become pulpy, and readily decay. The usual plan of twisting the necks, and laying down the tops of Onions, hastens to some extent the ripening process.

A sowing of French Beans for late autumn may now be made on a spent Melon or Cucumber bed; Ne Plus Ultra has with us out distanced all our old favourites. Where frames, handlights, or other protectors can be spared to place over portions of French Bean crops nearing to their time of bearing, and the glass only used at night, much may be done to continue the outdoor supplies late in the season; hoops and mats and similar contrivances for use, when frost may appear, may be serviceable to the same end; also for Ghirkins, Vegetable Marrows, &c. Last season's experience of early frost should make us increase our efforts this season to escape injury. The drying of herbs, taking seeds before they fall, thinning crops such as Lettuce, and transplanting the thinnings in sheltered quarters, doing the same with Spinach (Prickly Spinach stands the winter well when transplanted), thinning of Turnips before they become drawn up weakly, transplanting Coleworts, which have been pricked out till Potato and other crops are cleared off, and topping Scarlet Runners before they become matted. We never saw these do better than they are this season, they are kept dwarf, as market men do, by topping, and, therefore do not crowd up other crops, or take up unnecessary room as they do when the expensive practice of staking is adopted. Timely attention to the above items are some of many amenities, which result in success.

It is a fixed principle with northern growers to make sure of their Curly Kale, Savoy, Cauliflower, Brussel Sprout, and Lettuce seed, being sown by the middle of this month. Loose rich land is objectionable, for this gross growth being thus encouraged, while firm ground gives sturdy frost and damp resisting growth. The earthing of early Celery must soon be completed, and all late crops are the better for having a little earthing done to keep the stems compact; a dusting of lime among the plants before earthing is done may be serviceable in eradicating slugs.

Fruits.—Strawberries should be planted as soon as the ground can be spared for them, and as most of the earlier kinds have fruited they should be cleared of their runners and litter, and neatly mulched with good manure. Where the plants have grown too much to foliage they should be reduced, so that each plant stands clear of its fellow. Crowding at this season of the year has much to do with failure of the crop; severe mutilation of foliage has much to do with this also. We never remember having seen plants turned out of pots from the forced stock fail in giving abundant supplies during the first season after being planted; we know some great growers who strip off all foliage quite close, manure heavily, and secure the best of crops without failure. When such was common everywhere in the north, seasons were more conducive to success than they are now.

In some parts of England (we visited one lately in Worcestershire) the practice of making a clean sweep of all foliage is closely adhered to, and liberal manuring follows. We have tried this against many other systems simply for the sake of experiment, but with no marked success, and yet we have seen that Keen's Seedlings and British Queen's grown where this mutilation was practised, and with the addition of deeply digging in the manure between the rows, as we have never seen elsewhere. Where Keen's Seedling goes all to leaf, minus fruit, with the usual care taken to keep roots intact, might take an opposite course if they underwent root pruning. Raspberries done fruiting should have all old canes cut out, and young rods thinned if necessary. Whatever trimming to wall trees is left undone such work should be completed to let sun and air to the fruit and current year's growth. Ripening of both are enhanced by proper attention, and the less growth is made in northern parts after this period, success will be proportionately increased next year. Non fruiters may be checked and forced to form fruit buds by careful attention to partial root-lifting this month. The finest crop and healthiest growth of Apples with us at present, are on old trees which were three years ago full of dead wood with foliage quite rusty at midsummer, and canker all over the bark. The whole of their lower roots, which were very unhealthy, were cut clean off during the growing season.—*M. T.*

Manufacture of Oil from Wood in Sweden.—A new industry has lately sprung up in Sweden, and promises shortly to become a most important one. Oil for illuminating purposes is now manufactured in that country from the stumps and roots that remain in the forests after the timber has been cut. These are subjected to a process of dry distillation, and besides wood oil, many other products are obtained, amongst which turpentine, creosote, acetic acid, wood charcoal, tar oils, &c. This oil cannot be used in ordinary lamps, as containing a large proportion of carbon it gives off a great deal of smoke during combustion. When mixed with benzine, however, it may be used in ordinary benzine lamps; but when burnt alone, a special lamp must be adopted. The trees that furnish the greatest amount of oil are the Pine and Fir. There are now about forty establishments engaged in this manufacture in Sweden. —*Society of Arts Journal.*

The Amateurs' Garden.

THE FLOWER GARDEN.

The majority of the occupants of the flower garden have been doing well this month, the ordinary bedding plants, such as Pelargoniums, Calceolarias, Iresines, Lobelias, &c., have improved wonderfully and are now in first-rate form; rather later than usual, but with a fine season they will last proportionately longer. Carpet beds have not been quite so bright as might be desired or expected, but this is principally due to the Alternantheras lacking colour, as they are apt to do in moist or cool seasons like the present, hot dry weather, which ruins other plants, bring out their colours to perfection, and without them carpet-bed designs are comparatively dull. Most plants are now growing vigorously, and will need frequent attention in stopping and picking to keep them within due bounds, and preserve the outlines of the respective designs. It is a good plan to utilise the shoots removed from Pelargoniums, and such plants as cuttings, the tricolor, silver variegated, and bronze varieties, being very readily propagated by inserting the cuttings in fine soil out of door at the present time. They will be well-rooted stout little plants by the time it is necessary to lift and pot them, or they can be placed in boxes, but the pots are better, as the plants are less likely to suffer from damp, when sufficient space can be afforded them in a house. These summer-struck Pelargoniums are much the best provided the soil in which the cuttings are inserted is not very rich, as in that case they make too much growth, which does not get well matured before winter. Rather poor sandy soil is the best in a moderately dry position, and water should not be supplied too liberally, an occasional sprinkling from a rose pot being sufficient, and in damp weather that will not be needed. The zonal varieties with green leaves can be increased in a similar way, but a later period will suit them.

Roses are lasting well this season, and with a very slight cessation we have been gathering blooms and buds out of doors since June. If it is wished to increase the stock of plants, cuttings can now be inserted either under hand-lights or in the open ground if a moderately sheltered position be chosen, and of all the stronger free growing varieties they will strike readily. La France, for instance, can be increased to any extent by means of cuttings, and with very few losses, the plants so obtained being fitted either for potting or growing on as dwarf bush plants. The Tea varieties are the most uncertain, and they are more likely to succeed placed under hand-lights in a cool moist position, but with such protection they give little trouble.

The lawns require frequent mowing, and the margins both of walks and beds should be kept neatly trimmed, for nothing gives a garden such an untidy appearance as weedy walks and rough edgings. Collect seed of any herbaceous or other plants that it may be desirable to preserve in that way, and many can be increased with less trouble from seeds than by division or cuttings.—*Scolytus.*

FAIR LAWN, LYTHAM.

The seat of H. Fildes, Esq., is situated close to the sea-shore, and enjoys almost invariably a pleasant and delightful climate. The grounds are well filled with the usual shrubs, trees, &c., and a capital herbaceous border adds much to the interest and attractiveness of the place. Mr. Thornber, the gardener in charge, has many plants now in the numerous structures, and very creditably are they all coming on. Additions are continually being made to the collection of Orchids, and at the present time there are several very nice things in flower. The pure white Cattleya Wallisii is one that flowers during summer, immediately after the showy Mossiæs and Mendelii, &c., and though not quite so large and attractive, is, nevertheless, a beautiful thing. Mr. Fildes plant is a very fine form. C. gigas is also in bloom, a variety with a large and high-coloured labellum. C. Dowiana was just past its best; this is always a most beautiful plant. An Odontoglossum crispum promised very shortly to make a capital display; the stout bulb had thrown up a spike 3 ft. long, bearing two laterals each 8 ins. long, carrying six flower-buds apiece, the main spike having sixteen buds —in all, twenty-eight flowers would very soon be open. It is not often this species will branch in this manner. Here is evidence that under some conditions it will certainly branch and bring a fine number of flowers.—*S.*

LONDON GARDENING.—VI.

BULBS.

Of course last week's list of Perennials was very far from an exhaustive one; many are the other worthy candidates for the London gardener's patronage. To mention only two of these, there are the well-known Honesty and Thrift, plants that should be grown if only for their names' sake! A few days ago I saw Thrift used as a boundary-line to a flower border on the platform of a L.B. & S.C.R. Station close to London, and it was clearly growing there *con amore*, quite covering the rough edging—flints with its green velvet cushions and clumps, which must be pretty indeed, starred with pink blossoms, in the early summer. Much may be learnt from the plants at suburban railway stations, where there is seldom any shade and always a full complement of blacks; they are silent applicants of the representative order, for frosts in the exposed borders of a London garden, and their testimonials are written on every brave leaf and cheerful flower. One blot there is on the merry Thrift's escutcheon; its reputation as a Slug-harbourer is a very bad one, and though Carnations and Pinks are fellow-offenders of almost as deep a dye, it must yet be admitted that the habit is more mischievous in an edging plant than in any other; for the tufts are so many fortresses in line along the border, covering the Sallies of the Crawling Crops, and inviting to safe repose after the fatigues of repletion. But after all, Thrift need not be grown as an edging; its pink-spotted green pincushions dotted about singly are very ornamental, and what is an isolated martello tower here and there, compared with a chain of redoubts? The best edgings for London gardens are dead ones, and if I am to avow my personal predilection, it is for the very simplest and most natural possible. In that coming garden of mine I mean to use only the "Flagstone Edging" (supplied by Mr. J. A. Robinson, Stone Merchant, of Brighouse, Yorkshire,) which consists of plain oblong Slabs of a soft grey tint, not without its quiet sparkle, harmonising charmingly with a garden's greenery, and innocent of the self-assertion of elaborate or bright-coloured "designs."

A word must here be said about Grass, that very common Perennial which people are apt to think can be made to grow anywhere:—and it shall be a word of dissuasion. Without laying down the law that grass is ill adapted to little London gardens in general, I will express the opinion that the less our London gardener has to do with it, the happier she is likely to be. I could not count the persevering attempts to grow it successfully which I have seen made, only to be sadly abandoned at last in despair. Those to whom expense is not a scarecrow can indeed have their gardens re-turfed, as perhaps they are re-gravelled, yearly,—but that is not growing grass. I, for my part, cannot live wholly grassless, for I dearly love my cat, but I confine myself to a single six-rayed star, raised above the gravel, which was originally turfed, and is resown with grass-seed, for her furrey sake, every May. The children, who have not far to stoop, keep this star clipped, Meg's own clipping being irregular,—but with all our solicitude it never looks as grass should look.

We come now to Bulbs, under which wide term I include Bulbs proper, Corms, Tubers, and Rhizomes. Speaking roundly, this composite class of plants is very well suited to the London garden, for it is less open to injury from impure air than the perennial family. Its delicate flowers are easily stained and spoilt, it is true, but its foliage offers only a narrow platform to the sweep of the enemy's big guns. What there is of this foliage is narrow, pointed, and smooth,—there is seldom much,—and very often there is none! The soil on which they feed plays a more important part in the life of bulbous plants than the air they breathe, and however carefully the general soil of the border may have been prepared, a little extra care is always well expended upon the immediate surroundings of every bulb put into it. I am assuming that most London gardeners will leave their bulbs undisturbed where once they have planted them, as I do; with the exception of Gladioli, I never take up any of mine, partly because I have no convenient storing-place for them, and partly because my faith in facts is strong, and I could not wish for more beautiful flowers than I have often seen from bulbs that had been left to themselves, and to nature's handling, year after year. A couple of inches of sharpish sand, below and above each bulb, is a great preservative from damp and the insects that revel in damp, and the soil around this should be light, friable and rich. I say "rich" rather in deference to the dicta of florists of authority than in obedience to my personal experience, for I have grown splendid Lilies and other bulbous flowers in simple sand, with a winter top-dressing of very old manure. But that, I am fain to confess, was not in London, and moreover we are at this moment considering a class of plants large and mixed enough to embrace very varied requirements, so that it would be both rash and inexpedient to discard the traditional "rich" from the table of attributes claimed for their soil by Bulbs in general.

Let us now take our Bulbs, Corms, Tubers and Rhizomes indiscriminately, and just name them, in the order of their blooming; we can return afterwards to such as call for a fuller notice than the mere record of their names. The Winter Aconite, the Scilla, Snowdrop, Crocus, Leucojum vernum, Hyacinth, the Narcissus with its legion of kindred, the Tulip, Crown Imperial, Pæony, Lily, Iris, the Gladiolus, the Dahlia, the Tritonia. All these, though of course not all the varieties of each, are willing to live, *faute de mieux*, in the London garden. I have felt bound to exclude from the list the Windflower (Anemone), the Ranunculus, Ixia, Sparaxis, the Zephyranthes, and the Marvel of Peru, though the two first and the last might perhaps be coaxed into succeeding in gardens more open to light and air than mine. With the help of cold frames, all, I daresay, might be successfully cultivated, if the Ixias and Sparaxis were provided with sandy soil such as they flourish in at the Cape; I have seen both growing in the open air in English country gardens, though only in sunny positions well sheltered from the north and east. However, the beginner will be wise to avoid such delicate subjects, especially as she has so large a choice of unquestionably hardy ones.

To glance back now at our list of Bulbous "*Ayes*" to the question put: "*Is life worth living in a little London garden?*"—I must touch very briefly, for time presses and the end of the volume looms close at hand, on two or three of the group. Whatever else you exclude from your garden, unknown friends, do not deny admittance to Scillas Siberica, verna and amœna. They are as longsuffering as they are beautiful, as joyous as they are brave; they mind neither frost nor snow nor unkind wind, they affect not to feel the "blacks," they spread a sweet blue sheet over the winter-worn London soil with all its uglinesses, even as charity covers a multitude of sins;—mine, fanciful as it may sound, seemed actually to enjoy the snow through which they peeped last (icy) spring, and so they did me the good service of recalling to me Ruskin's words about the Soldanella Alpina, which—frightened though I am at the rapidly contracting space left me—I must subjoin, for whether the Soldanella will grow in London gardens or not, Scillas will, and mine behaved just like Ruskin's Soldanellas. "*Soldanella Alpina. I think it is the only Alpine flower which actually pierces snow, though I have seen Gentians filling thawed hoof-prints. Crocuses are languid till they have had sun for a day or two. But the Soldanella enjoys its snow at first, and afterwards its fields. I have seen it make a pasture look like a large lilac silk gown.*"

A London garden may easily be made a blaze of Daffodils and other members of the great Narcissus family: the Trumpets, the Chalices, the Triple-crowns, the Rush-leaved, the Purple-ringed, the luscious Jonquils,—all these, and many more, are most good natured. If they can have a choice, give them an eastern aspect that they may get the morning sun, do not forget the warm, dry sand when you plant them, put them in two clear inches deep, do not lay on your top-dressing with an illiberal hand, do not cut off their leaves when the flowering business is over,—so may you and the Daffodils, about which floricultural big-wigs meet to "confer" in these days of Conferences, be fast friends for years.—Lilies are not quite so gracious, and it grieves me to say it, for in my gardens Nos. 2 and 3 I was a Lily-grower on a fairly large scale, and I know the sweet tribe well. But the old July "Candidum" is happy in London, one of mine sent up a spike of thirteen blooms last summer, and has tendered one of ten blooms this season, the very modest default of three being a whispered reminder of the fierce spring we had this year. The old Orange Lily of cottage gardens also accommodates itself to London conditions, and so (I am told) do the Turk's Caps and the beautiful Lilium speciosum rubrum. But having grown all these last, as well as the magnificent L. auratum, long enough elsewhere to observe their ways and wants, I feel sure that none of them would prosper here, nor have I had the courage to try those purest specimens of the family, L. longiflorum and L. eximenm, nor the curious cream-coloured L. testaceum excelsum, of all of which I confidently hope to have sheaves in that garden yet to come. Plant your Lily-bulbs 4 ins. deep, and not under trees; give them a southern aspect if you can, and if May and June are dry months water them regularly; once a week I give mine a helping of Cannell's manure in the water.

Of Tulips I have only room to say this: (—*pace* the idolisers of single flowers only,—) if you can grow but one, grow the Double White, "La Candeur," which is a lovely thing, and is almost as refreshing as a white water-Lily to London river-lovers. If you have room for two, let in the Double Red, "Rex Rubrorum;"—after them the Singles. Of Irises I wish I had space to speak, but there are none that are not worthy of a place in any garden, so that to particularise might be almost invidious,—only remember that most flags are semi-aquatics under all conditions,—and beware, therefore, of planting them on sloping ground where moisture must desert their roots, and of allowing them to encounter the long ordeal of a hot June day, just when their buds should be swelling, without any over-night-watering to sustain their strength. The German Irises are perhaps the best adapted to London gardens, but if the Spanish and other smaller varieties are carefully guarded from the drip of trees, and encouraged now and then by a handful of fresh soil as a top-dressing, they do better than the delicacy of their structure might lead one to expect.—*C. A. G.*

GLENHURST, ESHER.

THE RESIDENCE OF THE HON. COLONEL TALBOT.

It is by no means the rule in gardening that the largest or most pretentious gardens produce the most successful effects. On the other hand, some smaller places produce wonders in their way, and Glenhurst is a case in point, for in the matter of vegetable showing, and of course growing, one of the several tests of any gardener's ability, Mr. Waite has proved himself to be almost invincible in the shows south of London, and probably could hold his own, or, at least, stand well in company with the best at any show in the kingdom. Already this year, as, indeed for several years past, Mr. Waite has taken far more prizes, not merely for single dishes, but for collections of from six to twelve kinds, than any other gardener we know of, and he has done this feat with remarkably good stuff, never aiming low down because his competitors may not have been pretentious, but always doing his very best, and doing that well. Only the other day Mr. Waite put up at a small show at Feltham, where the capital first prize of 40*s.*, open to all, should have brought a large local competition, and yet the collection was of such surpassing quality, and arranged with such good taste, that to use the words of an onlooker, "it was quite a picture," and was literally miles ahead of anything else. It is a good practice on the part of exhibitors never to hold competitors cheap, but always to do their very best at shows, whether small or otherwise.

But Glenhurst is not only a vegetable garden, it is a pretty place as well. Lying out of the main road at Esher, and right under the brow of a high hill, it seems admirably sheltered from cold winds, and yet enjoys a very pleasing look-out over the fertile vale, which lies spread out before it toward the Thames. The lawn rises from the house by a sharp ascent terminating in some fine trees and shrubs through which a walk leads by some rugged ornamental water to the uplands beyond from whence a grand view of the surrounding country is obtained; the towers of Windsor being visible to the naked eye in the distance. For the view of the house would have been better on the top of the hill, but for shelter and warmth, matters of some concern in our uncertain climate, it is best below where also it is so very accessible, and looked at from above appears nestled in quiet peacefulness and sweet seclusion. The pleasure grounds are all well kept and very pleasing; one of the noteworthy features being a grand specimen evergreen Oak near the carriage drive leading to the house that makes a picture always.

A broad walk well decorated with hardy flowers and good shrubs on either side leads to the old kitchen and fruit gardens wherein the various houses at Mr. Waite's

disposal, and he has none too many for his purpose; he raises Cucumbers, Melons, and Tomatos of annual fruits, and in others has or had capital crops of Peaches and Nectarines, and some first-rate Grapes. Of Melons, very fine when we visited the garden, were Hero of Lockinge, Blenheim Orange, William Tillery, Imperial Green Flesh, and Scarlet Premier, mostly grown in narrow lean-to houses, Tomatos being grown in the same way, trained up to the roof; and Grapes there are now to be seen some grand bunches of Gros Maroc, Alnwick Seedling, Alicantes and Lady Downes. Specially is it noticeable that the best sets and finest bunches are near the pipes, showing the effect of near heat upon the setting of the bloom. Mrs. Pince's Black Muscat, for instance, has set much best close to the pipes. Muscat of Alexandrias are good, and Black Hamburghs both fine and a very heavy crop, much more so indeed than most gardeners would care to take, but Mr. Waite believes in feeding his borders, and does so liberally.

However, our concern is chiefly with the vegetable department, and although some good samples are growing in the old garden, the chief of these products are those found out in a new garden of about an acre-and-a-half in extent, formed a few years since from a meadow. The soil is now just becoming well pulverised and clean, hence allied to a fairly moist position and well open to the sun, it was, at the period of our visit, full of luxuriant vegetation. Mr. Waite is a profound believer in the virtues of the British or native guano, and considerable quantities of this dry and most inoffensive manure are yearly obtained from the company's works at Aylesbury; indeed, much of the success attending the vegetable growing and exhibition is attributed to the liberal employment of this native guano. Peas were in this garden a great feature and cropping grandly. All being staked gave the best results, and true characters were admirably displayed. All dwarf kinds were sown in rows 4 ft. apart, and the tall ones 5 ft. apart. In the former case, Brussel Sprouts, already very strong, were planted between the rows. In all cases the rows were 30 yds. long, for a path runs through the whole length of the vegetable garden, and the plots on either side are of that width. Veitch's Perfection, here, really as fine as G. F. Wilson, gave a grand crop; Sharp's Paragon, a taller Pea, the pods pale green, but the Peas a rich colour and of fine flavour, was also a fine crop. Stratagem was a splendid crop, and of this there were seven rows, whilst one of the heaviest crops was seen on Sharp's Triumph, of which there were fourteen rows, wonderfully even throughout. The pods are large and handsome, and the stock may be likened to a very improved Veitch's Perfection; this is without doubt a grand dwarf Pea.

William the First had done so well that it had reached to a height of 6 ft. Duke of Albany is a grand semi-tall Pea, and here carried a fine crop; the pods somewhat resemble those of Telegraph, but are of deeper hue. It has capital flavour, and is one of the finest Peas in cultivation. Pride of the Market was good, so also was Sutton's Satisfaction, a dwarf kind, producing pods straight and abrupt-ended, not unlike those of James's Prolific, Laxton's John Bull, Sutton's Latest of All, Reading Giant, and Telegraph were all coming in for later gatherings. Latest of All is a 4-ft. Pea, and first rate for late work. Telephone and Reading Giant, grown side by side, and both tall Peas, gave about the same growth, but curiously enough whilst the former showed all late bloom withered up, that on Reading Giant was fresh and vigorous, as also was the entire growth; indeed, for a late tall Pea Reading Giant was grand, and it is one of the finest-flavoured sugary Peas in cultivation.

Of Runner Beans Mr. Waite had Laxton's Girtford Giant, a fine scarlet flowered kind, which produces long, straight, handsome pods early, and Sutton's Giant White, also a fine-podded kind; curiously enough both sport somewhat. Leviathan is the only Broad Bean grown, and very fine pods are produced. This is not, however, one of the strongest of vegetables, and the pods soon discolour. Of Potatos there is a large variety, all looking remarkably well and healthy: such kinds as Snowdrop, Cosmopolitan, Prizetaker, Magnet, Fillbasket, Ashtop Fluke, Woodstock Kidney (the two kinds here are identical), Vicar of Laleham, Reading Russett, and others make up a good selection of sorts. Canadian Wonder is the only Dwarf Bean grown; sown early in pots, quite 3 ft. high, have given a fine crop, whilst those in the open are fruiting finely. Reading Exhibition and Deverell's Wroxton are the sorts of Brussels Sprouts grown, and all looking very strong and robust; Mr. Waite speaks very highly of both kinds. Sutton's King of the Cauliflowers, a very fine and even strain, were turning in large pure white solid heads of the most satisfactory kind, and is found invaluable for summer exhibition.

Of Turnips the best early is the Milan Strap-leaf, both mild and handsome. This is so useful to provide summer samples where Turnips are needed, and no exhibitor on the considerable scale which Mr. Waite is can afford to despise any good vegetable. Onions form a very interesting feature in the garden, for they are grown on diverse soils and bulb finely. Of spring-sown kinds Deverell's Anglo-Spanish and Rousham Park, growing side by side, give already very fine bulbs, having ample room, but both are very like. The Croxton is a weaker plant, so also is Main Crop, though still good. Elsewhere are James's Keeping, Crimson Globe, and Golden Globe, giving fine samples, and of autumn-sown kinds. Of Sutton's sorts, all having a fine trial, are Silver Globe, a very pretty, clean, white sample, Crimson Globe, a rich blood-red sort, Golden Globe, and others, all very fine indeed. Without doubt, Onions receive high-class cultivation, but still not more than may be given in good gardens. With these, as with other vegetables, the native guano plays a very important part. Of Carrots for early work, Nantes is grown very fine and clean on raised beds or warm borders, and for later use the beautiful tapering New Intermediate. Of Marrows the most favoured are the early and prolific Moore's Cream, and Muir's Pen-y-bid, a white round sort of excellent quality.

The Gardener's Cottage at Glenhurst, Esher, Surrey.

Of course, all the other vegetables are equally good in their season, but the best of summer kinds have been enumerated above. It is most obvious that a gardener who does not snatch a prize now and then, but throughout the entire season maintains a high reputation for his exhibits, and wins all along the line, merits the warmest praise, and is a thoroughly good gardener. Mr. Waite enjoys in the Hon. Colonel Talbot the pleasure of serving under a sympathetic and deeply interested employer, which is much more than can be said in too many cases. We give with this notice of Glenhurst an illustration of the charming lodge residence Colonel Talbot recently erected for his gardener, and which is an admirable example of the liberality governing the garden arrangements at this place.

FRUITS, FLOWERS & VEGETABLES.

New Peas.—I am this season growing a number of varieties of Peas, and I possess just now four pets. One of these is "Waltham Hero" (Laxton); it grows at least 6 ft. high, the pods are both large and numerous, light green in colour, and of a capital flavour. The pods average nine Peas in each. No. 2 is one of Mr. Burberry's, called "Cross from Early Bird." It is a very early, good Pea, much in advance in size of all others of my knowledge of the early type. It is too scarce to be tasted this season. No. 3 is another of Mr. Burberry's crosses, called "Tom Thumb's Masterpiece," dwarf, not more than 9 ins. high, the pods large and well filled, and the flavour grand. This Pea is undoubtedly in advance of other dwarf varieties. These three varieties of Peas are not yet sent out, so that they cannot be had for perhaps two years. I will therefore name my fourth pet, which is in the market and can be had at once. It is Sutton's Marrow, height 3 ft. to 3½ ft., a prodigious cropper of not over long pods, still eight to nine large Peas are encased in each. It literally bears from bottom to top, and the flavour is most excellent. I have had a few cooked to-night, which by some would be called old; I found the flavour all that could be wished. This variety should have been named "The Pea for the Million."—*R. Gilbert, Burghley.*

Chrysanthemums and Earwigs.—A few weeks since I wrote agreeing with Mr. Kidson that we had no positive proof, so far as appearances went, that Earwigs destroyed the foliage or young shoots. Mr. W. E. Boyce, to whom your readers must feel indebted, thinks differently; but last issue, p. 795, Mr. J. Waldie's experiment seems completely to establish Mr. Kidson's contention. I merely desire to add, I have been collecting Earwigs every day since off some 300 of my plants, and as carefully as possible watching their action, with the result that I do not believe they injure the foliage. I have caught a considerable number of green and brown larvæ, but woodlice are the real culprits.—*W. J. Murphy, Clonmel.*

A Failure with Peas.—I have a small garden in the suburbs, and have this season tried to grow some Peas; the sorts are Carter's Stratagem, American Wonder, the Earliest of All, and Bishop's Dwarf Longpod, and from the four rows, one of each kind, I had not a quarter of a peck, but the reason why I do not know. I bought the seeds from one of our respectable firms, and had blanks in the rows 3 ft. or more long, and yet I had them well protected from birds. The American Wonder I have sown three times with the same result. I have two rows that I had sown of Stratagem and Earliest of All as a forlorn hope, and the Stratagems are now in bloom; yet even among these there are blanks. Earliest of All has come up rather better, but the haulm is very poor and weak, so I have given up all hope of having a dish of Peas this season. Can any of your practical readers suggest the cause of failure?—*Amateur, Manchester.*

Early Peaches.—I am pleased to inform your much esteemed correspondent, Mr. Gilbert, that I am in possession of the three excellent early Peaches named at p. 778, and each variety has fruited the past two seasons. Now, with us, Waterloo is the first to ripen by nearly a week. This season we picked our first ripe fruit on July 25th, last year on July 21st. It is earlier than either Alexander or Amsden, brilliantly coloured, and full of delicious juice. Alexander we gathered first on August 1st, and Amsden about the same date; last year on July 26th. These two are so near alike in every respect, that it is almost impossible to tell the one from the other. They are really grand Peaches for earliness, and should be given a trial by all Peach-growers. Early Beatrice we gathered the first week in August, but I have not been able to send a single dish to my employer's table. This variety I have done with entirely. Hale's Early is very good, but not yet ripe, and is, with us, one month later than Waterloo. I may also mention that twelve months ago last November I planted a Waterloo indoors at the warmest end of our second early house, and it has this year finished a crop of eighty-seven handsome fruits. We started to force gently on January 25th, and the first fruit was ripe on May 28th. This variety needs very careful handling.—*Herbert Markham, Mereworth Castle, Maidstone.*

Something Like a Fuchsia.—When visiting Raasay a few days ago, the seat of Mrs. Woold (on the Island of Raasay, opposite the Isle of Skye), I was very much struck with the large specimens of Fuchsia Ricartoni growing there. I selected one of the largest and had it measured, and found it to be 65 ft. in circumference, 12 ft. high, and loaded with blossoms from top to bottom. Fuchsia hedges here, averaging 5 ft. to 6 ft. high, extend for over two miles along each side of the carriage drive, and have a wonderful effect when in full bloom. In the centre of the kitchen garden there are two Fuchsia hedges 10 ft. high, and 4 ft. through. These are clipped in early in spring, straight on each side and flat on the top, and then left to themselves, and in August, when in full bloom, they are a sight worth seeing. These Fuchsias receive no protection whatever in winter, but the frost here is never very severe; Raasay being on the west coast of Scotland, it is allowed that the influence of the Gulf Stream is sensibly felt.—*John Downie, Edinburgh.*

Birds and Fruit.—It cannot be that the big birds are blind to colour, for what a distinction they are making here between red and white Currants. The ravages they make upon the red fruit is astonishing, whilst they never touch the whites; this was exactly the case last year, the whites dried and withered on the trees. We have also two quarters of red and yellow Antwerp Raspberries, and, although the latter is of a very sweet flavour, these again escape while the birds are gorging their stomachs with the reds. Can it be that colour guides them, for it cannot be the senses of taste or smell if they have any at all.—*B. L.*

Early Kenilworth and William the Conqueror Peas.—These are two very fine Peas, the first is a fine sort, which for earliness runs Earliest of All a very close race, whilst its cropping qualities are ahead of that well-known sort. Height, 3 ft., haulm and pods a deep green, and the pods are of good size, containing seven and eight Peas of excellent quality. Both were sown on the same day, on the same border. Earliest of All was three days in advance to flower, but Early Kenilworth gained upon it in the filling of the pod; this is where some of the earliest sorts lose themselves in the north. Day's Early Sunrise, which seems to be so popular int he south, keeps well up until the setting of the pods. I have noticed this sort flower from eight to twelve days before Dickson's First and Best, whilst the latter has regained itself in the filling of the pod what it lost in flowering, and ultimately has been the first into the kitchen. I have noticed this for three years, and on this account I have had to discard Sunrise, which, were it to keep up after the setting as it does up to the flowering, would hold its own. William the Conqueror follows the first named, Early Kenilworth, in succession, and is really a fine Pea; height nearly 5 ft., and on this account it is more to my liking, as I prefer a 4 ft. Pea upwards than downwards—the taller the better, provided that they commence podding from the ground, which William the Conqueror does, continuing up to the top. This is a capital cropper, with equally capital pods, of a dark green colour, and closely packed with Peas, eight and nine of good quality. A most desirable variety, which, no doubt, when it becomes more known will make its mark in the market, and in most gardens where Peas are of the first importance, as they are here. I enclose a sample from our last gathering.—*B. L.*

Plants Going Blind.—When kitchen garden foreman at Arundel Castle—I am afraid to say how many years ago—I have a distinct recollection that large numbers of our Broccoli, Savoys, and others of the Cabbage tribe used to go blind, and for years past here I have scarcely seen a blind plant, which for some time rather perplexed me, until I began to ask myself a few questions. My late good master, Mr. MacEwen, would have the young plants duly watered every evening in dry, hot weather; and here I must note the water was icy cold. I never water seed-beds here, let the weather be what it may; I am, therefore, inclined to think that by pouring on cold water every evening would alone be sufficient to cause the mischief.—*R. Gilbert, Burghley.*

Dasylirion serratifolia.—I think any lover of horticulture who can find time to take a peep over the gardens at Melville Castle will be handsomely repaid, for amongst the many charming things to be met with he will just now see a splendid plant of this grand old Dasylirion growing in a tub. The plant is fully 6 ft. in diameter, and some three weeks ago it began to send up a flower spike which in so short a time has made the prodigious growth of 8 ft. in height, and fully 7 ins. in circumference, and is still growing. I am inclined to think this is not a very common occurrence in the northern part of the island; you will no doubt be able to tell whether it has been brought to your notice before. The visitor will have an opportunity of seeing one of the finest houses of late Grapes it has ever been my good fortune to behold. The house is 100 ft. long, and planted chiefly with Alicantes bearing an immense crop of Grapes, the bunches averaging 4 lb. each, in most splendid condition. This house is always very fine, but this year it appears to be better than usual. —*D. P. L.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers Calendar.—From henceforth care must be taken that the shading is not allowed to be on the houses too long, or during any but bright weather; at the same time it will be well to bear in mind those plants which are easily injured by bright sunlight, and carefully guard them from injury in that direction. Phalænopsis want the most care to protect them from the sun, and next to them comes the evergreen East Indian things, such as Saccolabiums, Vandas, Aërides, Angræcums, &c., the Cypripediums, Bolleas, Pescatoreas, Huntleyas, Warscewiczellas, these and the plants usually associated with them, and the Masdevallias, Odontoglossums, &c., never pay to keep unprotected from the sun's rays at any time during the bright season. Cattleyas and such like plants are less susceptible, and will henceforth be benefitted by a good bright light being admitted on their house, which should at the same time be well ventilated.

Most Lælias, and especially those of the L. anceps and L. autumnalis class, as well as all the Barkerias require plenty of light, and should for the remainder of the season be only shaded when the sun is very bright; the Barkerias, indeed, in any cool well ventilated house are better unshaded. In nothing is there more at the discretion of the grower to secure the happy medium than in the matter of shading. In some houses plants will do well with little or no shading, which would be greatly injured in others under the same conditions. Resting Dendrobes require a bright light to harden up their growth for flowering, sufficient water being given them to prevent them shrivelling.—*James O'Brien.*

Cattleya granulosa asperata.—This name has been given by Professor Reichenbach to a grand Cattleya recently flowered by Major Lendy, Sunbury House, Sunbury-on-Thames who, as the Professor observes, is particularly lucky in getting good novelties. The plant flowered out of C. velutina, and it reminds one of that species in the dark Indian yellow of its crimson-spotted broad petals. Its handsome labellum is much like that of a good C. Schofieldiana; white veined with bright crimson. Those who know C. Schofieldiana will be able to form a good idea of Major Lendy's plant by imagining an improvement on it in every way.—*J. B.*

Cypripedium Sanderianum.—A number of lots of this new introduction from the Malayan Archipelago, came under the hammer at Protheroe & Morris' rooms, and realised good prices. It is something like a C. caudatum, with showy petals beautifully marked like Masdevallia chimeræ. Prices generally ranged from three to ten guineas, and two of the finest pieces fetched fifteen guineas and nineteen guineas respectively.

National Carnation and Picotee Society.—Our report of this society's exhibition, held at Manchester last week, is unavoidably held over till our next.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The late batch of Celosias, Cockscombs and Gomphrenas must now, without further delay, receive their last shift. Use a light open compost, into which the new roots will readily attach themselves; it will also be necessary to keep them rather warmer now, or fully developed plants can hardly be expected. The nights are already becoming much lengthened, cooler, and with heavy dews, and under these conditions it will be advisable to close early the frame or pits in which these subjects are grown, keeping the plants as near the glass as possible, and freely syringing them before closing. Browallias may also be grown with them; ours are now ready for their shift into 8-in. pots, and are a nice sturdy lot, which will do us good service a bit later on.

The first batch of Roman Hyacinths must now be potted, that is if very early flowers are expected. It is quite useless to attempt any kind of bulb successfully until thoroughly furnished with roots; and in case of there being any doubt upon this point, turn out the pots, and ascertain before introducing them to heat. If not well rooted, allow them to remain where they are, or failure is sure to follow. I need hardly say that a light rich compost must be used in the potting of all such things as Hyacinths, Tulips, Narcissus, &c., and it will be advisable to use materials that have lain by rather than fresh loam. After the bulbs are potted, they may receive a watering through the rose, to thoroughly settle the soil about the bulbs, after which, the pots should be placed on an ash border, in some cool situation, and covered with about 6 ins. of screened coal ashes, where they may remain without further attention for the next few weeks. If many of these early bulbs are used, a second pottiug may be made in about a fortnight, and a third about in the same, to follow as the last, after which the ordinary varieties may be readily had in flower. A few pots of the Paper White Narcissus may be also potted up and similarly treated, but a week or two later will be found to suit these much better.

Our Poinsettias having become too tall for the pits, we have removed them to the stage in the intermediate house, placing them in a batch by themselves, where they may receive a good syringing morning and evening, and so help to ward off the attacks of red spider. This is of the greatest consequence, for if once they become infested the loss of the greater part of the foliage will be certain before it can be eradicated. Where the planting out of these is adopted prepare compost, &c., ready for potting up, as, if this is not done in good time, they are scarcely ever satisfactory, in fact we very much prefer keeping them always in pots, and this season they are a very useful lot, with from four to seven good growths to a stool.

THE FRUIT HOUSES.

Where pot Vines are used for furnishing the early supply of Grapes, it will be necessary to use some discretion in their treatment just now, naturally they will now be in that state which, to a casual observer, is of no moment, but to those upon whom it may devolve to produce the crop, it is a season of care, because if neglected now, and premature ripening ensue, most assuredly the crop next spring will be affected, therefore, look well to them. Let them be carefully and constantly watered, syringed, and so on, and, if at all possible, let them remain under glass until the foliage shows signs of decay, when they may be removed out of doors to the foot of a sheltered wall (the rods being tacked securely), which will greatly tend to a thorough ripening and rest; but be careful not at any time to allow the soil in the pots to become dry. Should the weather be very hot and dry, to prevent over-watering, cover the pots with litter or an old mat to help to prevent evaporation.

See well to it that the early Vinery (from which, as a rule, the crop will now be cut) does not suffer from want of water, and even a good dose of liquid manure or guano will, at this time, materially assist next season's production. Now, I do not believe in mid-winter attention in this respect, far better, in my opinion, supply nourishment now and on through September, than just before the Vines are started, as is usually the case; and when from frequent waterings much of the benefit hoped for is carried through the soil into the drains, from the simple reason that the roots of the Vines are in that state that they cannot receive the nourishment applied, as if applied now it is stored for next season's crop, and the result quite apparent.

THE KITCHEN GARDEN.

A great deal of time must now be devoted to the fruit crop, more especially that of early Plums, Pears, and Apples, which ripen rapidly and as quickly spoil if left too long on the trees, more particularly will this apply to the two latter, which in every respect are much better if gathered and eaten direct from the trees. Where the bottling of early plums is desired, they must be carefully watched, and they must be gathered when not over-ripe or they will not keep satisfactorily. Greengages must be looked after, they are much later than usual, but if the present showery weather continues they must be gathered before they are quite ripe or they will crack and speedily go bad. Jargonelle Pears may be gathered at intervals, and the season by this means considerably prolonged. Apricots are a good and heavy crop, and must be frequently looked over and gathered as fit, selecting the finest for dessert, the remainder for preserving.

We have prepared ready a sheltered border for sowing Lettuce for winter and spring use, Cauliflower, Cabbage, Tripoli Onions, and a late batch of Endive, these will be put in without further delay; we always (a few days before sowing), give the ground a good dusting of gas-lime, after which we are seldom troubled with slugs or vermin of any kind. We are busy removing the sticks and haulm of the Peas which are over, and the ground being cropped with winter greens, the Dutch hoe is run between the rows and puts all straight.—*Walter Child, Croome Court.*

HORTICULTURAL SOCIETIES.

Shropshire Floral and Horticultural.—*August 18th and 19th.*—The ancient Borough of Shrewsbury was *en fête* on Wednesday and Thursday last, on the occasion of the annual celebration of the horticultural fête in the far-famed Quarry grounds. From a horticultural point of view Shrewsbury show has become one of the best held in the provinces; and the society, under whose auspices it is held, is unquestionably one of the most prosperous, "its run of luck" during the last ten years having been most remarkable. We remember well the poor little show that used to be held there—a one tent affair—scarcely worth crossing the road to see, and they were held, as now, in the Quarry, "one of the finest sites in Europe" for a horticultural show, but until within the the last few years disgracefully neglected by the townspeople. We are glad to record the fact that the old order of things obtains no longer; the horticultural society got into new hands, the new blood has given new life, a bold and liberal policy has been most ably carried out, and unqualified success has been the reward. The society has spent much of its handsome profits in planting, laying out, and improving the grounds in which the exhibition is held, for the benefit of the town, and a marvellous change has come over the scene. The desert has indeed been made to smile, and now in "The Dingle" which for very many years was a noisome spot, with a filthy little pond in the centre, the proud Salopians have one of the most charming bits of gardenesque scenery to be seen in any public park or pleasure ground in the country. But more of the Quarry anon: we must confine ourselves to-day to the show, and a grand show it was; not so varied in materials, as regards plants it is true, as would be the case were the exhibition held earlier, but first-rate nevertheless. What was wanting in the plants was more than compensated for by the fruits and vegetables, the former of which was staged in wondrous profusion, and made up a display that those who should know declared to be the best that has been seen anywhere this season. The attendance of visitors has again this year been very large, the number passed through the turnstiles on Wednesday being 10,000, and on Thursday, by 4 p.m., 35,000.

The principal class for plants, was that for twenty stove and greenhouse, not less than ten in bloom, with prizes amounting to £25, £20, and £15, respectively, and exhibitors permitted to take more than one prize. Here the invincible Mr. Cypher, of Cheltenham, again managed to secure the lion's share of the awards, taking the first and third Prizes; with another fine plant grower, Mr. C. Roberts, gardener to A. Nicholson, Esq. Highfield Hall, second. In the main group from Cheltenham, were noble examples of Kentia Canterburyana, Thrinax elegans, Areca Baueri, a very fine specimen, and Latonia borbonica, Crotons magesticus, Johannis, angustifolius, and Queen Victoria, all grand bushes and well coloured; a fine example of Cycas revoluta; and large well-bloomed specimens of Ericas, Eweriana, and Irbyana, Ixora Fraseri, Statice Gilberti, Allamanda nobilis, Franciscea calycina. Mr. Roberts' large and very effective group, contained a very handsome Cycas circinalis, Encephalartos villosus, Croton magesticus, a huge bush, superbly coloured; a fine Ixora Williamsii, and bright fleshy bloomed specimens of Dipladenia amabilis, Clerodendron Balfourianum, Dipladenia profusa, and a large balloon-trained plant of the old Gloriosa superba, not often seen in such good condition. For nine stove and greenhouse plants, Mr. C. Roffil, gardener to H. Lovat, Esq., Low Hill, Wolverhampton, was first with a good lot, including two fine Palms, Allamanda Hendersoni, Bougainvillea glabra, and Erica ampulacea vittata, all well done; second, Messrs. Pritchard & Sons; and third, Mrs. Juson, Abbey Foregate. With six, Mr. C. Roberts secured a good first; and with a similar number in a class from which Orchids were excluded, Mr. Lovatt's gardener again came to the front. The now popular class for groups arranged for effect brought out several admirable examples of decorative skill, and Messrs. Pritchard & Sons took first honours with one of the prettiest groups we have seen in the form of an irregularly surfaced sloping bank, densely set with Maidenhair, among which were dotted a few choice little Palms, Crotons, &c., and a few spikes of Odontoglossum Alexandræ. Messrs. Jones & Sons, Croton Hill, were second, also with a most admirable group, in which a greater variety of plants were used, but most tastefully arranged. The same firms were also placed equal third with most effective combinations, but marred in one case by the use of mirrors, and in the other by the display of Cork.

Ferns were a nice feature, being fresh and clearly grown, but rather on the small side. For six, open, Mr. Lambert, gardener to Col. Wingfield, Onslow, was first with a pretty lot including very fresh looking Adiantum concinnum latum, A. cuneatum, and Hymenophyllum demissum, &c. Mr. Cypher was second, and Messrs. Pritchard & Sons third. In a gardeners class for the same number, Mr. Farrand, gardener to Mrs. Juson, came in first; Mr. Milner, gardener to the Rev. J. D. Corbert, Sundorne Castle, second; and Mr. Lambert, third. The Dracæna class was a very nice one; so also was that for Coleuses, in which a capital lot of pyramids were shown, and for which Mr. J. Laing, Cherry Orchard, was awarded the first prize, and Mr. Milner the second—an error of judgment, we thought, on the part of the censors. There were several collections of four Fuchsias shown, an uncommonly grand lot. Messrs. Pritchard & Sons were first and second, with plants about 6 ft. high, and 5 ft. in diameter; and H. Owen, Esq., Shrewsbury, was third. Caladiums were fair, Zonal Pelargoniums, both double and single, very good, and Begonias poor, with the exception of one lot. There was a very good competition with table plants, a very pretty and useful lot of stuff being staged. Mr. Lambert secured another first prize here, Messrs. Jones & Sons being a good second, and Mr. Farrand third.

Cut flowers were extensively shown, and proved as usual a very attractive feature. Messrs. Heath & Son, Cheltenham, took the highest awards for twenty-four and thirty-six Dahlias in a very good competition, Mr. W. Shaw, Blackbrook, being a good second in both classes. Cut Roses were good for the season, but call for no further comment. Carnations and Picotees were shown in considerable numbers, and in both classes the first prizes went to Mr. Hans Niemand, Harborne Road, Edgbaston, Birmingham, for very neat clean blooms. Asters were very fine, and with a grand stand of a dozen, Mr. G. J. Fox was first; while with Gladioli, Messrs. Burrill & Co., Cambridge, were well ahead of all competitors. For a bridal bouquet, Messrs. Perkins & Sons, Coventry, were placed first, and for a ball or hand bouquet, Mr. Hans Niemand secured the highest award, Messrs. Jones & Sons coming in second, and Messrs. Perkins third.

The fruit classes were unusually well contested, and, as we have remarked, a superb lot of produce was staged. The handsome prizes of £10, £6, and £6 for a collection of twelve dishes brought out seven competitors, and the first three were so close that it took the judges, very experienced men, sometime to decide between them. Eventually they finally decided that Mr. Roberts, gardener, Gunnersbury Park, Acton, was first; Mr. Gilman, gardener, Ingestrie, Stafford, second; Mr. Goodacre, Elvaston Castle, third; and extra fourth and fifth prizes were awarded to Mr. Parker, Impney, and Mr. Edmonds, Bestwood. Mr. Roberts had, we believe, the first specimen that has been exhibited, except by the raiser, of the new Lady Beatrice Lambton Pine Apple (the poor top of which nearly threw him out); beautifully finished bunches of Gros Maroc, Muscat of Alexandria, Madresfield Court, and Buckland Sweetwater Grapes; a good Golden Perfection Melou, Lord Napier Nectarines, Ormskirk Apricots, La Grosse Sucree Strawberries, Sea Eagle Peaches, Figs, and Cherries. Mr. Gilman was very strong in Grapes and Peaches, and Mr. Goodacre had also a grand lot of Grapes, but was weak in his front dishes. A first prize of £10 for six bunches of black Grapes brought out a spleudid competition, and a superb lot of fruit. Mr. Pratt, of Longleat, came in first with well-finished bunches of Mrs. Pince's Black Muscat, Black Hamburgh, and Alicante, averaging

nearly 4 lbs. per bunch; Mr. Stevenson, gardener to Col. Pilkington, Prescott, was a good second with Black Hamburgh, Madresfield Court, and Alicante, fine bunches, jet black, and carrying a fine bloom; Mr. Goodacre was third with Muscat Hamburgh, Madresfield Court, and Alnwick Seedling; and Mr. Gilman, Ingestrie, fourth. There were no less than eighteen competitors with three bunches of Black Grapes; a remarkably fine class. Here first honours went to Mr. Alderman Baynes, Birkenhead, for Madresfield Court, in perfect condition; second, Mr. Bennett, gardener to the Hon. C. W. Wynn, Rhug, Corwen, with heavy, well shouldered bunches of Alnwick Seedling; third, Mr. R. Brownhill, Ravenswood, with extra fine Black Hamburghs; and extra prizes were awarded to Mr. Gilman and Mrs. Paterson, Birkenhead. For four bunches of White Grapes, in a large competition Mr. Roberts, Gunnersbury, was first with first rate Muscats and Foster's Seedling; Mr. G. Middleton, gardener to R. Pilkington, Esq., Raintford Hall, second, Mr. Wilkes, gardener to G. Meakin, Esq., The Hayes, third; and Colonel Pilkington's gardener fourth. Mr. Pratt also took a first prize with three bunches of Muscats, weighing 12½ lbs.

The best dish of Peaches came from Mr. Withers, gardener to Major-General Jenkins, Cruckton Hall, highly-coloured Barringtons; Mr. Gilman was first for Nectarines; Mr. G. Maylett, Worcester, first for Apricots; Mrs. Patterson first for Plums; Mr. Wilkes and Mr. Bennett first respectively for scarlet and green-fleshed Melons; and in a very good class of hardy fruits, Mr. Goodacre, of Elvaston, came in first; Mr. Purser, gardener to J. Watson, Esq., M.P., Berwick House, a very good second, and Mr. J. Lambert a close third.

The vegetable competitions were also very extensive, and, as a rule, required very close judging. For a collection of twelve sorts, Mr. Lambert, Onslow, was well first with all round high-class productions, his Celery, Major Clarke's Red, and Lyon Leeks being most especially fine, and highly commendable were his Purley Park Hero Cucumbers, Autumn Giant Cauliflowers, &c. Mr. Milner, Sundorne, came in second, and Mr. Purser, Berwick, third, both showing well. For six dishes of Potatos, Mr. Purser was first with samples of Beauty of Hebron, Webb's Improved, Blanchard, Cosmopolitan, Reading Russet, and Vicar of Lalcham, as perfect as we have ever seen; and Mr. Bremill, who was second, and Mr. Lambert third, both showed remarkably well. The classes for single dishes of all vegetables in season were very fine, and we regret our inability to allude more fully to them.

The miscellaneous class was a small one for so important a show. Messrs. James Dickson & Sons, Newton Nurseries, Chester, contributed an attractive group of small stove and greenhouse plants, as did also Messrs. F. & A. Dickson & Sons, Upton Nurseries, Chester. Mr. E. Murrell, nurseryman, Abbey Foregate, Shrewsbury, had a pretty collection of small Begonias, cut Roses, Gladioli, &c., and outside in the grounds, an attractive group of small fruit trees, &c., in pots, conifers and other ornamental plants. Messrs. Webb & Sons, Wordsley, Stourbridge, had a good display of garden produce, mainly vegetables, with which their names are identified; and Mr. Laxton, Bedford, had a neat stand of cut flowers, Peas, Beans, Potatos, &c.

Weston-Super-Mare Horticultural.—*Aug.* 10th.—This flourishing society held its annual show in the Grove and Rectory Field on the above date, and, though rain fell heavily in the early morning the clouds, which were very long and threatening up to ten o'clock, lifted before noon, and the weather then became everything that could be desired, with the result that the tents and show grounds were well patronised with visitors. Plants, fruits, flowers, and vegetables were all shown in great force and capital condition.

In the classes for twelve stove and greenhouse, including, at least four foliaged plants, distinct (Orchids excepted), four lots were staged—Mr. Cypher, Cheltenham, was a good first with a magnificent collection, everyone of the plants being fresh and healthy looking, the Crotons highly coloured, and the flowering plants everything that could be desired. A most remarkable plant of Ixora Duffii was staged in this collection having long dark green leaves, surmounted by thirteen trusses of bright orange-scarlet flowers, each truss being 10 ins. in diameter; the finest plant of the kind ever before shown. Phœnocoma prolifera Barnesii, between 5 ft. and 6 ft. over; Statice profusa, grandly flowered. Erica Marnockiana in exceptionally good condition; as also were Ixora Pilgrimi, Crotons, Warrenii, Sunset, Prince of Wales, Erica Irbyana, Allamanda Hendersoni, beautifully flowered; Cycas circinalis, Ixora Fraserii, and Cordyline indivisa; second, Mr. Lock, gardener to W. B. Cleave, Esq., Newcombe House, Crediton; third, Mr. E. Wills, gardener to Mrs. Pearce, The Firs, Bassett, near Southampton. In the next class for six varieties in bloom, Mr. E. Wills scored a great victory by beating Mr. Cypher; he had a splendidly flowered Statice profusa, and Clerodendron Balfourianum, a large Stephanotis floribunda, Erica Aitoniana turgida, E. oblata purpurea, and a rather small plant of E. Marnockiana. Mr. Hughes, gardener to H. Pethick, Esq., had the best four flowering plants; second Mr. Holland, gardener to W. Ash, Esq.; and Mr. Lewis was third. Mr. Hughes had the best specimen greenhouse plant, and Mr. Lock the second best. The last named exhibitor had the best six ornamental foliage plants, distinct varieties; Mr. Cypher being again second. Mr. Lock was first for a single specimen foliage plant, with Kentia Fosteriana; and Mr. Holland was first for six varieties of Adiantum Ferns. Hardy Ferns and Lycopodiums were also fairly well represented. Mr. E. Wills and Mr. Brooks were first and second for six exotic Ferns, both showing clean well-grown plants. Mr. Lock and Mr. Deryman, gardener to E. Cole, Esq., were first and second respectively for eight varieties of exotic Ferns, both showing creditably grown plants.

Pelargoniums were shown somewhat largely, and in some classes remarkably well, notably in that for six zonals, which were grandly flowered. First, Mr. Adams; second, Mr. Brooks; and Messrs. Lewis, E. K. Vickary, and J. Vickary took the prizes in that order for four plants of the same section; and in the corresponding class for four doubles the first prize went to Mr. Pethwick, and equal second to Messrs. Lewis and Adams (the latter gardener to W. Smith, Esq.), all showing well. Fuchsias were shown very well, but the plants were not so large nor so well flowered as those which are annually shown at Bath, Trowbridge, Southampton, and Basingstoke. A couple of fine specimens of Mr. E. Wills' having met with an accident in transit from Southampton, prevented their being shown, and consequently their not receiving first prizes in the single specimen classes. For six distinct varieties, Mr. W. Brooks was first; J. D. Capell, Esq., second; T. Vickary, Esq., was third, all showing well-flowered plants. For six plants of tuberous-rooted Begonias, Mr. G. Adams was first, and Mr. Holland was first for four plants. This exhibitor was also first for six Coleus, showing compact and fairly-coloured plants. Mr. Lock had the best specimen new or rare plant in Alocasia Sanderiana, and Mr. Cypher the second best in Croton Mortefontainensis.

Roses made a fine display, the blooms being fresh, even, and in many cases of great substance, the latter condition being the result more of the influence of climate and soil than robust constitution in any particular variety. Mr. G. Campbell, gardener to Dr. Budd, Bath, was first for twenty-four trebles, distinct varieties, showing a very fresh, even lot; Mr. Matlock, Oxford, was a close second; and Mr. Yorkshire a good third. In the class for twelve varieties, single blooms, Mr. Hobbs, Bristol, was first, and Mr. Charles Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, a good second; and in the corresponding class for a like number of varieties of Teas, Dr. Budd scored another victory, and was followed closely by Mr. Matlock and Messrs. Cooling & Sons, of Bath. In the class for twenty-four varieties of zonal Pelargoniums, three trusses of each, the prizes went to Messrs. Matlock, Cooling & Sons, and Brooks, in that order, for very meritorious collections.

Mr. Davis, of The Yeovil Nurseries, exhibited (not for competition) a neat stand of large blooms of tuberous-rooted Begonias, the colours being varied, distinct, and telling as arranged.

Fruit was shown very well, the competition being keen, and the exhibits, with few exceptions, very good. There were four collections of eight kinds staged, and the first three collections were very close to each other in point of merit. First, Mr. W. Iggulden, gardener, Marstou House, Frome, with good Black Hamburgh and Foster's Seedling Grapes, well-coloured Barrington Peaches, Victoria Nectarine, Moor Park Apricot, Brown Turkey Figs, good Cayenne Pine, and Hero of Lockinge Melon, a good even collection; second, Mr. W. Nash, gardener to the Duke of Beaufort, Badminton House, Chippenham; and third, Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury. Mr. Nash's best dishes were Bellegarde Peaches, large and highly coloured; Black Tartarian Cherries, very fine; Black Hamburgh Grapes, and a Cayenne Pine; Mr. Ward's best being his Madresfield Court and Muscat of Alexandria Grapes, Queen Pine (4½ lbs.), and a handsome fruit of Blenheim Orange Melon (6½lbs.). Only two Pines were staged—a Black Prince, weighing 8½ lbs., but not in good condition, and a medium-sized smooth Cayenne, for which Mr. Iggulden was awarded a first prize. Six three-bunch stands of Muscat of Alexandria were put up, Mr. H. W. Ward being easily first with large, even-sized, tapering bunches; second, Mr. G. Neton, gardener to W. K. Waite, Esq.; and Mr. Iggulden third. In the any other white than Muscat class Mr. A. Young, gardener to B. Thomas, Esq., was first, showing three large handsome bunches of Buckland Sweetwater, which only wanted a few weeks longer on the Vines to make them perfect; Mr. James Lloyd, gardener to J. Stuckley, Esq., Langport, was a capital second with large well-coloured bunches of Foster's Seedling; and Mr. Ward was a good third, with small but highly-coloured Buckland Sweetwater. Seven lots were put up. Mr. W. J. Gard, gardener to the Rev. Canon Pratt, was placed first for three rather loose, though well-coloured, bunches of Hamburghs; second, Mr. W. Moss, gardener to W. Hunt, Esq.; the third going to Mr. Edwards, gardener to J. Lysaaght, Esq., for small compact well coloured bunches; seven lots were shown. Three lots of any other black than Black Hamburgh were staged, first, Mr. Nash, for three handsome well finished bunches of Black Alicante; second, Mr. Daffurn, gardener to Mrs. Walker; third, Mr. Lloyd, both showing handsome bunches of Madresfield Court, but deficient in colour. Melons, about twenty fruits were put up of both scarlet and green-fleshed varieties, first, Mr. Goddard, gardener to A. Cripps, Esq., with Read's Scarlet-flesh; second, Mr. Holland with the same variety. The last named exhibitor had the best green flesh in Sutton's Horticultural Prize; second, Mr. Shelton, gardener to J. A. Gardman, Esq. Mr. Ward showed a handsome fruit of Hero of Lockinge (4½ lbs.) not for competition, which was much admired. Five dishes of Peaches were put up, the first and second prizes going respectively to Messrs. Daffurn and Edwards, for highly coloured Grosse Mignonne and Royal George. Mr. Ward was first for Pears, with Jargonelle, and Mr. Sem, second, with Citron des Carmes. Out of fourteen lots of dessert Apples, Mr. Wicksherd was first, and Mr. Daffurn, second; Mr. Gillbanks and Mr. Fear being first and second for kitchen Apples, both showing Lord Suffield. Messrs. Cooling & Sons, of Bath, showed, not for competition, a grand dish of even highly coloured fruits of Beauty of Bath Apple, which was greatly admired. Mr. Nash was first for Cherries, with Black Tartarian, and Mr. Matthews second, with a mixed dish.

Vegetables were shown in great quantities, and of excellent quality, the fifteen classes provided for them being keenly contested. There were eight good collections of eight kinds staged, first, Mr. T. Filchey, gardener to Col. Colgrave, with an excellent lot, followed closely by Mr. J. Hale and Mr. W. A. Harris, gardener to Col. J. A. Lan. Mr. Ward was first for Cauliflowers. Carrots and Marrows were shown in great quantities, great size in both cases influencing the judges a good deal in making their awards. Mr. Till was first with large roots of Sutton's Intermediate. Messrs. Wickstead and Gillbanks were first and second for Vegetable Marrows with Moore's Vegetable Cream. Fifteen dishes of Peas mostly of excellent quality were shown, the first and second prizes going respectively to Messrs. Day and Demack, with Duke of Albany in fine condition. French and Runner Beans were shown in great force, and of good quality, Messrs. G. Ricks and J. Hall were first and second for the latter, and Messrs. Mathews and R. Bow, first and second for the former in that order. Messrs. G. Garoway and Wickstead were first and second for Cucumbers, showing Telegraph. Tomatos were shown largely and in fine condition, first, Mr Goddard, with Early Defiance; second, Mr. J. Day; the last named exhibitor was first for a basket of salads, &c. Potatos and Onions were also shown largely and well. Vegetables were likewise shown well by cottagers.

Hastings, St. Leonards, and East Sussex Horticultural.—The seventh annual show of this society was held in the Alexandra Park, Hastings, on August 11th. This is a splendid place for an exhibition of this description, the park being about 70 acres in extent, and well laid out. The grounds are beautifully undulated, and the bedding-out is extremely well done, reflecting great credit upon Mr. Lyon, the curator. The park is open at all times to the public, and it is taken advantage of by the inhabitants as well as the many thousand visitors who yearly visit Hastings. The show was a very fine one, arranged in four spacious tents, and great credit is due to Mr. John Stuart, the energetic secretary, who has striven hard for the past six years to establish the society upon a firm base; we trust that he has this year a good balance on the right side. The weather was gloriously fine, and the lawn and tents were filled with visitors during the day. The competition in many classes was very keen, and flowering stove and greenhouse plants were well shown, especially Erica, which are always seen here fresh and good. An old competitor, Mr. Gilbert, having retired from competing, encouraged some to come from a distance for the first time. Mr. Gilbert's fine specimens were certainly missed, but he has played a most successful innings, and has retired satisfied, no doubt, on what he has achieved.

Plants in bloom, open to all England, eight varieties. First, Mr. J. Portnell, gardener to Sir A. Lamb, Beaufort, who showed nice clean well flowered plants of Statice imbricata, Kalosanthes coccinea, Ixora Fraserii, Bougainvillea glabra, Dipladenia amabilis, Allamanda grandiflora, and Ericas, cerinthoides and Aitonia turgida. Second, Mr. Hobden, Clive Vale Nursery, who showed a good eight; third, Mr. Jupp, gardener to Bolton, Esq., Eastbourne. For six varieties, Mr. G. Lucas, gardener to C. Little, Esq., was first; Mr. Green second: and Capt. Woodruff third. Six fine foliage plants, first, Mr. Jupp, with a good half-dozen; second Mr. Portnell, who also staged a nice lot; third, J. Dennis. For six exotic Ferns, Mr. Bolton, Sevenoaks, was an easy first; second, Mr. Jupp; third, Mr. Portnell. The first prize for six Fuchsias was awarded to Mr. Portnell for a good even well-grown nicely flowered half-dozen. Pelargoniums, both double and single, were well shown by Mr. Hobden, who secured leading honours in both classes with good well-grown plants, but we have seen them better flowered here than they were this year. Of Gloxinias, three nice lots were put up, and the first prize was deservedly given to Mr. Gadd. For six miscellaneous plants in or out of flower, Mr. Portnell

was again first; second, Mr. Hobden; third, Mr. Dennis. For a single specimen foliage plant, Mr. J. Dennis was first with a good Areca sapida; while Mr. Portnell and Mr. Hobden were placed equal first for specimen flowering plants, one showing a good Allamanda grandiflora, the other a superb Bougainvillea glabra. For six table plants, Mr. Bishop, gardener to F. Pease, Esq., carried the premier prize. Begonias were only fairly done; first, Mr. Gadd. A nice half-dozen Ericas well grown, and nicely flowered from Mr. Portnell, were easily first, his varieties being Austiniana, Irbyana, Exquisite, æmula, retorta major, and McNabiana. It was quite a treat to see half-a-dozen such good Ericas as these. In the section devoted to amateurs and gentlemen gardeners, again we found Mr. Portnell first for six stove and greenhouse plants, and also for ornamental foliage plants, Fuchsias, Pelargoniums, and Ericas, the whole lot showing the exhibitor to be a thorough good plant grower. Groups of plants arranged for effect, both in the open competition and in that for amateurs, were far too crowded, and not up to what one might expect to see. In the open class the first prize went to Mr. Hobden; and that in the amateurs to Mr. Portnell.

Cut Flowers: Asters, Dahlias, Phloxes, Roses, Verbenas, &c., were shown in quantity, but call for no special comment. The flowers staged in the class for twenty-four varieties were, however, superb. First, Mr. Portnell; second, Mr. C. Nicholl, gardener to Mr. Fisher; third, Mr. Bolton. Bouquets for the hand: First, Mr. Bishop; second, Mr. E. Wollard; third, Mr. Gilbert, Brentford, but they can only be classed as second-rate. The epergnes and baskets were far better. In the open class for the former, a nice graceful lot, put up by Mrs. Seale, Sevenoaks, was easily first; while in that for lady amateurs Mrs. Gilmour was first.

Fruit was well shown, both in the open classes and by amateurs, and the competition was very keen with collections. In the open class for eight dishes, Mr. Portnell, who had good Muscat and Black Hamburgh Grapes, Apples, Apricots, Cherries, Peaches, Nectarines, and Melons, was first; second, Mr. Gore, gardener to Captain Taylor; third, Mr. Jupp. Grapes, three bunches of Black Hamburgh: First, Mr. Gable; second, Mr. Allen, gardener, Normanhurst; third, Mr. Crossman. These were all of first-class merit. For white Grapes, superb Muscats from Mr. Allen were first; although these were smaller than the others shown, they were perfectly ripe and highly finished. Apples, Cherries, Filberts, Melons, Nectarines, and Peaches were shown in quantity and of good quality, the competition being keen, and the same may also be said of the amateur classes.

Vegetables were contributed in first-class style all round. The first prize for nine sorts was awarded to Mr. Crossman in a strong competition. Potatos, Beans, Peas, Cauliflower, Cabbage, Carrots, Onions, &c. were well shown and in great quantity. Cottagers: A word of praise is due to those who exhibited in the various classes allotted to cottagers, the plants, cut flowers, and vegetables being good, and reflecting great credit upon those who competed.

Mr. Gilbert, of Hastings, who has retired from the field, showed a grand group of foliage and flowering plants, occupying one end of the cut flower tent; this group contained many well-grown plants, both flowering and foliage. Mr. Relfe also showed a group of stove and greenhouse plants not for competition, comprising many useful things well grown. A very interesting feature in the grounds was a tent devoted to exhibits by Mrs. M. Smout, of Hastings, marine florist, whose abilities were displayed by exhibiting tastefully laid-out dinner-tables, consisting of ornaments of sea-weed, sea-shells, coral, and such like, showing how beautifully these marine wonders of the deep are when utilised in the manner shown by this artist; they are simply charming. It is gratifying to relate that everything passed off most satisfactorily. The decision of the judge was never questioned, although in many instances it required a referee to give his decision, so close in point of merit were many of the objects exhibited.

Taunton Deane Horticultural.—*Aug. 12th.*—This busy Somersetshire town fully maintained its reputation as a provider of a popular entertainment in the form of a large and interesting floral exhibition, which took place, as usual, in Vivary Park, Taunton, which is close to the town and easily reached by visitors. It was the nineteenth annual exhibition, and those who have been accustomed to visit the show from its commencement were heard to say that, taking it as a whole, it was one of the best exhibitions yet held. The entries contrasted favourably with those of former years, and four spacious tents, in addition to a smaller one which contained the table decorations, &c., were required in which to stage the various exhibits; and in too many instances they were inconveniently crowded, making the work of judging in a few instances somewhat doubtful. Thanks to the exertions of a number of active stewards, the exhibits were arranged ready for the judges soon after eleven o'clock, and it was finished by one o'clock. Then the company began to arrive, and by three o'clock the tents were crowded with visitors. The present hon. secretaries, Messrs. Howard Maynard and Alex. Hammett, are new to their work, but they managed admirably, assisted by several members of the committee well up to show work. There must have been a great number of exhibits, but inferior subjects were few and far between. Some of the specimen stove and greenhouse plants showed signs of having been pretty well made use of during the present summer.

Stove and Greenhouse Plants.—These were as usual a very fine feature at Taunton. The leading class in the division open to all England was for twelve stove and greenhouse plants in flower, handsome prizes being offered. Mr. James Cypher, nurseryman, Cheltenham, was placed first, being far ahead of the second lot, showing in grand form Ixora Pilgrimi, I. Duffii, with some truly wonderful trusses of bloom; I. Fraseri, Phœnocoma prolifera Barnesii, Statice profusa, Allamanda Hendersoni, A. nobilis, Dipladenia hybrida, D. amabilis, Erica Marnockiana, E. Irbyana, and E. ampullacea Barnesii, all fresh and bright. Second, Mr. Lock, gardener to B. W. Cleave, Esq., Newcome House, Crediton, his leading plants being Eucharis amazonica, Clerodendron Balfourianum, Allamanda nobilis, A. Hendersoni, Dipladenia amabilis, &c. Third, Mr. E. Wills, gardener to Mrs. Pearse, Bassett, Southampton. Mr. J. Cypher was the only exhibitor of six plants, having small but nicely grown and flowered examples of Hæmanthus magnifica, Rhododendron Duchess of Connaught, Statice profusa, Erica Fiarieana, Ixora coccinea, and one other, the name of which we overlooked. In the amateurs division there was a class for twelve stove and greenhouse plants, and one also for six plants, a note being appended to each to the effect that "foliaged plants may be exhibited, but preference will be given to plants in bloom." While giving full consideration to this, the judges had no alternative but to award the first prize to a dozen plants shown by Mrs. Pearce, although eight of these were foliage plants; fine specimens of Crotons Queen Victoria and Andreanus, Phylotænium Lindeni, a very fine piece; Cycas revoluta, very fine; Verschaffelti splendida, Alocasia metallica, Areca lutescens, and Dasylirion acrotrichum, and the following flowering plants: Statice profusa, Eucharis amazonica, Bougainvillea glabra, and Stephanotis floribunda. Second, Mr. Lock, with all flowering plants, but a decidedly weak lot, two or three of them being quite stale, and scarcely one of high class merit. Still the prizes were sharply criticised, those who objected to the award were found admitting that the best collection had the prize, but that the preference ought to have been given to the flowering plants. This view of the matter we cannot accept, on the ground that it handicaps quality by giving undue preference to inferiority. Had both collections been equal in point of merit, then the preference should have been given to the blooming plants. The only exhibitor in the class for six plants was W. G. Marshall, Esq., The Elms, Staplegrove, Taunton, all the plants being in bloom and fairly well-grown. Mrs. Pearce had the best four plants, Mr. Wills staging a fine Clerodendron Balfourianum, Erica Aitonia Turnbulli, E. oblata purpurea, and Barnes' variety of Phœconoma prolifera; the second prize being awarded to Mr. W. G. Marshall.

Foliaged Plants.—These were, as might be expected, a very fine feature, and the collection of eight shown by Mr. Lock were of a very high order of merit, the plants consisted of Crotons Warreni, Williamsi and Johannis; Latonia borbonica; Encephalartos villosus ampliatus; Cycas revoluta; a huge and finely grown Gleichenia speluncæ and Kentia Balmoreana. Second, Mr. J. Cypher, with Crotons Sunset, Johannis and Prince of Wales; Cordyline indivisa; Cycas revoluta; Kentias Canterburyana and Fosteriana; and Cycas circinalis. Mr. Lock had the best six in the amateurs division, setting up a fine Croton Disraeli, Dasylirion acrotrichum, Latania borbonica, Alocassia Thibautiana, Kentia Fosteriana and Cycas intermedia; second, Mr. Wills, with smaller but healthy specimens. Coleus may come under this heading, Mr. W. G. Marshall had the best six, large plants with bold growth, but a little wanting in colour. Mr. E. Broadbem, gardener to W. B. Holland, Esq., the Chestnuts, Taunton, came in a good second, with plants of smaller size but nicely grown and bloomed.

Ferns.—Some commanding specimens of Ferns were present; the best eight were staged by Mr. Lock, who had Cyathea dealbata, Davallia polyantha, Gleichenia rupestris glaucescens, G. Mendeli, D. Mooreana, D. Fijiensis, Microlepia hirta cristata and Marattia Cooperi; second, Mr. Wills, with a very good collection indeed; the third prize going to Mr. Lewis, gardener to J. E. Cole, Esq., Chandos Lodge, Weston-Super-Mare. Mr. Lock also had the best six varieties in the amateurs division, smaller, but nicely grown plants. Mr. Lewis being placed second. Hardy Ferns were well shown by Mr. Lock, large and well grown specimens; Mr. Wills being again second. Mr. Lock had the best six exotic Mosses, and after this group there was a decided falling off; Mr. Huxtable, gardener to F. W. Newton, Esq., Barton Grange, Taunton, was second.

Miscellaneous Flowering Plants.—Among these Zonal Pelargoniums (called Geraniums in the Schedule) held a prominent place: the specimens are grown in large pots generally, and rather too severely trained, still the growth of the plants and heads of bloom were both good. Old sorts appeared to be in the ascendant, and were newer sorts grown in smaller pots, we think the flowers would be finer. The best eight came from Mr. H. Godding, nurseryman, New Taunton, who had Lord Gifford, White Vesuvius, Henri Jacoby, Prancer, Mrs. Headly, Princess of Wales, &c. Mr. Godding also had the best eight nosegay varieties, his leading plants being Bondflier, Lizzie, Triumph, Mrs. Blizzard, Emily, Wellington, Apple Blossom, and Indian Yellow; second, Mr. S. Tottle; Superintendent H. James, Cemetery, Taunton, with a good lot also. Mr. T. Tidbury, Northdean, Taunton, had the best eight variegated Zonals, staging good old varieties, well grown and coloured; and Mr. H. Godding was second with a very good collection also. In this class few golden and fern silver-edged varieties competed. Mr. G. Henbury, gardener to T. Woodland, Esq., Taunton, had the best four double Zonals, staging well grown and flowered plants of Guitlon Lauzier, F. V. Raspail, Wonderful, and Madame Rendatler. In the amateur division there were six classes for Zonal Pelargoniums—single, double, nosegay, and variegated, and a good competition resulted; some of the gold and bronzed varieties being finely grown and coloured.

Begonias were a fine feature, but, unfortunately, the specimens proved larger than was anticipated, and they were inconveniently crowded, making the task of correct judgment a difficult one. In the open class Mr. H. Godding was first with a remarkably good lot, consisting of Mammoth, Golden Gem, Vesuvius, Sensation, Wonderful, double, Mont Blanc, very fine, Le Grand, and Tony Laing; Mr. S. Tottle was second. In the amateur division the competition was very keen, and two equal first prizes to Mr. T. Woodland and Mr. W. B. Holland. Fuchsias were fairly good, but nothing like what can be seen at Trowbridge, Bath, and in the Devizes district generally. Cockscombs were fairly well shown, but appeared to want finish. Mr. W. G. Marshall had the best four Japanese Lilies, all of the L. speciosum type; Mr. F. W. Newton being a good second. Mr. W. G. Marshall had the best four Achimenes, two of them being very fine specimens; Mr. John Parish, gardener to Mr. Eden, Taunton, being second, his plants being smaller, but nicely grown and flowered.

Cut Flowers.—These were numerously shown. Phloxes in spikes, in twelve varieties, were a fine lot; the first prize going to Mr. John Mattock, nurseryman, Oxford, with good sorts; Mr. H. Godding being second. Roses were a leading feature, but the blooms generally were small, the best forty-eight single blooms came from Mr. Mattock, who is generally in good form in mid season, who had Ulrich Brunner, Innocenta Pirola, Charlie Lefebvre, Dr. Hogg, Alfred Colomb, Princess of Wales, Madame Victor Verdier, Dupuy Jamain, Rubens, Marie Rady, Perle des Jardins, Comtesse Nadaillac, Dr. Andry, Duchess of Bedford, A. K. Williams, Annie Wood, Charles Darwin, Jean Ducher, &c.; second, Mr. G. Campbell, gardener to S. P. Budd, Esq., 8, Gay Street, Bath, with some smaller, but nicely fresh flowers. In the class for twenty-four varieties, three blooms of each, Mr. S. P. Budd was placed first, and Messrs. Geo. Cooling & Sons, nurserymen, Bath, second. Mr. Mattock, being awarded an extra second prize. In the amateurs classes, cut Roses were fairly well shown for the season, an excellent lot of twenty-four blooms of Dahlias were shown by Messrs. Keynes, Williams & Co., nurserymen, Salisbury, who had finely developed blooms of William Rawlings, Joseph Ashby, Colonist, Royal Queen, Henry Walton, Illuminator, Constancy, Messrs. Cannell, &c., and were awarded the first prize; there was no other competitor. In the class for twelve blooms, Mr. J. Nation, nurseryman, Staple Gore, Taunton, was first. In that for twelve fancies, Messrs. Keynes & Co. was again first with a very fine lot; Mr. J. Nation being second. Mr. John Mattock had the best twelve single blooms of Dahlias; Messrs. Keynes & Co. taking second place. Dahlias were also pretty well shown by amateurs, Mr. William Smith, King's Wood Hill, Bristol, had the best twenty-four Hollyhocks, and he had the best twelve blooms also; Mr. J. Jones, gardener to J. S. Pope, Esq., Laurel Lodge, Bath, was a good second, with twelve blooms.

Asters were numerous: the quilled varieties were very good, the French varieties not so highly developed. With twelve blooms of the former, Mr. J. Jones was first, and Messrs. G. Cooling & Son, second. The prizes in the class for French varieties were similarly awarded. Mr. H. Godding won the first prize with twenty-four spikes of Hollyhocks, Mr. S. Tottle being second. Verbenas were shown in bunches of twenty-four and eighteen varieties, and by amateurs in lesser quantities. In the larger classes, the best came from Mr. T. W. Davis, Bear Hotel, Bath, and Mr. G. Huxtable. Asters, Gladioli, &c., were also largely shown by amateurs; and in this division, one very interesting feature was the class for collections of annuals in not less than twelve sorts. Here Mr. Thomas Pratt, the Brewery, Ilminster, was first with a very fine lot indeed, Mr. G. Hopkins, gardener to Mrs. W. C. Kinglake, Shovel Hill, Bridgewater, being second.

In the miscellaneous class, Messrs. Kelway & Son, of Langport, sent up a very fine collection of Gladioli, including several new varieties, First Class Certificates of Merit being awarded to the following:—Lady Salisbury and D. Tarrant; also boxes of Gaillardias, Hollyhocks, &c. Mr. E. J. Jarman, seedsman, Chard, had cut blooms of Roses, Carnations and Gaillardias; and Mr. T. F. Bartlett, Florist, Crewkerne, had blooms

of double and single Begonias. Messrs. R. T. Veitch & Son, 54, High Street, Exeter, had an interesting group of flowering plants, cut flowers, &c.

Fruit made a good display, and there was a keen competition. The best collection of ten varieties came from Mr. W. Iggulden, Marston House Gardens, Frome, who had Black Hamburgh and Foster's Seedling Grapes, smooth Cayenne Pine, Barrington Peaches, Lord Napier Nectarine, Apricots, Figs, Cherries, Melon, and Peas; second, Mr. H. W. Ward, The Gardens, Longford Castle, Salisbury; third, Mr. A. Crossman, gardener to Joseph Brutton, Esq., Yeovil. In the class for eight dishes, Mr. J. Lloyd, gardener to W. Vincent Stuckey, Esq., Hill House, Langport, was first with Madresfield Court and Foster's Seedling Grapes, Violette Hative Peaches, Oldenburg Nectarines, Apricots, Melon, Pears, and Cherries; second, Mr. A. Crossman. With four dishes, Mrs. Walker, Sea View, Weston-Super-Mare, was first with Madresfield Court Grapes, Grosse Mignonne Peaches, Elruge Nectarines, and Melon; second, Mr. J. Clarke, gardener to C. E. J. Esdaile, Esq., Cothelstrie House, Taunton; third, Mr. T. W. Sanson, Woodworthy Court, Honiton. Pines in pairs were well shown, Mr. G. Birch, gardener to A. Vaughan, Esq., Dillington Park, Ilminster, was first, and Mr. W. Iggulden second. Mr. Iggulden had the best three bunches of Black Hamburgh Grapes, W. K. Wait, Esq., Gloucester, being second. Mr. Walker had the best three bunches of any other black, staging fine Madresfield Court; Mr. Brutton being second with Alicante. Mr. Ward had the best three bunches of Muscat of Alexandria, Mr. W. K. Wait being second. Mr. J. Westacott, Barnstaple, had the best three bunches of any other white, having medium-sized well-finished bunches of Duke of Buccleuch; V. Stuckey, Esq., second with Foster's Seedling. Melons are numerous, and must have occupied the judges sometime in making the awards. Mrs. Walker had the best six Peaches, staging fine Grosse Mignonne; Mr. Iggulden being second with the same. Mr. F. W. Neuton, and Mr. J. Newcombe, gardener to H. P. Gore-Langton, Esq., were first and second with Apricots, having Moor Park. Mrs. Walker had the best dish of Nectarines, staging Elruge. Mr. V. Stuckey being second with Oldenburg. Pears and Apples, the latter for dessert and culinary purposes were well shown; so were Plums. Gooseberries, Currants, Raspberries, &c.

Vegetables were very numerous, and of the best quality. Time, and the crowded state of the tents did not admit of our gleaning particulars, but they made a very fine display.

The judges were as usual entertained by the committee at luncheon, the Mayor of Taunton presiding, and the usual complimentary toasts were proposed and spoken to. But why should this kind of thing be made as lugubrious as if a funeral were being performed? A funny major, a humorous judge, a comical committeeman, a joke or a comic song would have been gladly welcomed by all. What a relief it was when it was all over.

Aberdare Horticultural.—Thursday, August 12th was a red-letter day in this picturesquely situated and thriving Welsh town, as the third annual horticultural show was held in the Market Place, and proved a great success. Indeed, although so young, this show has quickly assumed the proportions of a first-class exhibition, and it now ranks amongst the best held in South Wales or the West of England. The leading officials connected with it, which include Mr. D. Davies, the High Constable of Aberdare. Mr. G. Abraham, Mr. Kenshole, and Mr. D. P. Davies, are to be congratulated on the excellent results which have attended their spirited labours. The Market Place, although not the very best position for a flower show, is covered over, and this is a consideration, especially on a wet day. The pillars were decorated with evergreens, and the principal plants were arranged with excellent effect, so much so, indeed, that from many points it was impossible to tell that the exhibits were in a market place. The main centre is a wide pathway; the flowering plants were staged on one side of this, and the foliage ones on the other, and a fine promenade, fringed with rich flowers and gorgeous foliage, was the result. Mr. Cypher, of Cheltenham, was conspicuous on both sides, as he secured first prizes for twelve stove and greenhouse plants in flower, and also for eight fine foliaged plants. The best specimens in the former were Statice profusa, Erica Irbyana, Hæmanthus magnifica, Allamanda nobilis, Bougainvillea glabra, Erica Thompsoni, and Dipladenia Brearleyana, while in foliage a grand Kentia australis and Crotons Johannis and Queen Victoria were the leading specimens. Mr. Mould, Pewsey, Wilts, came second in the flowering plants, his best being Erica Marnockiana, E. Austeniana, E. æmula, Clerodendron Balfourianum, and Allamanda nobilis. Mr. W. Jones, Mandee, Newport, Mon., was third, his plants being small but well bloomed. Captain Mansfield, St. Clears, Carmarthenshire, followed Mr. Cypher in the foliage class, his Crotons and Palms being good, but a poor plant of Dieffenbachia Bausei told much against him. Sir George Elliot, M.P., Aberaman, was third.

Fuchsias were not large but well bloomed, Sir George Elliot, M.P., and Major Howell, Aberdare, being the prize takers. Exotic Ferns were excellent, Captain Mansfield being first with immense plants in grand condition, the golden Gymnogramma being over 6 ft. in height, as much through, and finely furnished; Mr. J. Lewis, Plasdraw, was second with small healthy plants. Zonal Pelargoniums were very good, Sir G. Elliot winning with large healthy plants, and Captain Mansfield was second with plants bearing a large quantity of bloom.

In the classes devoted to amateurs there were many good plants shown, and although they were not so large as in the open section, the majority of them were very healthy, and well developed in bloom and leaf. For six kinds of stove or greenhouse plants Sir G. Elliot, M.P., was a good first; Mr. J. Lewis, second; and Dr. Davies, Bryngolwg, third. In foliage plants Sir G. Elliot again took the lead, closely followed by Sir W. T. Lewis and Mr. James Lewis. Coleus were very numerous, and mostly large well-coloured plants, Major Howell and Mr. E. M. Hann taking the prizes. Liliums were poor, zonal Pelargoniums fine, and Gloxinias, with the exception of one lot from Sir W. T. Lewis, poorly bloomed. Coxcombs were remarkably fine, Mr. F. W. Aylwyn, Aberdylair, Neath, taking the first prize with dwarf plants bearing large finely-coloured combs; Dr. Davies was second.

Cut flowers were extensively shown, Roses taking the lead, and here Mr. Crossling, of Penarth, took all before him with several boxes of excellent blooms. Dahlias were large and showy, and Mr. Moor, of Neath, who is a capital Dahlia grower, was first in the leading class with most perfect blooms; Mr. Greenslade, of Neath, was second with blooms very little inferior to the first. Collections of cut flowers were well shown by Mr. J. Moor and Major Fraherne, and Asters and Verbenas by Mr. F. W. Aylwyn. Only two tables competed in this section, the first prize one being being very crowded, not so much with choice flowers as unsightly glasses, and the second although very original was not very effective. Mr. Cypher had no difficulty in gaining first prize for the best arranged vase of cut flowers; Mr. W. Jones, Newport, being second.

Fruit was not extensively shown, but many very fine samples were staged. Mr. Case, Cardiff, was first for a collection of nine dishes, and Mr. Morris, gardener to H. P. Vivian, Esq., Taibach, was first for a Queen Pine; and Sir George Elliot, second. The best Muscats were shown by Lord Aberdare and Captain Mansfield, and the best black by Sir George Elliot, Lord Aberdare, and Mr. James Williams. The best Melons, Peaches, and Nectarines, came from Mr. Call and Captain Mansfield. Apples were rather green but large, Mr. J. S. Proger, Cardiff, taking first with Lord Suffield; and Mr. G. Hunt, Risca, second, with the same variety. Gooseberries were exceedingly fine, Mr. D. Bevan, Neath, being first with a showy dish. Vegetables were extensively staged, and many of them were above the average in merit. Mr. Morris was placed first in the collection for nine dishes, his Carrots, Onions, Potatos, and Tomatos being very fine. Sir George Elliot was second, his weak dish being poor purple Artichokes; Mr. D. Bevan, was third. Potatos were extra good from Mr. Morris, Sir G. Elliot, and Mr. T. Nelson. Tomatos of great size and quality were staged by Mr. Case and Captain Mansfield, and other classes of vegetables were fully represented. Police Inspector J. Thorney was one of the principal prize-takers in the cottagers classes, and Mr. T. Parry, Mr. J. Temple, Mr. Gillard, Mr. E. Shannon, and Mr. T. Jenkins, exhibited in a highly creditable manner, and gained many prizes.

Obituary.

We regret to hear of the death, on the 5th inst., of Mr. Samuel Davies, Superintendent of the Maidstone Cemetery, aged 70 years. Mr. Davies was a gardener in Maidstone before the Burial Board bought the wood about twenty-eight years ago, which, mainly through his skill, has been converted into one of the prettiest cemeteries in the country. It is about thirty acres in extent, and is noted for its handsome Conifers and bedding out, which, in all styles, Mr. Davies admirably carried out. He was widely respected in the town, and his remains were followed to their last resting place by about fifty members of the Maidstone Gardeners Society.

American exchanges announce the death in New York, on July 16th, of Mr. James Murkland, a leading salesman in the firm of Young and Elliott, seedsmen of that city. He was born in Ayrshire, Scotland, and after serving an apprenticeship with Mr. John Davison, of Irvine, left for America at the age of seventeen years. Mr. August Rolker, of New York, writing to the *American Florist*, says of his deceased friend: "His traits of character were amiability. He was popular and well liked by all. He knew how to deal with human nature and would not hurt a fellow being in his feelings. Open to suggestions, ambitious to the fullest extent of the word, he gloried in the success of his profession. Ever ready to assume arduous individual labors for the benefit of the trade in general, he was a member of the hark-working order, the Horticultural Society of New York, and of the American Seedsmen's Association; in both societies he occupied the position of secretary, and to his genial manners may be attributed to a great extent the success of both societies. Verily, a man called away too soon, to be missed from the circle of his friends."

The death is also announced as having taken place in London, on the 6th inst., of Mr. Martin King, formerly for upwards of thirty years gardener at Sundorne Castle, near Shrewsbury.

QUESTIONS AND ANSWERS.

Dahlia.—*J. C. & Co.:* Twin Dahlias are not at all uncommon either in singles or doubles.

Gloxinia.—*Gregory:* Tropical America.

Cucumbers.—*A Weekly Reader:* It is not the Cucumber disease that gives so much trouble in some cases. The excoriations are the result we should think of a want of good active root growth. The border with the pipes underneath may be too hot and dry or not hot enough, dig down and see. Take off the 3 ins. of cow-dung, water with chilled water, and give a top dressing of half turfy loam and old mushroom bed manure; the cow-dung is too cold for them. A weak solution of Fir-tree Oil will settle the insects.

Fungus.—*M. McL.:* The monster Fungus found at the base of an Oak tree is Polyporas dryadens. It often grows to a very large size, and is very destructive to Oaks.

Gardeners' Royal Benevolent Institution.—*C. Rutson:* Mr. E. R. Cutler is the secretary, and the offices of the Institution are at 50, Parliament Street, London, S W.

Names of Plants.—*J. D: W.:* 1, Oncidium Gardnerianum, a very good variety; 2, Epidendrum Linkeanum; 3, Oncidium pulvinatum probably; 4, Oncidium micropogon.—Please say habit of growth in future as Oncidiums are very difficult to name from scraps. *H. K.:* 1, Impatiens fulva; 2, Lythrum salicaria; 3, Epilobium angustifolium; 4, Alonsoa incisifolia; 5, Solanum Dulcamara.

Erratum.—At p. 775, on the last column for "sowing" through the winter, read for "standing" through the winter.

Communications Received.—W. R.—Prof. Reichenbach.—W. E. B.—G. F.—A. D.

TRADE CATALOGUES RECEIVED.

R. B. Laird & Sons, 17, Frederick Street, Edinburgh.—Descriptive Catalogue of Dutch Flowering Roots.

Wm. Drummond & Sons, Stirling, N.B.—Catalogue of Dutch and other Bulbs, Fruit Trees, Trees and Shrubs, &c.

John Laing & Co., Stanstead Park, Forest Hill, S.E.—Descriptive Catalogue of Dutch Bulbs, and other Flower Roots, &c.

LONDON SEED TRADE.

August 18th, 1886.

Messrs. Hurst & Son, 39, Seed Market, and 152, Houndsditch, London, report a good demand for early and late Trifolium at last week's prices. Mustard is still very dear and scarce, but the trade is nearly over for this article. New Rye is scarce. A little trade is doing in Winter Tares, and prices are likely to be lower. A few sales have taken place in New Imported Italian Rye-grass, at low figures. Millet is in better demand; Hemp and Canary slow.

COVENT GARDEN MARKET.

August 19th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	3 6	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	3 0	8 0	Pine-apples, Eng., lb.	2 0	3 0
Currants, ½ sieve	2 0	2 6	Plums, ½ sieve	1 6	3 6
Grapes ... per lb.	0 6	3 0	Strawberries .. per lb.	0 6	1 6
Melons, ... each	1 0	2 0			
Peaches, per doz.	2 0	12 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages .... per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 6	0 8
Herbs, per bunch	0 2	0 4	New Turnips, per bun.	0 9	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2 0	4 0	Liliums in variety, dozen bunches	12 0	24 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pansies, 12 bunches	1 0	3 0
Carnations .. 12 bun.	3 0	6 0	Pelargoniums, per 12 sprays	0 9	1 0
Cornflower .. 12 bun.	1 6	3 0	— scarlet, 12 sprays	0 3	0 6
Delphinium .. 12 bun.			Primula, double, bun.	0 6	1 0
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	4 0
Eucharis, per dozen	2 6	4 0	Roses .... 12 bunches	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses (coloured)	0 9	1 0
Gardenias, 12 blooms.	2 6	4 0	Roses, Tea per dozen	0 9	2 0
Gladioli .. 12 sprays	1 0	2 0	Stephanotis, 12 sprays	1 6	3 0
Heliotropes, 12 sprays	0 6		Sweet Peas, doz. bch.	1 6	3 0
Lapageria, red, 12 blms.	1 0	2 0	Sweet Sultan, 12 bun.	3 0	4 0
Lavender, 12 bunches	3 0	5 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	4 0	6 0	Tuberoses, per dozen.	0 4	0 9
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	3 0	6 0
Balsams .... per doz.	3 0	6 0	Gladioli, 12 pots	6 0	9 0
Begonias, per dozen	6 0	12 0	Hydrangea .. per doz.	6 0	12 0
Cockscombs, per doz.	3 0	6 0	Liliums .... per doz.	12 0	30 0
Cyperus, per dozen	4 0	12 0	Lobelia, per dozen	3 0	4 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Palms in variety, each	2 6	21 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, doz.	6 0	12 0
Ficus elastica, each	1 6	7 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Foliage Plants, various, each	0 10	2 0	Petunias, per doz.	2 0	6 0
			Rhodanthe, per dozen	6 0	9 0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 28, 1886.

THE POTATO DISEASE.—But the other day and we were enabled to remark that the customary period of the actual germination of the Potato fungus had passed by, and no evidences of the existence of the disease were apparent. Of course, whilst then a matter for congratulation, there was ample time for its appearance, but with this condition—that the longer the attack was deferred the greater the probability that when delivered the results would be productive of no great injury. A month elapses and then there comes a change; the disease has but been dormant, it would seem, and has not disappeared. So far from that being the case, there is just now, perhaps, hardly a plot of Potatos in the kingdom upon which evidences of the fatal spots may not be seen, and it is just possible that in some quarters, where seen in greater virulence, almost a panic may have ensued.

Now, it is just at the moment when abundant evidences of the fungus are first seen that Potato growers are apt to lose their heads and proceed to rush up their crops, with the almost assured result that rot and decay will follow disastrously. Certainly, so long a period elapsed from the time of the first appearance of the Potato disease in this country before its real nature was understood, that it was not to be wondered at if men's minds were easily influenced by alarm when the disease appeared to be rather more virulent than usual. It is no fault of scientists, or of the gardening press, if some still remain ignorant of the real character of this pest, of its fungoid nature, shown in the form of minute and (to the naked eye) invisible spores, which settle upon the Potato plants, and penetrating into the cuticle of the leaves as well as of the thin rind or bark of the stems, become living plants, as it were, within this plant organism, and existing upon this organism, in time literally eats it up or destroys it. Why this particular fungus should thus affect the Potato alone of common vegetables—or, indeed, of any other plants, the Tomato excepted—is difficult to understand; but just as small pox is a disease of the human family, or as other diseases seem to be the peculiarities of certain animals, so also are there plants which are subject to certain diseases, and those plants alone.

Those who will place leaves of the Potato under any ordinary magnifying-glass cannot fail to have observed that the surfaces are exceedingly hirsute or hairy, and hence once a minute Peronospora spore settles upon them it has ample means of holding its position. But we know also that this tiny spore needs moisture to enable it to germinate, and at this season of the year, apart from showers, of which there have been plenty of late, there is certainly ample humidity in the night air, and this condensing, forms upon each leaf almost a flood for such a tiny active element as a fungoid spore to exist in. Next day, perhaps, black spots are seen on a few leaves, and a day later these have not only considerably increased in number, but the original ones have enlarged, and in a week or so, more or less, just as the weather is humid or otherwise, the fungoid operates so destructively that it presently withers or eats up the haulm, and it almost disappears. Where this tiny but terribly harmful spore came from it is hard to say. It had been for a year or so resting somewhere, and we can but suppose in the soil. How it got on to the plant, whether borne or lifted there by the air or how, is also not clear. We know it gets there, and almost over the kingdom in the same way it appears simultaneously. That would show that certain climatic conditions are needful to bring the resting spores into activity.

Possibly in very hot, dry seasons they appear more or less, but die of inanition from lack of fertilising moisture. In any case they are alive and active now, and hence it becomes a matter of the greatest concern what we shall do. Now the scientists, whilst thus so amply demonstrating for us the nature, and to some extent the life history of the fungus, have been unable to do little for the gardeners in the matter of treatment beyond strongly recommending that upon the first appearance of the fungus spot in the haulm the tops should be pulled or cut away, and be burned or otherwise destroyed. Now it is difficult enough to so dispose of the haulm from a small plot, and it would be absolutely impossible so to get rid of the haulm from many acres, as the produce of top of some kinds would probably reach twenty tons per acre. Hence this suggestion is well meant, but impracticable; indeed, if as Mr. Jensen has pointed out the haulm would now be literally alive with spores, the result of cutting or otherwise violently disturbing the haulm would be but to dislodge the spores and fill the air and probably the soil with them.

But this statement of Mr. Jensen is also one of exceeding interest, because he also strongly advises that none of the tubers be lifted for storing even for a few days at least until after the fungus has done its work in the tops, and has, as it were, from lack of food gone to rest. Thus it is bad advice on this showing, and certainly from the promptings of experience, to urge the rushing up of Potato crops to escape the disease. Almost invariably it results in the realisation of the old adage about the frying-pan and the fire. In spite of all the rain we have had, however, the soil is not wet, and generally it is very dry; hence the tubers are safer buried than exhumed. The greater the soil covering over them the better; hence, also, the value of earthing up well and giving the rows ample room. A couple of weeks of dry warm weather may work wonders in maturing the Potato crop and in saving it. The same period of wet cold weather would be productive of disaster. We can but hope for the former, and that eventually the present visitation of the Potato disease may prove to have done little injury.

GARDENING MISCELLANY.

Meetings for Next Week.—*Wednesday:* Bath Floral Fête; Oxford Horticultural Society's Show. *Thursday:* Maidstone Gardeners' Society's Aster and Zinnia Show. *Friday and Saturday:* Crystal Palace Annual Fruit and Grand Dahlia Show.

The Peach Crop at Montreuil, is reported to have been totally destroyed by enormous hailstones, which fell during a storm of thunder and hail on Monday last, and the crops of autumn fruit in the environs of Paris were destroyed at the same time. It is computed that the glass alone which has been broken in the Montreuil hothouses cannot be replaced for less than 40,000 francs.

An Early Frost.—A correspondent at Hampton, in the Thames Valley, informs us that, on the night of the 20th inst., the frost blackened Tomatos in the open ground, notably the Large Red Italian.

Mr. C. W. Crews, having severed his connection with Messrs. Viccars Collyer & Co., Leicester, will be obliged if his correspondents will now address their letters to him at the Chad Valley Nurseries, Edgbaston, Birmingham.

The Metropolitan Board of Works have accepted the tender of Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, N., for supplying Hyacinths, Tulips, Crocus and Daffodils for Finsbury Park, Southwark Park, Leicester Square, Victoria Embankment, and Chelsea Embankment.

Horticulture at Newcastle.—The Royal Agricultural Society will hold its next annual gathering at Newcastle-upon-Tyne, and 11 acres of land adjoining the site of the Agricultural Show have been secured with a view to holding a great Mining, Engineering, and Industrial Exhibition at the same time. A prospectus has already been issued, and from this we learn that Division 9 is to be devoted to agriculture, horticulture, and aboriculture, the two last named subjects forming Class B., of which Mr. Thomas Gray is chairman, and Mr. W. Fell, vice-chairman, either of whom will be glad to hear from intending exhibitors as to the amount of space they will require. The exhibition will be opened on May 26th, 1887.

Improved Flower Pots.—A correspondent writes to *The American Florist*:—"M. A. Hunt, of Wright's Grove, Ill., has lately patented an improvement in the manufacture of flower pots, by which the pot is made stronger, more porous, smoother, and less liable to gather slime and moss than heretofore, which consists in treating the pot to a bath of petroleum oil and then burning the oil out in burning the pot. Mr. H. has been working this invention something over two years, and has tested his pots in every conceivable way side by side with ordinary manufacture, proving their great superiority. We were shown pots after eight months' continued use in a greenhouse which show little signs of use, being quite clean, clear and new in appearance. Mr. H. applies his invention, before or after burning, to brick and all other burned products of clay in protecting the brick from discolouring, so often seen in brick buildings. A valuable invention."

Maidstone Gardeners' Society.—At this society's meeting, held on August 19th, Golden Queen and Gros Colmar Grapes were exhibited by Mr. Longman; Statice latifolia, Zauschneria californica, and double Begonias, by Mr. Leonard; and a Cockscomb by Mr. Duddy. The adjourned debate on Rose Growing was re-opened by Mr. Godden, and continued by Messrs. Thomas Morris, Cossom, and Mansbridge, the stock and methods of propagation being chiefly touched upon. The Golden Queen Grapes caused some controversy, the exhibitor stating that he found it an abundant bearer, and well flavoured. Other growers present, however, did not seem altogether to endorse this favourable opinion. The remaining exhibits were commented on, and Mr. Godden was elected a trustee of the society, vice Mr. Davis, deceased. The Aster and Zinnia show will be held on Thursday, the 2nd September.

DAVENHAM BANK, MALVERN.

THE RESIDENCE OF J. D. PERRINS, ESQ.

THROUGH the kindness of Mr. Jaques, we were lately permitted to walk round the garden and grounds of this well kept establishment, and, although through the unsatisfactory state of the weather, and the short duration of our visit we cannot hope to give anything like a detailed account of all the gems to be found here, still we hope the following notes may be read with interest. The first structure we entered was a house or case which is used as a Strawberry house, but, of course, at this season the shelves had been removed to allow of the full rays of the sun being enjoyed by some healthy young Fig trees which had lately been planted on the back wall, some of which we noted were already carrying a few good fruit; on the front of the case, shelves were arranged upon which were staged a good batch of zonal Pelargoniums for winter flowering, nice sturdy stuff. The next house was of similar size, and used for the same purpose, in this we noticed some standard Roses of La Pactole giving a second bloom, and which had evidently been placed under cover to secure purity of blossom.

THE FRUIT HOUSES.

We next entered a Peach house, upon the back wall of which were some very healthy trees of both Peaches and Nectarines carrying a full crop, and which Mr. Jaques assured us were frequently kept until October, and as Peach growing outside is not practised, this is of immense advantage where the supply can be so prolonged. The next structure was a Peach house also with low trellis on the front, and also the back wall being covered with well furnished trees, in most cases carrying a heavy crop of highly coloured well developed fruit, Elruge Nectarine and Princess of Wales Peach being the most conspicuous. I was not at all surprised to find that Lord Napier Nectarine is but little thought of here as to quality; undoubtedly, it is a noble looking fruit, but as to flavour not at all up to the mark. I was, however, glad to hear Princess of Wales so highly spoken of, it being all that can be desired; certainly some of the fruits promised to be of extra large size, even for this variety.

Then came a lean-to house devoted to Eucharis in pots, with Stephanotis trained on wires to the roof, thus affording sufficient shade. The stock appeared in the rudest health, many of them carrying good spikes of bloom, which are always in great demand here. At the back of this house we noticed a good batch of Vicomtesse Héricart de Thury Strawberries in pots, which had been prepared for autumn work, and which, to all appearance, would give a good return for care bestowed; close by, also, we noticed the stock of Chrysanthemums, neatly staked and plunged, and in first-rate condition. We next entered the range of Vineries, commencing at the east end with the Muscats, which contained a good crop of even-sized bunches, some of which will weigh quite 4 lbs. The berries were just taking on that amber tinge which all growers of this delicious Grape are so anxious to secure. Certainly this is a most creditable crop, and the Vines had made good, stout, clean wood—a sufficient guarantee for next season. The next house contained Muscats, Madresfield Court, and Black Hamburghs, with a single rod of that fickle variety "Duke of Buccleuch," which Mr. Jaques informed us was destined to make room for something more reliable. Madresfield had cracked more than usual this season, but still there was a good crop hanging; but from keeping the border rather dry to prevent this, the Hamburghs had not finished so well as usual.

The next compartment was devoted to late varieties and included Lady Downes, Mrs. Pince and Black Alicante, the last named being found to hang the best of the three, a fact we have not yet been able to accomplish, although we have had them fresh and good in May; the clusters in this house were of full size, and certainly there was a heavy crop, all the vines appeared in excellent health and condition; we were also glad to notice an abundant water supply all through. Then came a range devoted to the growing of Melons, a low three-quarter span; Longleat Perfection as a green fleshed and Blenheim Orange as scarlet were the kinds chiefly relied upon; of the first named there were some excellent fruits in different stages of growth, and the plants too were extremely vigorous; they were grown on the single stem plan and the fruit set when the plants reached the top of the trellis. At the time of our visit there was still the late house to plant, those which were ripening up would be cleared in time for winter fruiting Cucumbers to be planted. We next enter two Pine stoves, the first contained the stock of fruiters, and we noticed some useful Queens and Smooth Cayennes amongst them; it was explained to us that the heating of these structures through the winter not being satisfactory, the Pines were to be transferred to other quarters; the succession house contained a very nice lot of stuff in fine condition. There were numerous ranges of pits, both heated and cold; and we noted a span-roofed house devoted to different kinds of flowering plants, and in which were growing some strong pot Vines, from which the earliest supply of grapes is cut, together with a Tea-scented Rose trained thinly over the roof.

A walk through the kitchen garden followed in due course. The crops all appear in a good state, and the squares and walks clean; and as so much is required from the rather limited extent of ground the practice of double cropping has to be resorted to, and where an abundance of manure can be secured at will this is often an advantage, as the ground is more frequently moved and stirred, and much better results follow than if allowed to remain idle for any length of time; although I am aware many good men hold opposite opinions, I am strongly in favour of this mode. We next passed out, and across the high road, from this portion of the garden up three flights of stone steps into the pleasure grounds proper, and where are situated the houses containing

THE NOTED COLLECTION OF ORCHIDS.

To attempt to enumerate which would occupy too much space in your columns, suffice it to say the stock appeared very clean and healthy; the broad deep green foliage of the Cattleyas and Lælias showing thorough health, the bright fiery Epidendrums, the quaint-looking Vandas, Odontoglots of various shades and markings, and amongst which could be clearly traced numerous spikes of the lovely Phalænopsis amabilis, all being objects of interest. The stock comprised plants of all sizes and ages, and embraced almost all worthy of a place in so rare and extensive a collection. The next structure is devoted to Cape Heaths and other kindred subjects, and from these we pass through an archway and into a lofty house, upon the roof of which we noticed were hung the stock of Dendrobiums partly shaded by the foliage of the creepers on the roof, where they thoroughly ripen, a most essential part of their culture, but frequently overlooked. Staged here, also, were numerous decorative plants, such as Ferns, Crotons, and Dracænas. We next pass into the early Peach-house, from which the fruit has been gathered; the trees are well established, and always carry a heavy crop of fruit of extra good quality. On the back wall were trained two Tea-scented Roses of very ancient origin, but which yield a quantity of flowers for cutting, and which are in great demand. Still onward, and into a semi-circular house, the roof of which is covered with white and red Lapagerias, and which have become so intertwined that the flowers are intermixed all over the roof, and look extremely pretty. In here are staged tuberous Begonias and numerous other flowering plants for giving a supply of cut flowers. We next come upon

THE FERNERY.

This is situated in a secluded part of the grounds, and is well planted with the varieties usually seen, including several tree Ferns; and we also noted a nice patch of the Killarney Fern, which had lately been planted out by itself in a shaded nook, where it ought to feel quite at home. There are, of course, the usual cascades, all assisting to render this a most enjoyable retreat. The pleasure grounds are not very extensive, but still every inch is kept neat, and there are no back corners for rubbish to accumulate. At the lower end we come upon a summer house, in front of which is laid out a Rosery, and which were now past their best, evidently the bloom had been good, and, as elsewhere, most abundant this season; passing on we come through winding walks to the mansion itself; towards the entrance lodge—where great improvements have been made in the transplanting of several Conifers, some of them 30 ft. high, all of which were successfully planted upon the terrace—were numerous beds, planted in the carpet style so much in vogue some few years since, and which looked extremely pretty, being carefully kept; on the other side were arranged beds, planted chiefly with bright-coloured zonales, edged with blue Lobelias, and such like; from this point we wend our way back through the kitchen garden to enjoy the hospitality of the gardener's cottage, and in return for the courtesy shown, we can only say, we hope for many years to come Mr. Jaques may continue so ably to conduct the management of this establishment, which, taken all round, reflects the highest credit upon him.—*Cor.*

PROPAGATION OF CAMELLIAS.

As I promised the readers of THE GARDENING WORLD an article on the above subject, I presume I must endeavour to lay the matter as clearly as possible before them. To my mind the subject is simple enough, but this comes from having spent a good part of my life amongst these and other such plants. To the mind of the novice, and also to many who understand the routine of good garden work, the propagation of Camellias always, however, appears in a difficult light.

Camellia japonica, the common single, is generally used for the stock upon which all the better varieties are grafted; it may be propagated by seeds in large quantities, or by cuttings. Seeds may be sown at any time when obtainable, and should be placed in a brisk heat to make them germinate quickly. When the seedlings are well developed into the second leaf, they should be potted off singly and kept close for a time; these plants are generally fit for grafting in two years. Cuttings made from good firm wood may be inserted in cutting-pots—the soil in the pots to be made very firm—any time through August, and plunged up to the

rim of the pot in ashes in a cold frame, and kept close till danger from severe frost arises, by which time they should be nicely callused. At this period they will benefit by being stood in a little heat to cause them to draw root. They can be potted off any time before March, and grown along with the ordinary collection. These usually make fair stocks for grafting the next autumn; the preference, therefore, must be given to cuttings, for by these you gain a season. I may say, that I have succeeded in striking stocks at all times through the winter months up till March in a gentle heat and kept close; but this late system should only be practised where the stocks are actually needed, for they occupy valuable space in the spring months that is required for other purposes.

The first requisite in a stock, fit for grafting, is that the root action should be in good order and the pots full of healthy roots. This particular item must be kept in mind, for everything else depends upon it. Should the roots go wrong the whole job will be an utter failure.

The grafting of the better varieties may be proceeded with any time from the end of July till the early part of September; if not done at this time I should not advise an amateur to try until the end of February or early in March. Grafting in the autumn gives the scion and stock sufficient time to unite before winter sets in, and if they are carefully tended during the winter, the plants are then ready to start away into an early growth when opportunity offers. Grafting in the spring has no particular advantages, only that you have not the trouble to look after the young plants through the winter; but I do not think the spring-grafted plants make such strong growth the first season as the autumn-worked ones.

The modes of grafting are few, and the best system is side grafting or cleft grafting. Where the latter style is adopted care must be taken that the top of the stock is cut off just above a bud and leaf, or the stock will in all probability die. After securely tying on the scion, the plants should be put into a propagating case, kept quite close, the temperature not exceeding 55° to 60°; in fact, the temperature wants to be kept as even as possible. The lights must be taken off occasionally to dry, and the plants be looked over to see that no damp is settling about the union; if so wipe it off, and do not place the lights on again until all damp is dried up, but be careful the sun does not get to them.

In a month's time a fair idea may be obtained as to which are going to take and which fail; but the work requires at least six weeks before they can be said to be safe, and it is better to give another week or two than to be in too great a hurry to get them out of the case, and thus lose the lot. It may easily be seen if the two are uniting, for the callus will begin to swell out between the ties, and when this is noticed the matting may be slackened.

After the plants have been in the case a month, it is as well to let the lights remain off all night, and to put them on again during the day—always shading from sunlight until the time they are fit to be removed from the case to a cooler house. In the spring, when the scion shows signs of growth, the whole head of the stock above the scion may be cut away, and the plant treated to the ordinary routine of Camellia growing.

The mode of propagating by inarching is a very simple process, and means the act of laying two branches together, and cutting the bark away from each so as they may equally fit each other, then tying tightly together, and afterwards plaster with grafting clay or wax. This style of propagating is practised on large and leggy plants that require better sorts working on to them.

Success in grafting these and all other kinds of plants depends a great deal on care at the time of doing the work, also on a healthy stock, with good root action, and a healthy scion, attention to keeping damp from settling upon the union, and a close but not too hot a temperature. If the above remarks are followed out, any amateur may succeed with a part, at least, of the grafts put on.—*W. G.*

Lælia Batemanniana (Nat. size).

LÆLIA BATEMANNIANA.

Sophronitis grandiflora × Cattleya intermedia.

It is with the most sincere pleasure that we avail ourselves of the opportunity to give an illustration of Messrs. J. Veitch & Son's latest, if not greatest, triumph in Orchid hybridisation, the result of the apparently hopelessly wide parentage of Sophronitis and Cattleya. The outcome of Mr. Seden's care and patience in this direction turns out to be a gem of the first water—a neat and pretty plant in growth and in flower. The name authoritatively given, coupled with the names of the parents, may seem startling to some, but as history repeats itself, so obsolete botanical names and affinities always lie at the call of the botanist, and offer ready loopholes for even such difficulties as the now numerous and ever increasing race of hybrids presents.

However, it may be laid down as a rule, that whenever botanical features of species are laid down, it is proper to bring the hybrids under them without regard to the names of their parents; and that course has been followed in this trying instance by our esteemed Orchidic authority, Professor Reichenbach.

The plant of Lælia Batemanniana from which our illustration (natural size) was taken, measures not more than 2 ins. or 3 ins. in height, but bore a charming flower 2 ins. in diameter—flat, prettily formed, and of fine substance. The form of the sepals and petals are much the same as in Sophronitis grandiflora, but bright rose-pink in colour; the lip very nearly approaches that of Cattleya intermedia, but is more open and neatly formed; the outside of the tube is rose, the inside sulphur-yellow, the dark portion in front violet-crimson, the whole margined with pure white. Since the first specimen flowered another has opened slightly different, but equally lovely; and in their private stock Messrs. Veitch have other strange crosses with Sophronitis grandiflora, which will probably prove more startling even than the one under notice.

EARWIGS AND CHRYSANTHEMUMS.

From the views which have recently found their way into these columns, it is evident there is a variety of opinion existing among growers of the Chrysanthemum, as to whether the Earwig does really feed on the foliage of this flower. Mr. Boyce, who should be somewhat of an authority on the subject, does certainly declare, without the least hesitation, that it is the case, though, if I remember rightly, he does not positively assert that he has ever seen one eat anything, but that it feeds in the night, and takes refuge in the leaves, in order to be in readiness for the succeeding night, belonging to that class, of whom the inspired penman speaks, when he states, "they love darkness rather than light, because their deeds are evil." At any rate there seems to be a goodly number of Chrysanthemum growers who think with Mr. Boyce, that such is the case. I formerly belonged to the number, and kept up a deadly warfare against the Earwig, giving no quarter whenever I met with it. Still, I found the extremities of the shoots eaten as badly as ever, which caused me to alter my mind, and to look out for a different class of game from what I had previously hunted.

I made precisely the same mistake with regard to the blooms of the single Dahlia. I found them frequently eaten in one or other of the petals as soon as they began to expand, and among the foliage of the plant which bore the blooms there was usually one or more Earwigs, which led me to suppose that they were the mutilators of my flowers, and I slew them right and left; still my blooms were as badly eaten as ever. At last I began to examine each bud just previous to the petals expanding, and, fortunately, one morning I discovered a minute caterpillar snugly ensconced within the flower taking an early breakfast, previous to beating a hasty retreat from his felonious repast, for it is the habit of this fraternity to get as far away from the scene of mischief as possible, suspecting, no doubt, that there will be a row when the master comes, and so leaving the poor Earwig to pay the penalty with his life.

The said caterpillar is so diminutive in size that you might carelessly look over a plant twenty times and not notice it unless you made up your mind as to what you were searching for. It is of a pinky white, about a ¼ in. long, and scarcely thicker than a piece of sewing cotton. Of course, the hole which it eats in the flower is very small at first, but as the petal expands the hole

increases in like ratio until when full blown; it is so disfigured that it is utterly worthless for any particular purpose.

In my recent articles on the cultivation of the Chrysanthemum, and also in my pamphlet on the same, I include the Earwig among its enemies, but deny that it eats the foliage of the plant, and that it is simply troublesome at the time of blooming, as it occasionally lets down the outside petals of the flower by biting them through at the base, which petals are not eaten, but are invariably left dangling to the flower; it is also the case with the Carnation.

I do not fear the Earwig in the least until the plants arrive at the flowering stage, though I find scores of them among the foliage daily. There is, as I said, a far more deadly enemy in the shape of a small green caterpillar, which in a single night will leave disagreeable traces behind him, for unfortunately these gentry do not eat to live, but live to eat; therefore, should you ever come across one of those gluttonous characters, of whom it may truthfully be said "whose god is their belly," give him no quarter, for he is a monstrosity, being all mouth, which excess is the most unfortunate for the gardener that could have been, especially when he becomes fastidious in his appetite, and prefers to dine from what has cost so much labour to produce. This caterpillar is not the same that feeds on the flowers of the single Dahlia, being a little larger, and its colour is so identical with the foliage on which it feeds that it is most difficult to discern. When I suspect one I mostly set the plant on a sheet of paper and give the stem a gentle shake or two, when the culprit mostly comes to grief. Last season I was terribly annoyed with it, and (as Mr. Boyce remarks) found the extremities of the shoots eaten away alarmingly, when at last I luckily discovered one or two of these individuals making a meal of them. It is surprising how much damage a single one will do in a night. They are fortunately not very numerous, otherwise we might almost despair of ever getting any blooms at all. They appear about this time of year, and I suspect it is the caterpillar produced by the moth commonly called the *Yellow Underwing*, though I am not positively certain of it. I would, however, advise all growers to keep a sharp look-out for it.

As to what constitutes the favourite diet of the Earwig, it is most difficult to say, for, I suppose no man ever yet saw it feed in its state of freedom; of course, if confined and materials put in with it, it will, no doubt, eat what it would discard when it had its choice. Hunger has made cannibals of civilised men; no wonder that it should pervert the tastes of the Earwig. My private opinion as to the food of the Earwig has long been that it is not a vegetarian in its preferences, but that it lives upon other minute insects, and the test which Mr. Waldie made under the bell glass materially strengthens that opinion.

I have, however, no objection to anyone holding a different view from myself, and if he chooses to slay the Earwig for a fault which I consider it has not committed, there is no great harm done; the creation will not suffer much loss by the destruction of a few thousands of these members, and as we schoolmasters sometimes say when we punish a troublesome boy by mistake, if you don't deserve a punishment to-day you will to-morrow, so you have only got your desserts a day too soon.—*Geo. Kidson, Hull.*

CHATSWORTH.

I had not visited Chatsworth for something like eighteen years, and when a friend in that neighbourhood wrote and offered to take me there if I would return by the Midland route on my way home from the Liverpool show, I decided to accept the invitation, and pay a visit to the "Palace of the Peak." On my first visit I drove from Sheffield over the moors—a most enjoyable drive in the early autumn—and got down at Baslow, but this time I went to Rowsley from Manchester. We very soon got to Chatsworth Gardens, where we met Mr. Thomas, who most kindly conducted us round the establishment. First we entered the Victoria house—a very fine structure—larger I should think than any other Victoria house in the country. Victoria Regia here grows very freely; the plant was about six weeks old from seed, and yet some leaves measured nearly 6 ft. over. This house was made very effective with some grand baskets of Achimenes, 4 ft. through, very well done. Musa coccinea in the same house was also very telling with its bright scarlet flowers; Nymphæas were also flowering freely, and comprised Devoniana, dilitata, Lotus, Zanzibarensis, and a pink variety of the latter, Nelumbium speciosum and nuciferum, and several other aquatics made this house a very effective one. The old Amherstia house which stood close to this latter, has been done away with, and the stump of the tree preserved; but close to this Mr. Thomas has had a very useful garden office constructed, which also serves as a class room for the young men, in which, in winter, classes for various subjects are held.

The Fruit Houses.

We next enter the fruit houses, which are mostly arranged in single ranges across the garden with a wide cropping space between, so that each range has ample space, and there is no danger of one lot of houses shading the others. At the same time the one or two boiler system cannot very well be applied, owing to the houses being so wide apart, so that every range must require a separate boiler. There are a large number of divisions for Grapes, all of which were looking well; the roots had been nearly all lifted last autumn, and were already reaping the benefit. What was an orchard house when I visited the garden before, had been planted with Muscats, which were looking very well; these had been planted in a border quite raised above the garden level, to keep the roots out of the frequent inundations to which they are subject, owing to the very low situation of the garden. Another division of the old orchard house had been planted with Brown Turkey Figs, trained on a flat trellis, and the back wall planted with Peaches. The Figs, four trees, were laden with fruit, which I think I have never seen equalled. There were a number of divisions for Peaches and Nectarines, early and late, and all well cropped. On my former visit, there was here, perhaps, the largest Peach tree in the country, a Royal George I think. It covered about twenty-one good paces length of trellis, and the trellis would be about 18 ft. wide; this tree has been dead some years. A rather narrow Melon house contained a splendid crop of Perfection Tomato on the back wall; and the Mushroom house behind the Muscat house was carrying a fine crop. We passed through several structures containing late Melons and Tomatos, and a house of ripe Grapes, the berries of which were fine.

Pine Apples are still grown in considerable quantities, and were very promising, though in the winter and spring the conditions are not always favourable, as the fires have been put out several times by floods. On the back-shelf of one of the Pine-houses were some fine Pancratiums and a trained Dipladenia. In the Azalea-house were a number of the greenhouse Rhododendrons, Messrs. Veitch's seedlings, and other nice plants. In a north house were a quantity of Poinsettias, and a very useful plant Mr. Thomas informed us for winter flowering is Saxifraga Fortunei. In a pit near this were some grand plants of Gilbert's Primulas. A large quantity of Chrysanthemums and Marguerites, very fine plants, were being grown on for autumn use, and a number of Rhododendron præcox. Here also is a very fine stock of Urceolina aurea, and a number of other things, which we had not time to take note of. The kitchen garden was well cropped; but outdoor fruits, such as Pears and Apples, are not generally very plentiful, owing to the proximity of the garden to the River Derwent, and the frequent spring frosts.

The Pleasure Grounds.

We next wended our way to the pleasure grounds, and could not but admire the splendid park, which is beautifully wooded, though the trees are not so fine as we are in the habit of seeing in the old parks in the south. The day was beautiful and bright, and when we entered the pleasure ground gates, and looked from the south terrace, the view was most beautiful. Chatsworth is one of the greatest show places in England, and though it was a quiet day when we were there, there were numbers of parties about, numbering from six to a hundred or so in each. The flower beds are planted mostly with herbaceous plants, not many bedding subjects being used. A good many Moutan Pæonies are planted about, and at the time of our visit were very effective.

The fountains and cascades are on a most extensive scale, the Emperor fountain throwing a jet of water something like 250 ft. into the air. A very pretty effect is produced by a succession of cascades rising up the side of the hill for some considerable distance till it reaches the water-tower, and when the water is turned on has a very nice effect. In the orangery against the mansion there are some very fine Dicksonias, the original plant of Rhododendron Gibsoni; also of Dacrydium cupresinum, Podocarpus longifolius, and Camellias, very good. We pass through the oriental garden, which contains a number of Chinese seats and vases, and some good statuary; a very fine Viola here is the Countess of Hopetoun. The Camellia house, close to this, contains a number of very healthy Camellias. From here we go to what is called the Portland case, a narrow promenade with creepers up the back wall, and some grand Camellias, Fuchsias, Eugenia Ugni, which fruits freely, Gloire de Dijon Rose, Brugmansia sanguinea, Polygalas, Rhyncospermum jasminioides, &c.

The Orchid Houses.

Near to this are the Orchid houses, which were being built during my former visit. They are roomy, spacious houses, and contain some fine plants of Odontoglossum vexillarium, some grand plants of Cœlogyne cristata (Chatsworth variety), and C. Lemoine, Oncidium fuscatum, Acineta, Odontoglossum hastilabium, Oncidium crispum, Cœlogyne Massangeana, Aërides of sorts, Cypripediums and Vandas, some fine Calanthes, very good plants, Cymbidium eburneum, some fine pans of Pleiones, Dendrobiums, and a great many others too numerous to mention. The curious lattice-leaf plant of Madagascar, Ouvirandra fenestralis, does well here; and I noted also some fine pitcher plants of Mastersii, Hookerii, and Chelsoni. In one of the divisions of the Orchid houses were a nice lot of decorative Palms, and also two of the finest potfuls of Eucharis amazonica, I should think, in the country. The pots were 2 ft. over, quite full of fine large bulbs, and had carried eighty spikes of flower at once. These Orchid houses are placed within a few yards of the mansion, so that the family can frequently inspect them.

The Palm House.

We next make our way to the conservatory, or Palm house, which is said to cover an acre of ground, and has a road through it quite wide enough to take a carriage and pair. There are some fine plants of Cupressus Lawsoniana and Wellingtonias planted round it outside. Several very lofty Palms catch the eye on entering. One of the tallest is Corypha australis, 60 ft. high; Sabal Blackburniana, about the same; some very fine tree Ferns of Cibotium regalis and princeps; Theophrasta Jussieui, Musas, in variety, amongst which the scarlet coccinea was very telling; two plants of Agave americana in bloom, with flower-spikes 22 ft. high. [One of these may now be seen in the Conservatory at South Kensington.] Encephalartos gigantea; Renanthera coccinea, growing upon a large block of wood; Seaforthia elegans in fruit. Here and there were hanging some very fine baskets of Achimenes, like those we saw in the Victoria house. Of course, such a very large house requires an immense amount of heating, and the quantity of pipes laid down is something very considerable, and everything kept out of sight, such as stoke-hole, coals, &c.

We had not time to go round the Pinetum and pleasure grounds, both of which are very extensive. The Rhododendron is here quite at home, and at the time of our visit, the first week in July, was still in bloom, whereas in Surrey, our bloom was quite past a fortnight before. There is a good deal of artificial rockwork on the hill-sides, which is getting nicely covered with Cotoneaster and other shrubs and creepers. The pleasure grounds are in perfect keeping; as are also the fruit and kitchen gardens.

From the gardens we made our way to the village of Edensor, on the edge of the park, one of the creations of Sir Joseph Paxton, where all the cottages are of different architecture, most substantially built, and tenanted by the workmen on the Chatsworth estates. It is a very beautiful village with a very handsome church, and now famous churchyard, wherein is situated the grave of Lord Frederick Cavendish, and where the Devonshire family are buried among the village people. All the villagers I understood have each their cow, and a field is set apart for the cows to graze in. I have endeavoured to give your readers, who have not seen for themselves, some idea of this grand place, but can assure them that the half is not told, and that if they pay a visit in such glorious weather as I did, they will, indeed, be gratified with their visit, and with the courtesy and kindness of Mr. Thomas.—*J. B.*

FAILURES WITH PEAS.

"Amateur" (p. 810) does not say how or when he sowed his Peas, nor what kind of soil his garden is composed of. There are many things which bring about failure, and both sowing and reaping must be guided by circumstances, soils and other considerations, which have to be taken into account. "Amateur," being situated in the vicinity of Manchester, may have sown his Peas too early, and this, coupled with the cold late spring, may have caused the seed to rot instead of germinating, and especially would this be the case if the soil be of a damp heavy nature. I generally sow for the first crop in the second or third week in March, and even then am never sure whether they will come forward, as they are dependent on the weather after the first three weeks of sowing. If it be fine, open and mild, well and good; if stormy, cold or wet, I know what to expect—Peas or any other seeds cannot remain long in the ground without either going one way or the other. With me, the first week in April gives the most certain results, and those sown at this date are not far behind, even should the first sowing germinate all right.

Too deep sowing is another cause of failure; 1 in. deep is quite deep enough. There is a golden rule, that seeds, of whatever their nature, should be sown no deeper than the seed itself; but seeing that we have birds to contend with, as well as spring frosts, it is best to err on the safer side, by sowing no nearer than 1 in. from the surface, that is as regards the early sowings. Another cause of failure is the ground not being sufficiently prepared or worked during winter. Many there are, those who have gardens, who leave them until the time of sowing, and then are all hurry and flutter; the consequence is, the soil turns over rough, and not having had the beneficial effects of winter frosts, does not crumble as it otherwise would do, but turns over like half-baked bricks. In this case it is impossible to cover the seeds regularly, some of the seeds being covered too deep, whilst others are not covered at all, and mice, slugs and snails work their own sweet will in the subterranean larder. The surface of the trench or row should be made fine, and the seeds have a covering of soil of a light, fine, sandy nature, through which the young sprouts will easily penetrate.

If "Amateur" has followed out these rules, we must come to another conclusion—*i.e.*, that in all probability his blank places have been caused by mice, slugs, or snails, as they have been well protected from birds. "Amateur" says that there are blanks among his "Stratagem," whilst Earliest of All has come up the best. This is accounted for by the fact that Stratagem is a wrinkled marrow Pea, whilst Earliest of All is a blue or round-seeded Pea. Blue Peas are of a more hardy nature whilst buried in the ground, consequently they are more generally used for first sowings. Wrinkled marrows are more tender, and, moreover, are of a sweeter nature, therefore more liable to the attacks of vermin than the other. As to the haulm of Earliest of All being poor and weak, this sort is not near so stiff and sturdy in its habit as Stratagem, therefore it is not expected to be so good in constitution.

A word, if you please, about seeds and seedsmen. The latter are oftentimes blamed for the unsuccessful germination of the seeds, when in most cases it may be traced to careless sowing, indifferent management, damp soils, or an insufficiency of heat—solar or otherwise. I think we should find more difficulty in purchasing bad seeds now than good ones, for seedsmen know that if they do not keep the best in these days of keen competition a falling off in trade soon follows. —*B. L.*

MESSRS. LAING'S BEGONIAS.

All who are interested in the culture of tuberous Begonias, either indoors or out—or, at all events, as many of them as can conveniently arrange to do so—should not fail to pay a visit to the grand show of these in flower at the Forest Hill Nurseries. Begonias have steadily progressed in public favour, and deservedly so, for few plants give such a show of bloom with so little trouble. Many are they who have laid in a small stock of them, which they cherish and cultivate well; but in many instances the varieties grown are far behind those recently raised by Messrs. Laing, and a large number of growers, if they saw the ordinary stock at Forest Hill, would be tempted to superannuate their old favourites, and put some of their large and perfectly-shaped varieties in their places, especially when they found they could do so at a very small cost.

At present in bloom in the open ground are over 100,000 plants, and not a bad flower among them. There are large beds of dark crimson, nearly black on the outer side of the flowers; of crimson, of scarlet, orange, yellow, rose, white, and every conceivable intermediate shade, the whole of them being characterised by that peculiar rotundity of petal and thickness of substance which distinguish Laing's strain. In th double section, all the beautiful colours of the singles are repeated with a marvellously rosette-like doubleness of flower. The scarlet, crimson, white, and rose doubles are especially fine, and whole beds of one colour prove to what a successful issue the Messrs. Laing have carried their efforts in intercrossing and improving the strain. Such a show of colour spread over such an extent of ground, without a single failure, proves beyond a doubt the usefulness of these plants for bedding purposes.

Indoors are houses full of grand specimens which, although they have been in bloom since May last, are still in fine order. Some of them are grown in baskets and are suspended about the house, forming very showy objects, and demonstrating another use for these showy plants.

Where all are so excellent, it may be somewhat of a matter of opinion as to their relative merits, but at present the following selection appeared to be the best:—

Singles.—Prince of Wales, vivid scarlet; Blushing Bride, blush-white; Golden Queen, a fine golden yellow; Lady Trevor Lawrence, yellowish Orange; Duke of Edinburgh, very rich deep maroon; Princess Victoria, rosy carmine, with a white centre; Lord Salisbury, bright dark red; Atro-rubra, dwarf, dark crimson; Stanstead Surprise, rich crimson, very large; Star of Gold, bright yellow; New Colour, buff orange; Lady Lewisham, a fine rose; Virgin Queen and White Perfection, two pure whites.

Doubles.—Alba plena, a grand white; Lillie, deep pink, a fine flower; Little Gem, pure white; Formosa, crimson, with white centre, the best for baskets; Marquis of Stafford, large crimson; Princess of Wales, white; Alba fimbriata, large, fringed white; Miss Amy Adcock, a fine full salmon-red; and Fireball, a brilliant scarlet.

Besides the Begonias, Messrs. Laing have grand specialities in Hollyhocks, Pentstemons, Chrysanthemums and a grand collection of hardy perennials, which are now grandly in bloom: also, in the houses, a noted collection of Caladiums, Gloxinias, Ferns and stove and greenhouse plants generally, as well as some good houses of Orchids, among which the Cattleyas, varieties of Lælia anceps, Dendrobes and other showy good things are in grand order, especially D. Falconerii and D. Wardianum, the latter having very stout growths over 3 ft. in length. The cool Odontoglossums, also, are in great vigour. In bloom we noted Cattleya Gaskelliana, C. Leopoldii, C. Loddigesii, Cypripedium Pearcei, C. Sedeni, C. Dominiana, C. concolor, C. Godefroyæ, many fine Oncidium Jonesianum, O. lanceanum, Dendrobium Pierardii latifolium, Odontoglossum Pescatorei, O. Alexandræ, O. Wallisii purum, and a very healthy importation of Phalænopsis violacea and P. Sumatrana.

SCOTTISH GARDENING.

Notes from Fordell, Fifeshire—When passing through the well appointed Vineries of this fine old place the other day, I noticed a number of Vines which have been trained up the rafters and down the back walls. Among other kinds Gros Colmar was fruiting freely, and I noticed that bunches on the back wall at least 6 ft. from the glass were in advance of those under the rafters, about 16 ins. from the roof. Those on the back wall were almost fully coloured, in fine form, while their compeers were only changing, showing how much better black Grapes often do under dense shade, than in unobscured light. White Grapes do the reverse of this, and when accustomed to full sunshine from their earliest stages they stand it with safety. A very densely-coloured Grape of the white class is grown at Fordell. At Dundee International show this kind was conspicuous for its deep bright yellow colour, and some experts were not unanimous regarding its kind. It is certainly unlike all the sorts I have seen. In form and flavour it resembles White Tokay, but no Tokays were ever seen so yellow before. I still hold to the opinion that it is Tokay grown under peculiar circumstances. The Vines, which are of considerable length and girth, seem to attain a certain stage of growth, then cease and extend wood or foliage; the fruit seems to ripen rapidly when the Vine has reached this stage. We often notice the same change take place with stone fruits, Pears and Apples (of ordinary colour) become a deep crimson when ripened on trees which ceased to grow prematurely.

Grapes, Peaches, and Figs, are well done at Fordell; trees on walls are skilfully managed, and fine crops are realized. Plums are a heavy crop this season. In the numerous plant houses and pits, great numbers of plants were a blaze of flower, or being grown on for autumn and winter use. In a pit were a quantity of Cinerarias and herbaceous Calceolarias forming their flower buds, which are intended to flower early in the autumn, and continue onward to winter till other batches succeed them. These early flowering plants are sown in spring, and got forward to flower at a period while the family are at home to see them.

Among notably well-done things was a collection of fine foliage plants in a spacious house; the cleanliness, health, and vigour of these plants was most pleasing. A small structure we observed was filled with Adiantums, among which was the finest grown A. cuneatum (one of the oldest and best) which I have seen for years. It would take up too much space to attempt a general description of these highly kept, extensive and beautiful gardens, in which something of most branches of horticulture are well represented. Flower gardening is very extensively carried out at Fordell. We climbed to the top of an old tower where a view of the greater part of the flower gardens could be obtained, and such a floral picture is rarely met with, or one so varied in conception. The English style in grass is seen in one division; the French comes into view with its broad bands of Box, and a very different picture is displayed by such an arrangement than by the meagre narrow lines which are too often seen in Anglo-French gardens. Scrolls in Box, Rose gardens, herbaceous borders, &c., all have their separate positions, and the same care and cultural attention characterises each.

Conifers have had a special position at Fordell for many years, and many fine specimens are growing in the spacious grounds. Shrubs are varied and numerous; there is rockwork in natural form, running streams, miles of walks, glades and woods in great variety, forming one of the most beautiful seats I have seen beyond the Forth. The excellent order in which the gardens are kept, and the whole managed, is most creditable to the very able and painstaking gardener, Mr. Ramsay.—*M. T.*

THE AMATEURS' GARDEN.

THE VEGETABLE GARDEN.

As the ground is cleared of the early and second early crops of Potatos, it should be dug or forked in preparation for the winter vegetables, and if it was well dug for the Potatos it will not require so much attention in that respect now. All vacant places in the kitchen garden should be filled immediately they are cleared of the previous crop, as it is a most important part to have the garden well stocked for winter. Cabbages can be planted plentifully, and Savoys are an excellent green vegetable for a severe winter, standing very sharp frosts with immunity, in fact they are, in the opinion of most people, greatly improved by being subjected to a few keen frosts. Curled Kale is also a capital hardy green, and lasts when all else has been finished, but it is not so delicate in flavour as the others, and is rarely liked in small gardens except in the northern part of the kingdom, and the depth of winter when other crops are scarce or quite over.

Celery is making good progress, and should be earthed up as it advances; Peas are nearly past now, but Ne Plus Ultra is still yielding an occasional gathering; Scarlet Runner Beans are abundant; Turnips, Onions, and Carrots are also turning in well. Onions that have become sufficiently large should be pulled from the ground, the stem twisted just above the bulb, and then laid on the surface if the weather is dry, as a day's exposure in this way will wonderfully improve their keeping qualities. Continue careful attention in clearing the garden of weeds, which have been most luxuriant this season, but it is especially necessary to prevent their seeding, or they will give a lot of trouble in the future.—*Scolytus.*

LONDON GARDENING.—VII.

"Give me a garden well kept, however small,—two or three spreading trees, and a mind at ease,—and I defy the world!"

In a little garden a very few Annuals go a very long way. They can scarcely be sown too thinly, and their best place is in borders facing east or south; a western aspect is rather trying in the long June afternoons, particularly if there is a wall just behind them. Lupins, yellow, crimson, pink and white, should be a standing dish; they figure charmingly as maids-of-honour to their queenly Blue Perennial namesake. To these let the London Seed-sower add Marigolds, Mignonette, Virginian Stock, Candytufts white and lilac, Calliopsis tinctoria, (in my young days it used to be called Coreopsis,) the little lemon-coloured Platystemon, Linum grandiflorum, Godetia, ("The Bride,") Collinsia bicolor, and Viscaria oculata. I should like to add, only experience withholds permission, the beautiful Gaillardia picta, and Geum coccineum, properly a Perennial, but easily raised from seed. German and Brompton Stocks fail here, but might be hopefully tried in other gardens. I have not included in this list my trusty friends the Sunflowers, double and single, tall and short, because they are in their glory in August, when most people are out of town. To those who leave London then to go home there is of course nothing to be said, but to those who leave home in leaving London—or at least to all among them who have a garden of any kind—I will make bold to suggest that perhaps if they were to try one August at home, with the Sunflowers and the Torch Lilies, (Tritoma aurea) they might be tempted more easily than they think to repeat the experiment. I know what I am talking about, for I have made many elaborate comparisons of town and country August temperatures, and of four Augusts which I have spent in London only one was really disagreeably hot, while that one was hotter in many other places. But Fashion, with the nod of Jove, decrees a general and unreasoning exodus, and as Fashion has many worshippers and Reason but few, such a revolutionary hint as mine is not likely to meet with any warmer response than the "*O! exclamantis*" on every note of the scale of incredulity. Nevertheless, *experientia docet*, only none of "experientia's" pupils learn vicariously.

Well, hot or cool, August is not the time to desert one's garden, for to say nothing of the Auriculas, in pots or in the border, which put forth their most delicious leafage to implore one to stay and see them through the murderous reign of that Nero known as Green Fly, there are the Asters just coming into bloom,—(I raise them from seed in square pans under handlights, and thence prick them out into the open ground,) and yonder the white "Honorine" Anemones in the act of mounting their patient autumn guard, and everywhere the hardy Fuchsias beginning to toss their crimson tassels in the morning wind,—but why should I multiply the sweet inducements to stay at home, when one is enough for me, and that one the first I mentioned, as I passed it,—my Auriculas?

About these I want to speak a few words to the two or three whom I may possibly have persuaded into a resolve henceforth to see for themselves how town flowers can smile upon their devotees when—if I may so express myself—they are courted in the Oratio Recta:—the Oratio Obliqua has been too long in vogue in the garden. To these I should like to say that they will not love all their flowers less loyally if they love one flower best, and that in seeking to get at all the secrets of that one by the magic "Open, Sesame!" of an affection that will take no denial, they will find the doors of many floral hearts opening to them unawares. The Auricula is the flower of my supreme love, and it is so well fitted to be the darling of town gardeners that I cannot close my notes on town gardening, fragmentary though they are, without a special reference to it.

Now there are Auriculas and Auriculas. In the old garden of my childhood the name pointed to comfortable, motherly patches of what are now known as "only border kinds," and regarded with too scanty respect. They bore heavy trusses of soft brown, or purple, or sulphur-coloured flowers, which hung their heads for very bigness, and had a sweet, dim, woodland scent, due—though, to be sure, nobody thought about that—to their primulaceous pedigree. They took good care of themselves, just as the Apricots did, (and as Apricots do not, it seems, nowadays,) and were not the objects of anybody's solicitude, though my dear mother loved them cordially. As to measuring the diameter or criticising the tints of their palish centres, or making remarks upon the "sit" of their petals, or dreaming of improving upon their family arrangements in general, none of these things occurred to us in our South Midland garden, as they might well have done if we had been living in Lancashire, where Auriculas have been cultivated since the 16th century. Until I was twenty, these homely beauties were the only Auriculas I knew, but then—it fell upon a day that an Auricula Show was held at Cambridge, thirty miles distant, and my father and I went to see it. What a revelation it was to me! I saw then what Auriculas might be, and from that day to this I have been at their feet. For years, however and especially after I came to London, it seemed too wild a hope to cherish that I myself might grow those exquisitely refined green, grey, and white-edged gems, and I have to thank the Revd. F. D. Horner, champion Auricula-grower of England, that I cast my faithlessness behind me at last. He, at the top of the ladder, is always kindly willing to look down and let fall words of counsel and encouragement to aspirants with one foot on the first rung. I began, quakingly, with four Auriculas in pots, not so very long ago; I have now a little collection of about seventy named varieties (counting duplicates and triplicates of many of them), two hundred and twenty-three seedlings of my own raising, and three dozen "border" sorts in the open ground:—family duties and pleasures may well keep me at home in August!

Into so large a subject as the general culture of the Auricula I cannot, of course, enter here,—the two little books named in the foot-note below* will supply all the information needed,—but ordinary sugar-tongs will not pick up grains of sugar, and no book can be expected to condescend to the level of operations on so diminutive a scale as mine, so that I think I ought just to give a few particulars as to the "plant" of the Auricula-growing business as I carry it on. It will recal to my readers that scene in the nursery drama of "Simple Simon," in which Simon "went a fishing For to catch a whale, And all the water that he had Was in his mother's pail." In both cases the means are disproportionate to the end proposed, only I do catch whales, and Simon did not. Eight small hand-lights with sliding tops, some long, some square, one "long-legged" Auricula-frame proper, two makeshift nondescripts,—(four-legged boxes, let us call them,)—a dozen seed-pans, square and long, a goodly number of "Long Tom" flower-pots, a couple of dozen air bricks, about a dozen superannuated pantry cloths in the stage of decline known to housekeepers as "going all over," five fine-pointed, stiff-bristled paint-brushes, a steel table-fork, a bricklayer's sharp-nosed mortar-trowel, and the washing-tub before mentioned, full of "bulb compost" and crumbly loam. Such is the far from imposing machinery!—I mount my hand-lights on the air-bricks set edge-ways, and each pan of seedlings they shelter rests on the edges of two such bricks. The cloths protect the lights from the summer sun, between eleven and four o'clock, which would otherwise make short work with the delicate blooms and succulent leaves beneath them. It used to be considered an apt and artful device to clothe our riflemen in green, that they might be indistinguishable (to hostile eyes) from the grass and bushes in which it was presumably their peculiar province to lurk. We have now changed all that, perhaps because it has occurred to us that our fighting is not usually, so far, done at home, and that as many countries are less green than Great Britain, it is a still more cunning thing to match mother Earth's "neutral tints," particularly the sun-baked class. But the most deadly enemies of the Auricula have had no reason to change their tactics; they are still "wearing o' the green" in the hope of escaping his notice, and the work of the bristly paintbrushes is to probe the folded foliage, and dislodge and bring forth to judgment the odious green fly or green caterpillar tucked up in it, which untucking has to be done daily throughout the summer months. As to the little steel fork, it stealthily breaks and freshens the surface soil without tearing the juicy white fibres just underneath it, while the point of the bricklayer's trowel delicately lifts and transplants the rooted seedlings; and the washing-tub—is the larder!

Frost does not hurt Auriculas, which are essentially hardy, but rain damages the mealed flowers and foliage, and yet their most pressing requisite is air. Hence the proper frames for them are those with easily movable roofs and no floors, which no man in England knows better how to make than Mr. M. E. Horley, of Toddington, Beds.

But I must break off; not willingly, for I have much more to say, and could talk through many pages about my green-edged, grey-edged, white-edged, golden throated, velvet-habited, snow-powdered darlings. Only it would seem very small talk to those who have not yet learnt to love them for themselves. Remember, you who are strangers to the Auricula, if—as a sequel to an experiment (sure to be successful) in all-round gardening, you should elect to grow it as a crowning pleasure, that to neglect plants in pots is almost as cruel as to neglect birds in cages. If you go on to raise seedlings, do not be dejected because nursery cares keep you at home in August; there comes a time, you know, for all mothers, when the children are in bed at last, and your whole family can be put to bed in October, when an occasional peep to see that all is right will be enough, and that can (if desired) be taken by proxy, supposing the proxy to be decently intelligent. In October, too, if you leave it, your garden will not be likely to miss you so much as you will miss it, go where you will,—aye, though there is no lovelier month for the sea-side or the country.

Let me advise you to use only such tools for your London garden as you can keep in the house; a spade, fork, trowel, watering-pot, a pair of "kitchen scissors," and a whalebone broom will do to begin with, but as it is bad policy to catch cold, provide yourself further with a housemaid's kneeling-mat, and your boots with a pair of fluffy cork soles. I wear a lilac print apron of generous width and length, buttoning over at the back, and furnished with deep pockets, to protect my gown,—and as to gloves, there are none like one's friends' old kid ones, for which I am a chronic supplicant; to the last they retain the suave manners contracted in good society, and are very preferable to the stiff cracklers sold as "gardening gloves" in the shops.

I would forego the grace of Creepers garlanding the walls, even if the walks and not the borders lie—as they should lie—next them: in London many creepers often mean few flowers. But you can have no more excellent general guide than this aim—to give every plant you grow its heart's desire, a far as you can. And plants speak plainly enough to those who love them. Before long you will be able to say with Mary Russell Mitford: "*The pride of my heart and the delight of my eyes is—my garden!*"

Put on your bonnets, then, friends, and go, make a beginning! So shall I have been pleading the cause of London gardens, however feebly, not altogether in vain.—*C. A. G.**

* (I.) Hardy Florists' Flowers. By Jas. Douglas, F.R.H.S., Great Gearies.

(II.) Gardening for Amateurs. By the Revd. F. D. Horner and Mr. G. Kidson, Hull.

* In the first paragraph at p. 808 of our last issue, the reader is requested to read "posts" for "frosts" in the sixteenth line; and "corps" for "crops" in the twenty-fifth line.

CHALFONT PARK, BUCKS.

It is well known that travellers per rail see but comparatively little of the more beautiful features of our country, and especially of our parks and gardens. Travellers by road have advantages over railway travellers, so far that they not infrequently skirt fine parks, and now and again see beauties which flyers by train may not. Still tens of thousands of persons pass along our highways and remain ignorant of the beautiful places which lie just a little from the main road, hence there is much general ignorance prevailing as to the numerous pleasing features which adorn the landscape of this fair country. Thus it happens that whilst anyone passing out of Uxbridge towards Wycombe will pass within a couple of miles of Chalfont Park, they may yet remain absolutely ignorant that there lies in the finely wooded valley, which runs away to the right in the direction of Rickmansworth such a beautiful park, and altogether charming place as is that above named. That it lies in a fertile and well watered valley, doubtless adds something to its charms, whilst it very materially adds to its seclusion.

The house is of the Tudor style, looks somewhat dwarfed by the noble trees which here grow so luxuriantly, but is yet very pleasantly situated, and admirably sheltered. Just before it runs a broad stream or lake

of nice clear water, and between that and the house is a fine expanse of lawn, in the centre being a beautiful flower garden looking wondrously gay, the bedding being well done and full of life and contrast. Beyond, as behind, lie ascents covered with rich verdure, and noble trees and woods; indeed, the whole place seems redolent of peace, prosperity, and sweet contentment, although we know too well that the passion of humanity may sometimes display themselves in as evil a form amidst scenes so pure and pastoral as in the busy haunts of city life.

One singular feature away across the park is found in some dense woods of Spruce Fir, which, although originally laid to promote game cover, have grown erect now, and developed into fine specimens. Through one of these woods there runs, for a length of some 200 yds., a perfect tunnel of Fir growth, and is one of the most secluded and picturesque of walks as it is one of the most unique. So dense is the growth above that daylight is hardly visible. Everywhere the trees thrive well, and all about the park are many grand specimens. The kitchen gardens are close to the house, and partake of the general fertility of the valley. Vegetables thrive well, as also do most fruits; but the wall-trees seem to have gone beyond their best, and circumstances have so far prevented their replacement.

In the houses Mr. Herrin has some capital Grapes, his Hamburghs, Foster's Seedling, and Muscats being first-rate, although grown this year under peculiar difficulties, artificial heat having been almost entirely dispensed with. Enough is seen, however, to show that Grapes are well understood and ably handled. Melons are well grown also, and a taste of Mr. Herrin's splendid green flesh kind, La Favourite, showed it to be as finely flavoured and luscious as last year. An impending change arising from the death of the recent and very aged proprietor, Mr. Hibbert, has so clipped the efforts of the gardener that plants have received but little attention; and whilst the capital stock of Chrysanthemums still exists, they are not grown to produce show blooms. None the less, it is well known that Mr. Herrin is one of our best growers of these grand autumn flowers.

Better Potatos we have not seen this season, such kinds as Beauty of Hebron, Snowdrop, London Hero, Rufus, Rosebud, Radstock Beauty, Sutton's Abundance, and others showing fine crops and beautiful samples. A patch of Sea Kale from sets for forcing is a grand lot of stuff, Brussels Sprouts and Broccolis first-rate; so also is Celery, &c., and Runner Beans are wonderful, the rows being some 11 ft. high and profusely fruited. We regret to learn that Mr. Herrin is leaving Chalfont, where he has been for some ten years. Mr. Hibbert's death has created important changes in the establishment, and the garden suffers with the rest. So young and yet so capable a gardener should not long be without some suitable post, and we earnestly hope such post may soon be provided.

A FAMOUS ROSARIAN.

M. Jean Sisley contributes the following interesting particulars respecting one of the most successful raisers of Roses—M. Francois Lacharme—to the *American Florist*:—"The subject of this sketch was born at Saint Didier sur Chalaroune, Ain, France, Jan. 28, 1817. His father was an agriculturist who had a great taste for flowers, and a Rosa centifolia in his garden was the special admiration of the youthful Lacharme, and was the beginning of his predilection for the queen of flowers, in the improvement of which he was to play so important a part.

In 1836 he begged his father to allow him to become a gardener, and he was placed with one M. Poucet at Lyon. In 1839 he went to Paris with a recommendation to the celebrated Pirolle, the founder of the *Bon Jardinier*, the first dictionary of horticulture, and M. Pirolle placed him in a Dutch establishment in Paris, directed by M. Duval, where Roses were largely cultivated.

Fr. Lacharme often visited Mr. Hardy, the director of the gardens of the palace of the Luxembourg, at Paris, who also had a great taste for Roses, of which he possessed the largest and best collection at that time.

In 1840 M. Plantier, the Rosarian of Lyon, offered his establishment to Lacharme, being anxious to retire; this he accepted, and followed the example of his patron, and devoted his time to the growing of seedling Roses, in which he was very successful. He has obtained and sent out a large number of excellent varieties, some sixty or more among which we find Victor Verdier, Anna de Diesbach, Madame Alfred de Rougemont, Alfred Colomb, Coquette des Alps, Louis Van Houtte, Charles Lefebvre, Captain Christy, Hippolyte Jamain, Tea Madame Lambard, H. T. Jules Finger, &c.

THE VINES AT GLENHURST.

In our last we published some notes on the Hon. Col. Talbot's admirably managed garden at Glenhurst, Esher, accompanied by an illustration of the beautiful cottage which has lately been erected for the able gardener, Mr. C. J. Waite. We have now the pleasure of supplementing our former remarks with the accompanying portrait of Mr. Waite, taken in one of the Vineries at Glenhurst, and which will besides serve another purpose in affording some idea of the splendid character of the Grapes grown there, as described by us at p. 809. At the end of the house will be observed a very neat specimen of Vine culture in pots for table decoration, a pretty system not much practised now. A few years ago such plants might often have been seen, and especially do we remember the beautiful way in which Mr. Sage, of Belton, used to manage them when at Ashridge Park; and Mr. W. Cole, of Feltham, when gardener to J. S. Budgett, Esq., at Ealing Park. Mr. Sage's plan, as described in Mr. Barron's *Vines and Vine Culture*, was as follows:—When the pot Vines were started into growth, iron standards were fixed in the ground near the Vines, the standards being provided with rings at the top suitable for holding or supporting the pots in which the Vines are to be layered. The rod or cane of the Vine was taken through the bottom of the pot to the length required and then tied, the shoots being afterwards trained to a wire frame or trellis placed in the pot for that purpose. As the buds broke all those below the pot were rubbed off, and when those above had attained a length of 7 ins. or 8 ins. they were stopped in the usual way. The pots were filled with a suitable compost, and as they became filled with roots, required and received constant attention in the matter of watering. When the Grapes were ripe the cane was cut through by degrees, and the plant being found established in the small pot was available for use on the dinner-table or the sideboard. Mr. Waite's method is not quite the same, but on that subject he has promised to enlighten us at an early date.

Vinery at Glenhurst, Esher.

MIDSUMMER FLORAL STYLES.

There has seldom been a summer season when so many charming arrangements have been made. Pale colours are quite the style, "freckled effects" being the fancy of those entertaining at the sea-shore. An unique decoration for a dinner was made in a club house at Islip when a boating party entertained twenty friends. The tablecloth was a satine, white dotted with brown. Light branches of the purple-leaved Beech were laid o form a Vine that traced the extent of the table above the covers. In the centre was an oval bed of Amaryllis with speckled throats of brown and gold. There were clusters of Mignonette tied with bronze satin ribbon for the ladies' favours.

Tuberoses, notwithstanding their powerful odour, are considerably used for collations where white satin tablecloths are spread. They look very handsome. At a "breakfast" given at Newport, the centre-piece was composed of Gardenias and Asparagus Vine, which are extremely elegant on a cloth of white satin. There were candelabra at each end of the table, which were decorated with branches of Tuberoses and white satin ribbon. There were satin pocket satchels for ladies' favours, which were studded on the outside with Gardenias, and filled with spikes of Tuberoses and dainty bits of Asparagus Vines.

Another table decoration was remarkably handsome. The cover was pearl-tinted satin. A tracery of Ampelopsis Veitchii was placed irregularly through the centre. There were three round beds of purple Gloxinias and corsage bunches at the ladies' covers of purple Asters. The silver and cut glass were in beautiful contrast to the purple and green.

It is quite the fashion in presenting floral favours out of town to give some growing plant in a small design, as anything in this line that can be kept alive is so much appreciated when parties are housed in hotels at summer resorts, where there are not too many home comforts. Gilt baskets planted with Maidenhair Ferns, and china and glass baskets and boats which contain growing mosses, are much in vogue for favours. An exceedingly choice and simple arrangement for a young ladies' luncheon party was made in a private dining room at the West End Hotel, Long Branch recently. Upon a white damask cloth was a centrepiece of grasses—the common Agrostis that has such a head of quivering mist-like blooms just now. This grass was cut long and very thickly bunched, so as to make an even oval field. At each of the ladies' covers were slender little pitchers of irredescent glass, in which were growing Ivy and Tradescantia, and the handle of each pitcher was tied with a pale pink satin sash.

The most elaborate floral designs at present are seen in the evening in the watering-place hotel rotundas, where they are sent by our florists to be disposed of. A work-table of Pea blossom was raffled for $100 last week at Long Beach. It was a tripod, and each leg was made of a colour of Pea blossom—one of pink, one of white, and one of crimson. The top of the table was a nodding mass of the "Butterfly" Pea blossoms, and at one side lay a large cluster of long-stemmed Bon Silene Rosebuds tied with a lilac-tinted ribbon.—*American Florist.*

FRUITS, FLOWERS & VEGETABLES.

Rhododendron Javanicum.—Amongst greenhouse Rhododendrons this should have a foremost place. It is reputed by some to be a shy bloomer, but I am inclined to think that this is more due to the manner in which it is treated than to any fault of the plant. We have a plant in a 6 in. pot, which has now some seven trusses either open or opening, and although we have many of the new hybrids in bloom, I must say R. Javanicum is among the most lovely. Those who have not got it should obtain it, for I am sure they will be pleased with it when in bloom.—*Con.*

Potato Disease.—I saw yesterday some fine tubers of the White Elephant very much affected with this fungoid pest that has from time to time, during the last forty-one years, done more or less injury to our Potato crops, and a friend tells me that he knew of a field of fifty acres of Patterson's Victoria that were much affected, the haulm being quite black. For some three or four weeks past I have anticipated these results, Mildew having been very prevalent amongst Peas, &c., brought on by atmospherical changes, such as sudden transitions in the day and night temperatures. Should the disease be likely to spread on an extensive scale, no time should be lost in securing those early kinds that are now sufficiently matured, and that may be lifted with perfect safety.—*George Fry, Lewisham, 24th August,* 1886.

Salads for Winter.—Now is the time to be looking forward to the winter supplies of salading, a constant supply of which may be obtained by sowing and transplanting every fortnight or so. We have a great many varieties of Lettuces, but I consider the best for winter use are Bath or Brown Cos, Cooling's Leviathan Cos; and of cabbage varieties, Turkish Butter and Stanstead Park. Those that were sown in July will now be ready for transplanting on a warm border. If they are planted 8 ins. or 9 ins. apart, when large enough every other one may be taken out and planted in cold pits where they can receive plenty of light and air when the weather is favourable (be careful that they do not get too much wet), and where they will remain firm and fresh for a considerable time. Then there is the Endive, which, when well blanched, makes a capital salading. The most useful varieties of this are Batavian Broad-leaved and Green Curled, and to bleach them, I find that by placing a slate or a flat piece of wood over the plants, in a few days they begin to turn colour. Later on we have three excellent salading subjects, viz., Chicory, Dandelion, and Corn Salad, the former two if the roots are placed in one end of the Mushroom house, or any other dark warm place about every ten days, a constant supply may be obtained. The latter should be sown every three weeks from the middle of August; if sown too early they will run to seed. Radishes may be sown every nine or ten days on a warm border until the end of September, when a slight hot-bed may be raised for a later supply; the most useful varieties I find are French Breakfast and Wood's Early Frame. Keep a good supply of Mustard and Cress; this is easily done by constantly sowing in boxes, and placing them in a warm house.—*W. C., Sudbourne Hall.*

Dimorphotheca pluvialis.—This is a very pretty white-flowered hardy annual, much better known in gardens as Calendula pluvialis, but not nearly so much grown as it deserves. The flowers resemble those of a Gazania, but are much smaller, white with a dark centre. Another most useful, and, indeed, very fine and showy annual, is Calliopsis Drummondii, with its large golden-yellow flowers and serrated edges. Nearly everyone knows the rich crimson Malope grandiflora, a veritable peer among hardy annuals, and one of the brightest that can find a place in the garden. An excellent companion to this is found in Lavatera trimestris, with its charming pink flowers, in growth and size of blossom coming near to M. grandiflora. Here, then, are four hardy annuals of the highest merit. Let those interested in this class of flowers make a note of them.—*R. D.*

Carnations Indoor and Out.—If lifting plants in pots of Carnations and Picotees just as their buds are on the point of expanding from the open air on to a raised stage, that has a covering of tiffany or some such material overhead, but which is fully open at the sides; or if having grown them on a raised stage in the open air all through the summer, and then stretching over them a shading of tiffany, is growing plants indoors, then I have nothing more to say in regard to the difference of opinion between Mr. W. J. Murphy and myself. I have used the term "houses" in relation to Mr. Dodwell's plants, but they are simply raised stages in the open air, covered with canvas roofs when the plants are in flower. One would think Mr. Murphy imagined these plants were grown in ordinary greenhouses, with glass sides and ends. I am afraid I gave him credit for some knowledge of how the growers of Carnations and Picotees manage their plants to get good flowers for exhibition which he does not appear to possess. No small florist would think of growing his plants under cover; he simply places them there when they are coming into bloom, in order to preserve the purity of the flowers, but the sides are all open to the freest circulation of air. You cannot force the ordinary summer-flowering Carnations and Picotees. The bloom may be hastened by potting early in autumn, and keeping the plants in a close but unheated frame for a time to induce them to get into growth earlier than usual; but good flowers would scarcely result, unless the plants were managed with great care—the risk is always a large one. I have at the present time in bloom in the open air scarlet, crimson, and pink and purple bizarres, and flowers also of the various flaked sections, very bright and showy, but they have suffused grounds and run colours owing to their exposure to sun and storm. All this would have been corrected had I taken the trouble to stretch across the bed a few feet above the flowers a slight awing of tiffany. I like to see the highest refinement in these delicate flowers, but it can only be got by a little shading, as in the case of the delicately-coloured and edged Dahlias; but the Carnation and Picotee is just as much grown in the open air as the Dahlia. There are some exhibitors who grow their Carnations and Picotees planted out in the open ground, and they simply content themselves with shading the individual blooms. All show Pinks are grown in this way, but the possibilities of a fine variety can only be developed by a little shading. Mr. Murphy may be satisfied with the coarser development of the Carnation in the open air; the exhibitor, knowing what his pets are capable of, wards off sun and rain, and is rewarded by blooms of larger size, higher refinement, greater purity, and nicer smoothness of petal.—*Dianthus.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

The batch of tree Mignonette is now quite ready for a shift into 32's. If not already done, let each plant be neatly staked before turning out to repot, or the plants are liable to snap off, being so brittle. Let the compost consist chiefly of loam, and pot quite firm; by this means much less water will be required—in fact, this plant will not bear over-watering at any time, much less through the autumn and winter months. A good sowing in 32's should now be made, scattering the seed thinly, and thinning the plants out to about six in each pot. This batch will be found most serviceable early next spring.

The early batch of Cinerarias, too, now claim attention in the way of a shift into their flowering pots, and consequently greater amount of standing room. If through pressure the potting cannot be done now, lose no time in giving them more room, or the loss of the best foliage will follow. The latter batch can be staged in the front of the larger plants. Let the lights be drawn off at night that the plants may receive the full benefit of the dews, which will tend to keep them in vigorous health. Primulas will now be throwing up thin trusses of flower, which, however, had better be pinched out as they make their appearance. It will be advisable also to remove the plants to a more sunny situation, placing a light shading over them for a few hours at mid-day. The foliage of these will also be much stouter if they are fully exposed at night.

In the stove little more can be done than to admit of more air, so as to secure a thorough ripening of wood and the hardening of foliage as much as is consistent with safety, so that the plants may stand well through the autumn and look bright and clean. Look thoroughly well after mealy bug and thrip, particularly upon the Dracænas, or they will make sad havoc with the foliage, and render them quite useless for decoration, for which they are so admirably suited. The foliage of Palms will be benefited by a good sponging now and again. Lose no time in finishing up the propagation of soft-wooded stuff. The Pelargoniums will be best if kept in a shaded situation for a week or so after being put in; if placed at once in the full sun they are apt to lose nearly all their foliage, and consequently do not stand the winter at all satisfactorily. Give a thorough watering to settle the soil about the cuttings, which, with sprinklings through the "rose" of an evening, will carry them on until rooted. Give plenty of room between the boxes or pots, that air may freely circulate to prevent damping-off.

THE FRUIT HOUSES.

Where the lifting or re-planting of the early Peach house is necessary, this may be done at once. The trees will then have time to re-establish themselves in the new soil, and but little interference with next season's crop ensue. After the work is completed, keep the trees thoroughly well syringed three or four times a day. Continue the pruning of succession houses so soon as the fruit is gathered, and do not be afraid to use the knife, nothing is gained by leaving too much wood, it tends rather to overcrowding, and consequently badly coloured fruit, at all times objectionable. The Lady Downe's Grape should now be fast approaching ripeness; by the second week in September, to keep well, they should be perfectly finished. If, by any means, they are not quite forward enough, use a little extra heat in the pipes by day and night, at the same time

ventilate freely, or red spider may make its appearance. The Muscats should now also be finished up, and in this case less fire-heat applied, just chilling the pipes of an evening will be all that is required while the weather continues so bright and hot; ventilate freely during the day, and let the house be quite dry before closing, in fact, what damping is necessary should now be done about mid-day. We have renewed bottom heat to the batch of Melons which are swelling off, and the rapid setting of some of the earliest fruits betokens how much it is appreciated. We are now setting the fruit on our late batch, and as soon as sufficient is secured for a crop, we shall renew the bottom heat, so as to ensure a rapid swelling off; a little lime dusted round the collars of the plants at this season will help to ward off canker, and great care must be taken that watering is not overdone; syringe freely where swelling off, but not where the fruit is ripening, or they will be apt to crack.

Cucumbers for winter fruiting must now be sown, and, if possible, it will be advisable to grow them in large pots, where the bottom heat may be removed at pleasure. So far we find no variety so reliable as Telegraph for mid-winter cutting.

THE KITCHEN GARDEN.

Should the present dry weather continue, it will be advisable to shade the newly sown seeds, or they will lie a long time without germinating, which is not desirable; as soon as the rows can be traced, run the Dutch hoe between them to keep the surface loose and free from weeds. The Raspberry quarter should now be gone through, pruning away the old canes, and neatly tying the young ones to the stakes so that they may ripen, and be kept from being broken by the wind; running the Dutch hoe through afterwards will put all tidy for some time to come.

The July sowing of Parsley is now ready for singling out, and being on a warm border will make good headway before winter; spare lights will be placed over it later on, which gives us a good supply. We are busy just now with the fruit, and between times in lifting second early Potatos, which turn out remarkably clean and good. The seed we leave on the ground to become greened and hardened, which causes it to keep much better than if stored at once. Scarlet Runners show signs of suffering from the drought, and must be watered forthwith, giving a thorough soaking. Endive, too, is quite ready for pricking out—a good batch which must be done on a good rich quarter. We generally plant out on three or four different patches, and so prevent all coming into use at the same time. Where used, the black and white Spanish Radish should now be sown for winter storing.—*Walter Child, Croome Court.*

FLORICULTURE.

National Carnation and Picotee Society, Northern Division.—*Aug. 14th.*—A truly bonny show of Carnations and Picotees rewarded the efforts of the officers and committee of the Northern Division of the Carnation and Picotee Society. There was a good exhibition of fine flowers, exhibitors were numerous, the day was brilliantly fine, and so the blooms were seen to the best advantage. Old growers said they could remember a season that had produced flowers of finer quality, but no show scarcely that had preceded this had produced so good an array of flowers generally. Some new exhibitors had put in appearance, and some old ones had come again to compete, and on the whole the show was one of a decidedly satisfactory nature. As usual, the flowers were arranged on tables in the large plant house of the Manchester Horticultural and Botanical Society, and the fineness of the weather drew a large company to see them. The fixture was, no doubt, the best for the bulk of the northern growers, but some were scarcely ready, while those in more favoured localities were two or three days past their best.

In the class for twelve Carnations, all dissimilar, Mr. Robert Lord, a well-known grower and raiser, of Todmorden, was first with a very fine lot consisting of, crimson bizarres, Master Fred, John Harland, and J. D. Hextall; scarlet bizarres, Mercury, Admiral Curzon, and Edward Adams; purple-pink bizarres, William Skirving and E. S. Dodwell; purple flaked, Squire Meynell; scarlet flaked, Sportsman; rose flaked, Sybil and Rob Roy. Two things characterised the stand—the purity of the flowers combined with brilliant colours, and the finish in petal and outline. Second, Mr. B. Simonite, Rough Bank, Sheffield, with scarlet bizarres, Tom Power and Robert Lord; crimson bizarres, Master Fred and Seedling; purple-pink bizarres, Seedling and Mrs. Gorton; purple flaked, James Douglas and Mayor of Nottingham; scarlet flaked, Sportsman; red flaked, Seedlings. Third, Mr. George Geggie, Waterloo Nursery, Bury. Fourth, Mr. F. Law, Carnation Gardens, Rochdale. Then came a class for twelve Carnations, nine to be dissimilar, open only to growers of 500 pans of plants or less. Here Mr. John Whitham, Florist, Hebden Bridge, was first with scarlet bizarres, Edward Adams (2), and Admiral Curzon; crimson bizarres, Master Fred (2), J. D. Hextall, and Thomas Anstiss; purple-pink bizarres, Sir Garnet Wolseley, and E. S. Dodwell; purple flaked, James Douglass and George Melville; scarlet flaked, Henry Cannell. Second, Richard Gorton, Esq., president, Eccles, near Manchester, who had purple-pink bizarres, William Skirving (2), Sarah Payne and Harrison Weir; purple flaked, George Melville and Squire Whitbourn; purple flaked, John Ball and Robert Morris; red flaked, Sybil and three unnamed. Third, Mr. E. Shaw, Moston, near Manchester; fourth, Mr. W. Taylor, florist, Middleton, Lancashire. Eight stands competed in this class. The class for six Carnations, dissimilar, was open only to growers of 250 pairs of plants or less, and here Samuel Barlow, Esq., J.P., Stakehill House, Castleton, near Manchester (Mr. H. Pomroy, gardener) was first with scarlet bizarres, Robert Houlgrave, new, and very fine; and Admiral Curzon; purple flaked, Squire Meynell; scarlet flaked, Dan Godfrey; crimson bizarre, Sir Garnet Wolseley; red flaked, John Keet. Second, Mr. Thomas Maddock, Lofthouse Hall, Wakefield, with scarlet bizarre Seedlings and Admiral Curzon; crimson bizarre, J. D. Hextall; purple-pink bizarre, Falconbridge; scarlet flaked, Sportsman and rose flaked Sybil. Third, Mr. J. Bleackley, Prestwich, near Manchester; fourth, Mr. S. Lord, Healey Hall, Rochdale; fifth, Mr. William Bacon, Derby; sixth, Mr. W. Kitching. Eight collections competed in this class.

In the open class for twelve dissimilar Picotees there were four competitors, and here Mr. Robert Lord was again first with a lot of very fine flowers, consisting of red edges, Thomas William and John Smith; purple edges, Zerlina, Mary, Ann Lord, and Muriel; rose edges, Fanny Helen, Mrs. Payne, Favourite, Mrs. Sharp and Mrs. Aldcroft. Second, Mr. B. Simonite with red edges, Seedling, Clara, and Princess of Wales; purple edges, Clara Penson, Ann Lord, Mary, and Zerlina; rose edges, Favourite, Lady Holmesdale, Mrs. Sharp, and Seedling. Third, Mr. Geo. Geggie; fourth, Mr. T. Law. The best twelve Picotees, nine at least to be dissimilar, open only to growers of 500 pans or less, brought seven competitors, and here Mr. J. Whitham was first with red edges, John Smith, Thomas William, and J. B. Bryant; purple edges, Zerlina, Clara Penson, Ann Lord, and Mrs. A. Chancellor; rose edges, Lady Homesdale, Miss Wood, and Edith Dombrain. Second, Mr. E. Shaw with red edges, John Smith, Lord Valentia, Mrs. Dodwell, and Thomas William; purple edges, Muriel (2) and Clara Penson; rose edges, Mrs. Rudd, Miss Wood, Daisy, Miss Horner, and Elise. Third, R. Gorton, Esq.; fourth, Mr. W. Taylor. In the class for six Picotees, dissimilar, open to growers of 250 pairs or less, Mr. Thomson Hilliwell, The Hollies, Todmorden, was first with red edge, Brunette; purple edges, Clara Penson and Alice; rose edges, Mrs. Lord, Fanny Helen, and Miss Wood. Second, Mr. J. Sharp, Birmingham, with red edge, Thomas William; purple edges, Muriel and Zelina; rose edges, Mrs. Sharp, Mrs. Payne, and Seedling. Third, Mr. J. Bleackley; fourth, S. Barlow, Esq.; fifth, Mr. J. Edwards; sixth, Mr. J. Ramshill, Wakefield.

Two prizes were offered for the best twelve selfs, fancies, or both, Mr. R. Gorton being first with an excellent lot of unnamed selfs, and Mr. F. Law second, this stand having a few fancies. In both cases the flowers were unnamed.

About 250 blooms competed in the six classes for single flowers of Carnations, five prizes being awarded in each. Mr. R. Lord had the best scarlet bizarre in Admiral Curzon; he was second with Fred and fourth with Master Stanley. S. Barlow, Esq., was third with Robert Houlgrave and fifth with the same. With crimson bizarres, Mr. R. Lord was first, second, third, and fifth with Master Fred, and Mr. Geggie fourth with the same. The best purple-pink bizarre was William Skirving from Mr. Lord, and he was fifth with E. S. Dodwell; Mr. B. Simonite was second with Miss Gorton, and third with William Skirving; Mr. J. Sharp being fourth with Sarah Payne. Scarlet flaked: First, Mr. R. Lord with Clipper, and fifth with Ivanhoe; Mr. Geggie was second and third with Annihilator, and fourth with Mr. Carter. Rose flaked: First and second, Mr. S. Lord with Sybil; third and fifth, Mr. R. Lord with the same; and fourth, Mr. T. Hilliwell with the same. Pink flaked: First, Mr. B. Simonite with James Douglas; second, Mr. J. Whitham with the same; third, Mr. T. Hilliwell with Dr. Foster; fourth, Mr. R. Lord with Mayor of Nottingham; and fifth, Mr. G. Geggie with the same.

Single blooms of Picotees were also very numerous and very fine. With heavy red edges, Mr. R. Lord was first, second, and third with John Smith; Mr. Geggie fourth and fifth with Henry. Light reds: First, Mr. B. Simonite, and second, third, fourth, and fifth, Mr. R. Lord, with Thomas William. Heavy purple: First, second, and third, Mr. T. Law with Zerlina, and fifth with Mrs. Norman. Fourth, Mr. Geggie, with Muriel. Light purple: First, Mr. T. Hilliwell, with Clara Penson; second, Mr. J. Whitham, with the same; third, Mr. E. Shaw, with the same; fourth and fifth, Mr. R. Gorton, with Ann Lord. Heavy rose: First, Mr. R. Lord, with Fanny Helen; second, Mr. J. Sharp, with Mrs. Sharp; third, Mr. R. Lord, with Lady Louisa; fourth, with Mrs. Sharp; and fifth, with Edith Dombrain. Light rose: First and second, Mr. R. Lord, with Liddington Favourite; third and fourth, Mr. B. Simonite, with the same; fifth, Mr. R. Lord, with Mrs. Aldcroft.

The premier Carnation was crimson bizarre Master Fred, shown by Mr. R. Lord in his winning twelve, in class A; and the premier Picotee Liddington's Favourite, also shown by Mr. R. Lord, and was a conspicuous feature in his winning stand of twelve Picotees.

First Class Certificates of Merit were awarded to scarlet bizarre Carnation Robert Houlgrave, a very bright and full flower, shown by Samuel Barlow, Esq., J.P., and to Picotee Mrs. Sharp (Sharp), heavy rose edge, a beautiful new variety with very fine petal and rich scarlet edge, shown by Mr. Robert Lord.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*Aug. 24th.*—The special feature of this meeting was undoubtedly the display of vegetables made by cottagers and artizans in competition for the numerous prizes offered by the society, and by the agricultural and horticultural associations, than which, perhaps, few have had the good fortune even to see finer examples. Following our usual custom of inspecting the plants and cut flowers first, we noted a magnificent display of Gladioli made by Messrs. Kelway & Son, of Langport, which comprised some 250 spikes of the very best quality, including a few novelties; and the same firm also contributed very attractive collections of Pyrethrums, herbaceous Phloxes, Gaillardias, Delphiniums, Antirrhinums, &c. Perhaps the next largest exhibitor was Mr. T. S. Ware, who poured forth the treasures of his Tottenham Nursery with no niggardly hand. He provided a grand feast of early autumn flowers in masses of Lilies, single and Pompon Dahlias, herbaceous Phloxes, and a host of miscellanous subjects that would exhaust a respectable catalogue to enumerate. Messrs. Paul & Son, The Old Nurseries, Cheshunt, added much to the interest of the meeting by sending an extensive assortment of cut shoots of pictorial trees and shrubs, and a considerable variety of hardy plants. The New Plant & Bulb Co., Colchester, staged a very effective and powerfully odoriferous group of cut blooms of Lilium auratum; and Messrs. James Veitch & Sons staged a capital little collection of Gladiolus, hybrids from Lemoinei. Messrs. W. Paul & Son, Waltham Cross, sent a dozen boxes of fine cut Roses; and Mr. Turner showed us what we may expect from Slough next week, in the form of some very fine show Dahlias. Messrs. Webb & Brand, Saffron Walden, brought up another contingent of Hollyhocks, massive, brightly coloured blooms, such as we used to see in plenty before the fungus decimated our collections. Messrs. James Carter & Co. showed how well German and French Asters can be exhibited in pots (instead of in collars), by contributing a large collection of the finest quality. Immense blooms of Dean's Mammoth African Marigolds came from Mr. R. Dean, Ealing; and Mr. King, gardener to P. Crowley, Esq., Waddon House, Croydon, may be said to have opened the Chrysanthemum season by exhibiting some very large and fine blooms of that superb early white variety, Madame Desgrange.

The new plants certificated consisted of Gladiolus Voltaire from Messrs. Veitch & Sons, one of the pretty Lemoinei hybrids with rosy purple flowers, blotched

with cream and maroon. The following five varieties from Messrs. Kelway & Son :—Empress of India, lilac, flaked with rose and white, and the throat pencilled with crimson ; Prince Edward of Sax Weimar, rich orange-scarlet, feathered with crimson ; Lord Ashbourne, orange-scarlet, flaked and feathered with crimson, very fine, the most circular flower we have seen in Gladioli ; Lady Salisbury, flesh coloured, with lemon-yellow lower petals, feathered with dark rose ; and Lady Maefarren, a pure white of great size, slightly feathered with puce. Single Dahlia, Amos Perry, rich maroon, very striking ; and Miss Limaker, crimson, suffused with violet, and having an orange band round the disk, very distinct ; and Dahlia Yellow Constance, a decorative variety of the so called Cactus type, very bright yellow in colour ; all from Mr. T. S. Ware. Pompon Dahlia Eccentric, a very pretty variety, with crimson, scarlet and white in various blends or combinations, no two blooms being alike, from Mr. Turner. Single Dahlia, Mr. Rose, a very showy crimson maroon, striped with white and pale lilac, from Messrs. H. Cannell & Sons.

Cut blooms of very fine single and double tuberous Begonias, &c., came from Messrs. Cannell & Sons also ; and the New Plant & Bulb Co., showed a brightly coloured variety of Cattleya superba, collected in Colombia, and therefore amenable to cooler treatment than the ordinary form ; and small plants of Impatiens Jerdoniæ and bicolor. Mr. C. Kershaw, Slead Syke Nurseries, Brighouse, sent several examples of Adiantum cuneatum elegans, a dwarf-growing form with deeper cut pinnules than the ordinary Maidenhair.

The prizes offered by the society for vegetables brought out a far greater wealth of high-class produce than those offered by The Agricultural and Horticultural Association, and we regret that we cannot find space for such a full notice of the various classes as their merits thoroughly deserve. In a strong competition with large and cleanly-grown Potatos, Mr. G. Kirtland, Bletchington, Oxon, took a first prize for a single dish with Sutton's Fillbasket, a rough skinned white Kidney ; and Mr. H. Gibbs, Church Green, Sevenoaks, was first for three dishes, with fine samples of Essex Challenge, Vicar of Laleham, and Woodstock Kidney. The last named was also first in a fine competition with two dishes of Peas, showing Telephone and Stratagem ; and Stratagem was again first in the single dish class, the successful exhibitor being Mr. G. W. Kentish, Bedmond, near Kempstead. Onions, first, Mr. G. Hacker, Coleshill, with White Spanish; Cabbages, first, Mr. J. Bunting, Enfield ; Lettuces, first, Mr. W. Dredge, Shenley ; Scarlet Runners, first, Mr. G. Kirtland, beating thirty-four others ; Broad Beans, first, Mr. T. Venn, Friars' Cottages, East Acton ; Turnips, first, Mr. H. Bunce, ; Carrots, first, Mr. G. North, Mitre Street, Buckingham, among thirty-six competitors ; Cauliflowers, Celery, &c., were all unusually fine, and attracted a large measure of attention from the visitors.

The first "National Co-operative Flower Show," initiated by The Agricultural and Horticultural Association though undoubtedly very creditable, suffered somewhat by comparison with the society's exhibition, owing doubtless to the restricted character of the latter competitions. Here, however, were also to be seen an exceedingly fine show of Potatos in classes for rounds and kidneys, the first prizes in which fell to Mr. John Sturch, West Haddon, Rugby, and Mr. James Adams, of the same place. Another resident in the same village, Mr. Geo. Bull, also secured the highest award for Peas, indeed, the best Carrots, Turnips, six bunches of annuals, and six Asters, all came from the same district. In the gardeners' classes, Mr. Oliver Goldsmith, Polesden Lacy, Dorking, was first for Melons, Cucumbers, Vegetable Marrows, Potatos, and a collection of annuals; and Mr. J. Dean, Titsey Gardens, Limpsfield, was also a successful competitor, securing the leading awards for a collection of vegetables, Cauliflowers, Beet, &c., besides several second prizes.

Burton-on-Trent Floral and Horticultural.—*August 25th.*—The second show of this society, held this year, took place on Wednesday last, on the Hay, under most favourable conditions, the weather being splendid and the attendance very large. The entries were very numerous and the competition very strong, and it being late before the judges commenced their work, the public were admitted before it was finished, rendering this more important work very difficult. There was a weakness in the plant department, but the cut flowers, fruit and vegetables were very good ; some fine specimens in the various classes being exhibited. The cottagers came out in full force, and their various exhibits were of first class quality, reflecting great credit upon the growers. For a collection of plants arranged for effect, 40 yards super, Mr. W. Bennett, gardener to Lord Burton of Rangemore, was first ; and Mr. E. Warren, gardener to R. Thornehill, Esq., the Abbey, second. For six stove plants, Mr. Prince, gardener to Miss Gretton, Bladen House, was first, his plants being clean, fresh and well coloured, consisting of Kentia Fosteriana, Crotons Queen Victoria, Majesticus, Weismanni, Adiantum Farleyense and a Maranta ; second, Mr. Meakin. For six greenhouse plants, the same exhibitors stood in the same order ; as also for Ferns, Mr. Prince's plants being very good, the dozen consisting of Alsophylla Australis, Davallia Mooreana, Gymnogramma chrysophylla, Adiantums cuneatum, Farleyense and gracillimum, Davallia bullata, Lomaria Gibba, Leueostegia immersa, and Polypodium appendiculatum ; this very fine Fern is seldom seen as exhibited here, but it is a first-class Fern for exhibition when seen in fine condition. Achimenes, Gloxinias, Pelargoniums, Begonias, Petunias, &c., were poor. The six good table plants from Mr. J. Brunt were easily first.

Cut Flowers.—Bouquets were good : first, Messrs. Pearson, Chilwell ; second, Messrs. Perkins & Son, Coventry ; third, Mr. Clark, of Wooton Hall. For twenty-four Roses, Mr. J. Howe, of Nottingham, was easily first, and the same exhibitor had all his own way with twelve also. Dahlias were first class, the finest bloom we have seen this season. The first prizes for twelve and six both went to Mr. Carrington, of Derby. For twelve Pansies : first, Messrs. J. & H. Hickley, of Loughborough. Hollyhocks, Carnations, Verbenas, Stocks, Asters, Marigolds, and Gladiolus were shown in quantity, good flowers being set up ; the African Marigolds were very fine (seldom seen so good), these came from Messrs. Hickley, of Loughborough.

In Fruit the entries were numerous, the competition strong, and the quality quite up to the usual standard. For a collection of twelve varieties, Mr. Bennett, of Rangemore, was an easy first, his dishes consisting of good Alicante, Foster's Seedling, and Gros Maroc Grapes ; a good Melon, Hero of Lockinge, and a Seedling ; Royal George and Violette Hâtive Peaches, Apricots, Plums, Cherries, Figs, and Nectarines, a nice lot well put up ; second, Mr. C. Maynard, Cole Orton Hall ; third, Mr. Smith, Alvaston Hall, these last two were very close to each other, the former just securing the verdict in his favour. Black Hamburghs were good : first, Mr. Smith ; second, Mr. Bentley ; third, Mr. Brunt. Black Grapes, any other sort, first, Mr. Prince ; second, Mr. Bennett ; third, Mr. Maynard. Superb Muscats of Alexandria from Rangemore, secured for Mr. Bennett the premier award in this class ; second, Mr. Smith ; third, Mr. Prince. For any other white, Mr. Prince was first with good Buckland Sweetwater ; only one Pine was shown, that by Mr. Prince, who was worthily awarded the prize. Good Peaches from Mr. Bennett were first, while Mr. Shepherd was in the same position for Nectarines and Apricots. Plums, Cherries, Pears, Apples, Gooseberries, and Currants all were well shown, and good fruits being exhibited. Vegetables were good all round. For a collection of twelve varieties, Messrs. Hickley, of Loughborough, just secured the verdict from Mr. E. Shephard, Mr. Bennett being third. These were first-rate and the entries numerous, Potatos made a fine show, good specimens being plentiful. The prize offered for the best dish in the whole show was secured by Mr. Bennett with a grand sample of International Kidney. Beans, Peas, Cabbage, Cauliflower, Celery, Onions, Beet, &c., were first-class, and the competition very strong. A word of praise is due to the amateurs and cottagers for the admirable manner in which they showed in the various classes, some fine products, reflecting great credit upon the various exhibitors who put up, both in flowers, fruits, and vegetables, showing that great interest is taken, especially by the cottagers, in the cultivation of the subjects mentioned.

Trowbridge Horticultural. — The thirty-seventh exhibition of this society took place on Wednesday, August 18th, under the most favourable auspices. The weather, which had for a week or two been very stormy, gave signs of being more settled on the day in question, in the end proving all that could be desired ; and in the words of one of the committee when speaking on the question of the weather, remarked, "That we Trowbridge people are lucky fellows," with which remark I think most of them agreed, when it is considered that this society has successfuly combated the vicissitudes of the past few years, and is now in the flourishing condition of having over £200 in the bank. The energetic, courteous, and experienced secretary, Mr. James Huntley, and the indefatigable working committee are to be congratulated on the splendid success of this exhibition, which was pronounced by those who had seen the exhibits for many successive years to be one of the best, if not the very best, the society has ever held.

As is now generally known, Trowbridge is celebrated for its Fuchsias, and I think it would be difficult to find a more beautiful lot than was put up by Mr. J. Matthews, gardener to W. R. Brown, Esq., Trowbridge, who staged in the principal class for six distinct varieties magnificent specimens of pyramids from 10 ft. high, and bloomed profusely from base to summit. The varieties were Marchioness of Bath, Doel's Favourite, Hon. Mrs. Hay, Seedling, Beauty of Trowbridge, and Charming. They were a beautiful lot, and deservedly awarded first prize. Mr. H. Pocock, gardener to J. P. Haden, Esq., Trowbridge, was awarded second with smaller, but fresh and bright plants. In the class for four plants Mr. Matthews was again first, showing Rose of Castile, Hon. Mrs. Ley, Arabella, and Doel's Favourite ; Mr. G. Tucker, gardener to Major Clark, Trowbridge, was second ; and Mr. H. Pocock third. For six stove and greenhouse plants, Mr. Tucker was first, showing a grand Rondeletia speciosa major, Stephanotis floribunda, and Ixora Fraseri ; Mr. H. Pocock being second with a good Ixora coccinea, Dipladenia Brearleyana, and Ixora amabilis ; and Mr. Matthews third ; for three plants, first, Mr. Matthews ; second, Mr. G. Pymm, gardener to Mrs. Gouldsmith, Trowbridge ; and third, Mr. Pocock. In the open class for nine stove and greenhouse plants, distinct, Mr. F. J. Mould, nurseryman, Pewsey, Wilts, was a good first, having Allamanda Hendersoui and A. nobilis ; Dipladenia amabilis and D. Brearleyana ; and Erica Austriana, E. Aitoniana turgida and E. Marnockiana. Mr. Matthews was a good second, showing grand Bougainvillea glabra, Allamanda nobilis, &c. ; and Mr. Tucker was a good third. In the class for fifteen Ferns or Mosses there were several lots staged, all of which were fresh and good. Mr. G. Tucker was first, having good Asplenium nidus avis, Dicksonia antarctica, Davallia Mooreana and Gymnogramma cristata ; Mr. J. Cook, gardener to A. P. Stancomb, Esq., was a good second ; and Mr. H. Pocock, and Mr. H. Clarke, gardener to C. E. Colston, Esq., Devizes, were equal thirds. For a specimen plant, Mr. Pymm was first, and Mr. F. Perry second ; and for a collection of plants, nine varieties, in or out of flower, Mr. F. J. Mould was awarded the first place, having good Croton Andreanus, C. Johnsoni, C. majesticus, C. Queen Victoria and Cycas revoluta ; second, W. C. Drummond, Esq. ; and third, C. E. Colston, Esq. For six Caladiums, Mr. W. R. Brown (gardener, Mr. Matthews) was first ; second, Mr. H. Pocock ; and for a like number of Coleus, Mr. Matthews was again first, Mr. Pymm second, and equal thirds Mr. Pocock and Mr. Hiscox, gardener to B. Redway, Esq., Trowbridge. For six Heaths, Mr. J. Matthews was again first, and Mr. F. J. Mould second. For six Achimenes, in six distinct varieties, Mr. Matthews and Mr. Pocock were first and second respectively ; and in the corresponding class for Gloxinias, Mr. C. Rickman, gardener to G. L. Palmer, Esq., Trowbridge, was first, Mr. E. B. Rodway, second, and Mr. A. A. Walters, third.

In nearly the whole of the cut flower classes the competition was close and the entries numerous ; but, if anything, the Roses were the weakest in the amateur classes. Taking them as arranged in the schedule for twenty-four blooms of German Asters, no less than twelve varieties, Mr. G. Walters, Bath, and Mrs. Jones, Bath, were placed equal first ; and for a like number of French kinds, Mr. J. Morgan, gardener to Major Scott, Reigate, was first, Mrs. Jones second, and Mr. J. T. Haden third. For twelve treble Roses, Mr. G. Campbell, gardener to S. T. Budd, Esq., Bath, was a good first, his Teas being very good ; and Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., Salisbury, was second ; and in the class for twelve distinct varieties, Mr. W. Narroway, Oxford, was first, Mr. Campbell, second, and T. Hobbs, Bristol, third. For twelve bunches of Verbenas, Mr. S. Bishop, gardener to W. S. Head, Esq , Newport, was first, Mr. J. G. Foley second. For twenty-four varieties of cut flowers, Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, was deservedly placed first, having among his best flowers Saccolabium Blumei, a good Anthurium Andreanum, Oncidium flexuosa, and Dipladenias ; Mr. F. Perry was a good second, and Mr. Head third. In the open class for twenty-four German Asters, Mr. A. A. Walters and J. S. Pope, Bath, took first and second respectively ; and for a like number of French Asters, Mr. T. S. Pope was first, and Mr. T. Salter, Lark Hall, Bath, second. In the open class for twelve trebles, Roses brought several creditable lots, in which Mr. J. Matlock, Oxford, was a good first, Mr. Campbell second, and Messrs. Geo. Cooling & Son, nurserymen, Bath, third ; and for twenty-four distinct varieties, Mr. Mattock was again first, Messrs. Cooling second, and H. Gebbs, Esq., Salisbury (gardener, Mr. Clements) third. For twenty-four Dahlias, Messrs. Keynes, Williams & Co., Nurserymen, Salisbury, was a good first, with magnificent flowers, Mr. T. Hobbs was second ; and for twelve varieties, not open to exhibitors in the preceding class, Messrs. G. Humphries, Chippenham, and G. H. Bush, Bath, took the prizes as their names appear ; for twelve fancy varieties, Messrs. Keynes, Williams & Co. were again to the fore, showing Gaiety, Hercules, John Forbes, Pelican, Rebecca, Rev. J. B. M. Camm, and a sport from Gaiety, very pretty, Mrs. Sanders, Salamanda, Henry Heckford and Miss Large, in excellent style ; second, Mr. G. Humphries ; and for twelve single Dahlias, Messrs. A. A. Waters and G. S. Pope took the prizes in the order of their names ; for twelve Pompon varieties, Messrs. Keynes & Co. were again first with a very pretty lot, among which were Dora, Darkness, Catherine, The Khedive, Lady Blanche, Royalty, E. F. Janner, Favourite, White Aster, Gem, Golden Gem, and a very good seedling. Hollyhocks, eighteen varieties, first, Mr. W. Smith, Bristol ; second, Mr. A. A. Walters ; and for twelve Gladiolus, Messrs. Walters, Mattock and Narroway took the prizes in the order of their names. For twelve Carnations, Mr. F. Hooper first, and Mr. H. J. Gibbs second ; and for a like number of Picotees this order of things was reversed, Mr. H. J. Gibbs being first with a fresh lot, and Mr. Hooper second, and for a Bouquet for the hand, Mr. M. Hookins, Clifton, and Mr. Garroway were first and second respectively ; and for a

Memorial Wreath, Messrs. Durbins, Bath, and G. Garroway took the prizes in the order given.

FRUIT.—In the class for ten varieties of fruit there were two competitors, and Mr. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton, was placed first, having Black Hamburgh and Foster's Seedling Grapes, good Figs, Melon, Peaches, Nectarines, Apricots, Plums, &c. ; Mr. H. Trosser, gardener to W. H. Laverton, Esq., Westbury, second. There was but one Pine Apple staged, and the first prize was awarded to Mr. W. Iggulden, for a nice fruit of smooth Cayenne. For two bunches of Black Grapes, Mr. C. Warden was first, with Black Hamburgh ; Messrs. D. Every & Sons, Bath, second, with Alicante ; and Mr. W. Knee, Bradford, third, having Hamburghs. In the class for white varieties, not Muscats, Mr. B. Thomas, Clifton, was first, with Buckland Sweetwater ; Mr. Iggulden and Mr. Cochrane followed, with Foster's Seedling ; and for Black Muscats, Messrs. Clark, Warden, and W. Cooper took the prizes in the order of their names ; and for Muscats, Mr. Iggulden had a good lead with two handsome and well coloured bunches ; followed by Mr. W. Cooper and Mr. F. Smith, the Palace Gardens, Salisbury. There were a number of single dish classes for a green-fleshed Melon, C. E. Colston, Esq., was first ; and for any other variety W. H. Laverton, Esq., was first. For a single dish of Peaches, Mr. T. King, Devizes Castle Gardens, was first with Dr. Hogg, well ripened and coloured ; and for a similar dish of Neetarines Mr. Iggulden was first, and Mr. King second. For a single dish of Cherries, Mr. Iggulden was first with good fruit of Black Tartarian, and in most of the other dishes Morellos were shown. Among the dishes of dessert Apples, Beauty of Bath was conspicuous, and was among all the prize-winning lots; and Lord Suffield was among almost all the lots of dishes, including the prize winners, which were for dessert kinds, Messrs. Garroway, Woodman, and Every ; and for culinary, Messrs. Miller, Smith, and Hale.

VEGETABLES were extensively shown and in good condition.—For a collection of nine varieties, Mr. Miller was first, staging Green Globe Artichokes, a grand dish, Turnips, Carrots, Onions, good Tomatos, two kinds of Beans, Marrow, &c. ; Mr. G. Garroway was a good second. There were a considerable number of single dishes, in all of which the competition was close and good, and the display made by the cottagers was very meritorious, and was thought by some to excel in quality that put up by the gentlemen's gardeners.

Cheadle Floral and Horticultural.—*Aug. 20th and 21st.*—The nineteenth annual exhibition of this society took place, on the above dates, on a plot of ground in the immediate vicinity of the village, kindly placed, as in former years, at the disposal of the committee by Dr. Godson. The show this year was a great advance on previous displays. The exhibits were more numerous than on any former occasion, and the quality of the plants, fruits, and flowers were in every respect all that could be desired. More tent space was required this year than ever before, and some idea of the magnitude of the show may be gathered from the fact, that the following tents were all filled with exhibits. One specially set apart for the accommodation of those setting up groups of plants, was 181 ft. by 36 ft.; here a large number of collections were displayed, many of them exhibiting some distinct types of arrangement, the winning group in the nurserymen's class being a capital lot, and the same may be said of the two leading groups staged by the amateurs. The fruit tent measured 96 ft. by 36 ft., and was filled with exhibits, a centre stage running all the length, with low side tables all round for the display of vegetables in many classes. The tent for nurserymen's collections, not for competition, was 65 ft. by 30 ft., whilst the most attractive display of stove and greenhouse plants, Ferns, Palms, Orchids, ornamental plants, &c., required a tent reaching 200 ft. in length by 50 ft. in breadth. A large area under canvass was occupied by the Cheshire Beekeeper's Association.

The schedule contained ninety classes, and the committee offered increased values in the money prizes, the result being that more entries were received, and exhibits staged, and of higher quality than on any previous occasion. The stove and greenhouse flowering plants from Mr. J. Cypher, Cheltenham ; J. Wates, Esq., Cheadle ; S. Baerlin, Esq., Didsbury ; and J. Leigh, Esq., were of a highly meritorious character. The Ixoras alone being worth a journey to see, nearly two dozen plants altogether being found in the various groups. These comprised such leading sorts as Colei, Duffii, a grand plant with heads 15 in. across, and flowers of a vivid crimson and purple ; Dixiana, large trusses of a deep orange ; Pilgrimii, Prince of Orange, Williamsii, &c., these plants ranged from 3 ft. by 3 ft. to 6 ft. by 4 ft., and were all remarkable for their floriferousness and size of trusses ; on several of the larger specimens 250 heads were to be seen. One could scarcely refrain from calling up the form and recollection of one who has visited almost, perhaps, every show on this ground, but now passed away, Mr. Cole. There can be no doubt that some of the plants shown passed through the hands of this skilful grower, and for much of his ideas and practice that have passed into the treatment of others we may assuredly be thankful. The fruit classes were well filled, and the various objects shown were of high order throughout. Vegetables are always done well, and shown in good style here, and on this occasion more stands and dishes were put up than at any previous show. Capital stands of cut flowers, bouquets, and vases for dinner-table decoration, made a bright and pleasant relief to much that was of a more substantial character. The weather on the opening day was of a most agreeable description, and many visitors passed in and inspected the exhibits. It is to be hoped it was fine on the Saturday, and then we can be sure the show would have been visited by some thousands. The show altogether was a grand success, and we are glad for the sake of Mr. Stone and his committee that it was so, for there are few gentlemen who devote so much time, energy, and enthusiasm to the furtherance of the objects of horticulture than the hon. sec., who out of pure love of gardening and horticulture has laid it upon himself for the last twenty years to do all he can to improve the taste and culture of all who engage in this occupation, whether the cottager or more wealthy patron.

Ninety classes, some with even seven and twelve exhibitors, almost all with three or four, is no light task to describe, so that all might be mentioned ; and as I know your space will not permit of such extended notice, I must content myself with the description of only a few. All, however, were deserving of a notice. In the open class for fifteen stove and greenhouse plants, flowering and ornamental, Mr. J. Cypher, Cheltenham, and J. Watts, Esq. (Mr. R. Mackellar, gardener), Abney Hall, Cheadle, and J. Leigh, Esq. (Mr. J. Kirk, gardener), staged fine groups ; the two former were so uniformly good, that some difficulty was felt by the judges in coming to a decision : ultimately the prizes were awarded in the order in which the names appear. Ixoras, as before mentioned, Allamandas, Dipladenias, and grand foliage plants comprised these lots, occupying no less than 40 yds. along the centre of one side of the large tent. For six stove and greenhouse plants in bloom, J. Leigh, Esq., was first, and J. Watts, Esq., second ; and the first prize for ten stove and greenhouse plants, flowering and ornamental (amateurs), was again taken by Mr. Leigh, the second going to S. Baerlein, Esq. (Mr. G. Williams, gardener), Didsbury, and the third to J. Watts, Esq. In the former collection, good Ixora Fraseri and Dixiana, Dipladenia amabilis, Croton angustifolius and Prince of Wales were conspicuous ; whilst in the second prize lot, splendid Ixoras Prince of Orange and Williamsii, Dipladenia Brearleyana, Dion edule and Anthurium Ferrierense were the most distinct. Mr. Baerlein was first with six exotic Ferns, also with six fine foliage plants. With four Caladiums, D. Adamson, Esq. (Mr. J. Brierley, gardener), Didsbury, was first, the second being taken by H. Schell, Esq. (Mr. J. Coulson, gardener), who was first for four bronze or tricolor-leaved Pelargoniums, also with four Fuchsias. With four hardy Ferns, Mrs. Deakin, Heaton Mersey, was first ; and G. W. Mould, Esq. (Mr. A. Macdonald, gardener), Cheadle, second. Begonias were numerous and full of flower, J. Watts, Esq., being first, and H. Schell, Esq., second. With three pans of Lycopods Mr. W. J. Parkyn, Dukinfield, first, and G. W. Mould, Esq., second. S. Baerlein, Esq., showed four Dracænas, and was first, having D. Lindenii, D. Robinsoniana and D. Leopoldii as his best ; Mrs. Sykes, second with D. Cooperii, D. amabilis, D. Regina, and D. Mooreana. Four Adiantums : Mr. W. Hayes, jun., first ; Mr. W. J. Parkyn, second. Four pots of Lilium speciosum : first, Mrs. Sykes. Four pots of Celosia pyramidalis : first, Lieut.-Col. Turner ; second, Mrs. Sykes. Three single Petunias : first, W. Hudson, Esq., Cheadle Hulme ; second, J. Watts, Esq. Gloxinias, Balsams, Cockscombs, &c., were well represented. Groups of plants in pots, not exceeding 10 ins. inside measurement, arranged in a circle 10 ft. in diameter : first, Mr. J. Hooley, Nurseryman ; second, Messrs. W. G. Caldwell & Son, Knutsford. In the amateurs' class, Mrs. Sykes was the successful competitor, S. Baerlein, Esq., coming in second. Cut Roses were shown by Mr. W. Millington, Dukinfield ; and Dahlias by Mr. J. Warburton. S. Baerlein, Esq., was first with Bouquets ; Mrs. Deaken first with a collection of wild flowers in a vase. Basket of cut flowers arranged for effect, diameter of basket not to exceed 15 ins. : S. Lord, Esq. (Mr. G. Wilkes, gardener), Cheadle, was first with a capital display ; and D. Adamson, Esq., second. Basket of mixed Roses : S. Lord was again to the front, T. H. Sykes, Esq., coming second.

Collection of six dishes of fruit : J. Watts, Esq., was first, also for two bunches of white Grapes. Two bunches of Black Hamburgh Grapes, T. Rayner, Esq., Rockferry, first ; W. Clegg, Esq., second. For two bunches of black Grapes, not Hamburghs, the first and second prizes also fell to the same exhibitors. D. Adamson, Esq., was first with the largest bunch of Grapes. Pines, Melons, Peaches, Nectarines, Currants, Raspberries, &c., were very numerous, and good Tomatos. In the class for a collection of vegetables, ten distinct varieties, twelve stands were put up, and the first prize fell to S. Lord, Esq. ; second to T. Boffey, Esq., Sanbach. Prizes were given to the best single Pelargonium, Fuchsia, Petunia, Begonia, Orchid, Eucharis amazonica, Liliums, Bouvardias, &c. A nice basket of Tomatos was shown by Mr. J. Mason, Oakfield Nursery, Ashton-on-Mersey, and awarded a Cultural Certificate. Groups of plants were shown by Mr. J. Hooley, Edgeley ; Messrs. W. G. Caldwell & Sons, Mr. C. Gleave, Heaton Norris ; Mr. J. Barkett, and Mr. W. J. Williams ; and good stands of cut flowers were contributed by Messrs. F. & A. Dickson & Sons, Chester ; Messrs. Dickson, Brown, & Tait, and Messrs. Dickson & Robinson, Manchester : Mr. J. Robson, Bowden ; Mr. W. Cordingly, Stockport ; and Messrs. W. & J. Mellor, Withington.

Basingstoke Horticultural.—*August 19th.*—The tenth exhibition of this society was held in Golding's Park (kindly lent by S. Field, Esq.), which is situated close to the town ; and the display was one of the best the society has had. Amongst the things best grown and shown in the district, I may name Eucharis amazonica, which I have never seen equalled, large pots, from 12 ins. upward in diameter, bearing large leaves, and the flowers so thickly placed as to present perfect sheets of white blossoms ; Anthurium Scherzerianum was also well done. The groups of plants, arranged for effect, deserve especial mention, and so free and graceful in style was the first prize group that it would not have been put in the shade by many a one seen at a London show. Mr. Weaver, Oakley Hall, was the exhibitor. Grapes were also well shown, the Black Hamburghs, from Hackwood Park, and Oakley Hall ; the Black Prince, from The Wyne, and the Bucklands, from Malshanger, being specially good. The competition with cut flowers was very strong, and I must specially mention the Dahlias from Hackwood. Cut blooms of hardy herbaceous plants were abundant and good ; and in the amateur's divisions, the Asters especially call for praise.

The vegetables exhibited were mostly of a high order of merit, and it was a close race for most of the prizes, so good were the competing lots. Potatos were very good ; Celery specially fine for such an early date, both from cottagers and gardeners ; Carrots remarkably fine all round. The Basingstoke people are evidently believers in the useful as well as the ornamental in gardening. Many of the cottagers I noted are growing some of the newer sorts of Potatos, and Reading Russett, Vicar of Laleham, White Elephant and Beauty of Hebron appear to be favourites among them. The Messrs. Sutton & Sons, who contribute something to most of the exhibitions in the south-west, made a very attractive display of cut flowers, among which I noted specially, Lilium Harrisii, which I think is an advance on L. longiflorum ; the annual Chrysanthemums ; Sunflowers ; white Chrysanthemum-flowered Asters, a very fine strain ; Phlox Drummondi ; Balsams, very good ; Gaillardias ; Dianthuses of sorts, Stocks, &c.—*Con.*

Bridgend (Glamorgan) Horticultural.—This society held its annual show on the 18th inst., in a meadow placed at the disposal of the committee by Mrs. Stiles. The weather was fairly propitious, but the naval attractions at Milford and elsewhere caused the town and neighbourhood to be somewhat thinned, consequently there was rather a falling-off in the attendance, a great disappointment to the executive of what appears to be a well-managed society. The entries were over 200 more than those of the previous year, and the exhibits staged were far superior to those seen in former years. Three large tents were devoted to the exhibitors—viz., one for the plant classes, one for fruit and vegetables, and the other for cottagers. The latter contained some remarkably fine samples of cottagers' produce—in fact, some of their exhibits were equal to those staged by professional men. Turning to the leading classes, the first prize for ten stove and greenhouse plants was awarded to Mr. G. Hawkins, gardener to Col. Turberville, Ewenny Priory, Bridgend, who staged a magnificent Bougainvillea glabra, a grand plant of Begonia Vesuvius, well-flowered Allamanda Hendersoni and Impatiens Sultani, a well-coloured Croton Queen Victoria, and a well-grown Anthurium and Cycas ; Mr. W. Richardson, gardener to T. Lewis, Esq., Cefnglas, Bridgend, was second, his best plants being of Allamanda Hendersoni, and Bougainvillea glabra. In Class 2, for eight plants in 10-in. pots, Mr. Hawkins was first, as also in Class 3, for eight foliage and blooming plants, his best being Davallia Mooreana, Bougainvillea glabra, and a good Croton variegatus ; Mr. Richardson was again second, his best plant being Allamanda Schottii. Class 4, for eight fine foliage plants, Mr. Richardson was first with good Croton interruptus and some very fine Palms. Exotic Ferns were well shown by Mr. South, gardener to W. Davies Esq., Bridgend, who took the leading honours ; Mr. Hawkins being second.

Fruit was largely and well shown, the first prize for a collection going to Mr. Hawkins, who staged some capital dishes, his Madresfield Court and Muscat of Alexandria Grapes being most conspicuous ; Mr. Richardson, was second. For two bunches of black Grapes, Mr. E. Silk, gardener to T. Franklin, Esq., St. Tillary, Cowbridge, was first, his Gros Maroc being extremely fine in both berry and bunch, but requiring a little more time to bring them to perfection. For two bunches of white Grapes, Mr. Hawkins was first with Muscat of Alexandria ; Mr. Silk being a very close second with two really fine bunches of Golden Queen, but not coloured sufficiently. Other fruit was also largely and well shown, as also were vegetables, the competition for prizes offered by various seedsmen being

large, and in some cases very keen. Cut flowers were also largely shown, but those from outdoors bore the effects of the late heavy rains. Altogether the show was a great success as regards exhibits, and the committee may confidently look forward to Bridgend becoming one of the leading horticultural societies in South Wales.—*(Communicated.)*

St. Andrew's (Eccles) Annual Flower Show.—The annual gala in connection with this young, enterprising, and vigorous church took place in the Monton Schools, and in a field adjoining, lent by Mr. Speakman, on Saturday last, the 14th inst. It is proverbial that St. Andrew's people always have fine weather for their gala days. Last week, however, many and ominous were the signs that the long lane would take a turn, and that bad weather would make a break in the record of the brilliant days associated with this annual event. Up to the last moment this seemed inevitable, but the great storm which passed over this neighbourhood on Friday evening seems to have changed the atmospheric influences, and on Saturday summer sun was glowing over land and sea; and to this summer sun is attributed the decided success which attended this festival.

In the flower show divison several gentlemen belonging to the congregation sent plants for exhibition, but not for competition. Mr. R. Spary, of Ellesmere Road, sent a number of Fuchsias. These were a very good well-grown collection, six being identical plants with those supplied to the children by the committee, and responding to greenhouse culture, were remarkably large for the small pots in which they had been grown. Mr. A. Burton, of Lyma Cottage, contributed a very attractive and miscellaneous collection, including several very fine Begonias of different species. This collection being intersected by the exhibition of canaries and small birds connected with the pet show, gave a pleasing effect to the room. Mr. W. Slater Beddington, of Monton House, staged a number of very good semi-double zonal Pelargoniums with other plants, amongst which were some excellent specimens of Fuchsias and Gloxinias. Mr. Walter Newton, of Ellesmere Park, filled a stand in a very effective way with fine examples of Begonias, Gloxinias, Ferns, Fuchsias, and Palms, introduced with other choice plants. Mr. A. B. Limpery, of Victoria Crescent, occupied the place of vantage at the top corner of the room with a really splendid display of general greenhouse Ferns and flowering plants, amongst which were several very fine and large specimen Adiantums, good Blechnums and Palms, a particularly fine Ficus elastica, and a magnificent Lilium auratum.

Mr. J. Cannon, of Liverpool Road, and Robert Street, Patricroft, the florist who supplied the plants for the children to grow at home for competition at this show, kindly added to the grandeur of the exhibition, by contributing a very large assortment of choice exotic and British Ferns, including many rare kinds. Mr. Cannon is making a speciality of greenhouse and hardy Ferns, and his collection was of a very pleasing and valuable character.

The children of the St. Andrew's, Barton Lane, and Monton Schools, contributed eighty-two plants for competition. Many of these were very well grown, and evinced great care on the part of many of the competitors. As might have been expected from the purer atmosphere, longer knowledge, and greater aptitude of the Monton people, their children's plants, were, on the whole, the best grown, but many of the plants from the Barton Lane district, which is almost town-like in character, ran them very hard. Some of the Barton Lane plants had been so well attended to, as to reflect the greatest credit on the cultivator.

The object of the flower show is stated in the programme "to encourage the care, growth, and love of flowers," and the school managers may fairly congratulate themselves upon the success of their excellent if modest effort.

In connection with the foregoing there was an exhibition of pet birds and animals, being the first ever attempted in this district. The committee are to be highly congratulated upon the success which attended their efforts, but we think the St. Andrew's people should not narrow this good work, viz., the encouragement of "kindness and care towards birds and animals," to the confined area of their own little parish. We trust next year that a more magnanimous spirit will reign over the counsel of the committee, and that this department of this excellent annual gala will be thrown open to the parishes of Eccles, Christ Church, Hope Swinton, Worsley, and Islam. As it was, over 100 cages and pens were filled, the majority, however, with non-competing exhibits.—*(Communicated.)*

The "Pioneer" Amateur Show, Bermondsey.—The ninth annual show of the above was held on Aug. 17th, 18th, 19th, and 20th, at the Drill Hall, Neckinger Road, Bermondsey. Thanks to Mr. Lashbrook, the secretary, the arrangements were carried out in an able manner. Amongst the supporters, we may mention A. Lafone, Esq., M.P., Colonel Bevington, J.P., J. B. Bevington, Esq. J.P., H. Foster, Esq., C. M. Major, Esq., Dr. Nichols, Messrs. Whitehead, Crisp & Co., Messrs. Courage & Co., and Messrs. Whitbread & Co. Messrs. Laing & Co. of Forest Hill, showed a fine group of Palms, Ferns, Dracænas, &c., and a few fine cut blooms, at the end of the centre table; Mr. French, of Camberwell, at the entrance end showing a similar group. Colonel Bevington contributed a very good assortment of Vegetables, ten varieties, and also plants, &c. all grown at his private residence at Bexley. The exhibits were very creditable to the neighbourhood of Bermondsey. The chief winners of prizes were Mr. W. Butler, Mr. West, Mr. Read, Mr. Castle, Mr. Hall, Mr. Braidenbach, and Mr. Hurley. Several prizes were awarded to non-members for window-grown plants, &c. On Wednesday, 18th, A. Lafone, Esq., M.P., distributed the prizes, Col. Bevington in the chair. We really must congratulate the committee upon the great success with which this show has been favoured, and wish them "God speed." Some of the members are now anxious to start a Chrysanthemum show, which in our opinion would be a very good move, as there are a few very good growers of that fashionable flower in this neighbourhood. The amount of prizes given was £35.—*J.*

Obituary.

On the occasion of the recent meeting of the Carnation and Picotee Union at Oxford, on August 3rd, one of the judges was Mr. E. S. Dodwell's old and attached friend—Mr. Robert Lord, of Todmorden. He was in apparently good health, and took great interest in the exhibition, was highly cheerful and genial as was his wont. On returning from Oxford to Todmorden, he contracted a chill, which brought on inflammation of the brain, and death, which occurred on Wednesday, the 18th inst, at the age of sixty-eight years. He was born at Todmorden on January 2nd, 1818, and it appears he spent the whole of his life there.

For many years he was a teacher of singing, and for forty-five years he was the choir master at the Unitarian church, at Todmorden, and during that time he held a foremost position in the ranks of local musicians, having in his prime an excellent tenor voice. As a teacher of singing he was highly successful, and he is entitled to no small share of the honour of educating and improving the musical tastes of the locality, and of perpetuating the old English, or as it is sometimes called, the Lancashire system of Sol-fa in the district. For many years he was employed as a teacher of music in the factory schools of the Messrs. Fielden. He gave up his musical engagements about five years ago.

But it is as a successful florist, and especially as a cultivator of Carnations and Picotees, that I wish to present my old floricultural friend to view before the readers of The Gardening World. The love for flowers must have been born in him, for at the age of fourteen he commenced to grow Carnations and Picotees, and he subsequently took in hand the Tulip, the show Auricula, Pink, Pansy, Dahlia, &c., but latterly he had contented himself with growing Carnations and Picotees and Auriculas only.

About five years ago he commenced business as a grower for sale in conjunction with his son Tom, by whom the business will still be carried on. A very large number of plants are grown, and there is a large demand for the leading varieties.

As a raiser, Mr. R. Lord was very successful, and about ten years ago he produced a batch of beautiful Picotees, that will be held in high estimation by growers for many years to come, viz., red edge: The Rev. F. D. Horner; purple edge: Alice Ann Lord, Minnie, Nymph, and Zerlina, the last named a very fine heavy-edged variety; and rose edges: Miss Lee, Miss Horner, and Mrs. Lord. Also rose-flake Carnation, Mr. Dodwell.

At the meeting of the National Carnation and Picotee Society, Northern Division, at Manchester on the 14th inst, he was highly successful as an exhibitor as your report shows, but was absent through the illness which resulted in death.

His Carnation garden at Hole Bottom—"a strange misnomer for a site 600 ft. above the immediate valley"—was formed out of an old disused quarry, and he made it to smile with lovely flowers, producing Carnations and Picotees of wonderful quality. As a keen and painstaking judge, he was almost unrivalled. Those of us who met him at Oxford so recently little thought it was his last appearance among such a host of floricultural friends. May I not say of him:—

". . . . How well he fell asleep!
Like some great river winding to the sea,
Calmly, and grandly, silently and deep;
Life joined Eternity." —*R. D.*

QUESTIONS AND ANSWERS.

Insects in a Limestone Wall.—How can insects be got rid of in an old limestone wall?—*Galway.* [Get out the garden engine, and wash the wall well with some good insecticide, not strong enough to injure any plants growing against it, and then wash with hot lime or cement, to fill up the crevices. If this cannot well be done, have the wall fresh faced with cement. There is no other way of doing the work thoroughly.]

Wild Flowers.—*G. R.*: Sowerby's *British Wild Flowers*, 3 guineas, is the best; but perhaps Lady Wilkinson's *Weeds and Wild Flowers*, 10s. 6*d.*, would meet your requirements. Both are published by Van Voorst.

Tomatos not setting.—*S. M. C., Stamford*: You do not say if the plants have borne any flowers, and failed to set them, but we suspect this is the cause of your having scarcely any fruits on them. Many of the best sorts, including the two you name, have so many stamens, that they fail to set except in strong heat, and even then the Stamfordian is shy. For out-door cultivation, the nearer you keep to the type of the old red variety, the greater are your chances of securing a crop. The watering, when young, with cold water, has nothing to do with it; but if the plants get dry while in bloom, the flowers will not set.

Communications Received.—W. S. (many thanks).—A. M.—G. F. W.—E. J.—E. D.—J. C.—C. J. W.—D. J. U.—A. O.—M. T.—C. C. D.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, King's Road, Chelsea, S.W.—Catalogue of Hyacinths and other Bulbous Roots.

Dammann & Co., San Giovanni a Teduccio, Italy.—Choice Flower and Vegetable Seeds.

B. Gilbert, Dyke, near Bourne, Lincolnshire.—Price List of Bulbs and Plants, including double scarlet Anemones.

LONDON SEED TRADE.

August 25th, 1886.

Messrs. Hurst & Son, 39, Seed Market, and 152, Houndsditch, London, report a steady trade doing in Trifolium at last week's prices. Only a few samples of White Mustard are offering, which are keeping very high in price. Rye is very scarce and likely to be dearer. New Winter Tares are cheaper. Hemp and Canary firmer. Millet dear. Linseed firm. A few samples of new White Clover are on offer at high prices considering the poor colour. There are some fine samples of new English Trefoil offering. No change in new English Italian Rye Grass.

COVENT GARDEN MARKET.

August 26th.

Fruit.—Average Wholesale Prices

	s.d.	s.d.		s.d.	s.d.
Apples, ½ sieve	2 0	3 6	Pine-apples, St. Michaels, each	2 6	8 0
Cherries, ½ sieve	1 0	1 6	Pine-apples, Eng., lb.	2 0	3 0
Currants, ½ sieve	2 0	2 6	Plums, ½ sieve	1 6	2 6
Grapes ... per lb.	0 6	3 0	Strawberries .. per lb.		
Melons, ... each	1 0	2 0			
Peaches, per doz.	2 0	10 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	2 0	3 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 4		Lettuces .. per dozen	1 6	
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	2 0
Cabbages ... per doz.	2 0	2 6	Onions, per bushel	4 0	6 0
Carrots, per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes, per dozen	1 6	
Celery, per bundle	1 6	2 6	Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 6	
Herbs, per bunch	0 2	0 4	Turnips ... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, dozen bunches	2 0	4 0	Liliums in variety, dozen bunches	12 0	24 0
Arum Lilies, 12 blms.	4 0	6 0	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	1 0	3 0
Carnations, 12 blooms	1 0	3 0	Pansies, 12 bunches	1 0	3 0
Carnations .. 12 bun.	3 0	6 0	Pelargoniums, per 12 sprays	0 9	1 0
Cornflower .. 12 bun.	1 6	3 0	— scarlet, 12 sprays	0 3	0 6
Delphinium .. 12 bun.			Primula, double, bun.	0 6	1 0
Daisies, common, 12 bunches	2 0	4 0	Pyrethrum, 12 bnchs.	2 0	4 0
Eucharis, per dozen	2 6	4 0	Roses ... 12 bunches	2 0	6 0
Forget-me-not or Myosotis, 12 bunches	2 0	4 0	Roses (coloured)	0 9	1 0
Gardenias, 12 blooms.	2 6	4 0	Roses, Tea per dozen	0 9	2 0
Gladioli .. 12 sprays	1 0	2 0	Stephanotis, 12 sprays	1 6	3 0
Heliotropes, 12 sprays	0 6		Sweet Peas, doz. bch.	1 6	3 0
Lapageria, red, 12 blms.	1 0	2 0	Sweet Sultan, 12 bun.	3 0	4 0
Laveuder, 12 bunches	3 0	5 0	Tropæolums	1 0	2 0
Lilium longiflorum, 12 blooms	4 0	6 0	Tuberoses, per dozen.	0 4	0 9
			White Jasmine, bun.	0 6	0 9

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Fuchsia, per doz.	3 0	6 0
Balsams ... per doz.	3 0	6 0	Gladioli, 12 pots	6 0	9 0
Begonias, per dozen	6 0	12 0	Hydrangea .. per doz.	6 0	12 0
Cockscombs, per doz.	3 0	6 0	Liliums ... per doz.	12 0	30 0
Cyperus, per dozen	4 0	12 0	Lobelia, per dozen	3 0	4 0
Dracæna term., doz.	30 0	60 0	Marguerites, per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Mignonette, per doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Palms in variety, each	2 6	21 0
Ferns, in var., doz.	4 0	18 0	Pelargoniums, doz	6 0	12 0
Ficus elastica, each	1 6	7 0	Pelargoniums, scarlet, per dozen	3 0	6 0
Foliage Plants, various, each	0 10	2 0	Petunias, per doz.	2 0	6 0
			Rhodanthe, per dozen	6 0	9 0

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COCOATINA,

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